Welcome to the University of Pennsylvania Undergraduate Catalog

This new Catalog provides information for current and prospective students about courses at Penn at all levels of study. It also provides detailed information about traditional undergraduate programs, as well as important academic policies and resources for undergraduate students. Future Catalogs will provide information for graduate and professional students as well as non-traditional undergraduates.

In the meantime, prospective students can visit this searchable list of graduate and professional students programs (http://www.upenn.edu/programs/graduate) and current graduate and professional students can visit the Graduate Student Center (http://www.gsc.upenn.edu/resources) for helpful information. Undergraduates in the College of Liberal and Professional Studies (http://www.sas.upenn.edu/lps) and in the Bachelor of Science in Nursing Second Degree program (https://www.nursing.upenn.edu/academics/accelerated-options/bsn-second-degree) should visit the websites of their programs for academic information. Students interested in non-credit and continuing professional education may visit this webpage (http://www.upenn.edu/programs/lifelong).

This Catalog is intended to provide general information about the University of Pennsylvania and is accurate as of May 2017. The University reserves the right to change, modify, or correct any information contained herein without prior notice, at any time.

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The College is committed to offering a broad education that will lay a durable foundation for critical and creative thinking. The College's goal is to help students to become knowledgeable about the world and the complexities of today's society, aware of moral, ethical and social issues, prepared to exercise intellectual leadership, and enlivened by the use of their minds. We believe that students should explore fundamental approaches to the acquisition and interpretation of knowledge through introduction to substantive bodies of current thought in the natural sciences, social sciences and humanities. Equally important, they should learn to understand and evaluate the sources and methods from which this knowledge derives. In this way they can be led to appreciate the contingency of all knowledge and to participate in the on-going excitement of intellectual discovery that is at the heart of the College.

We challenge our students to develop the skills of analysis and communication that will enable them to perceive pattern in complexity, render reasoned judgments, make wise choices under conditions of uncertainty, and join with others in the pursuit of common endeavors. They should, for example, be able to write and speak effectively as well as to analyze quantitative data and to use another people's language as one means of access to the diversity of contemporary and historical culture.

A student's emerging interests and talents find expression through an organized program of study in a major field. In the specialized context of the major, students investigate the traditions and contemporary status of an established branch of knowledge. The structured study of a discipline complements the general exploration of our intellectual heritage to provide the balance of educational breadth and depth to which the College is committed. Study of the arts and sciences provides a solid basis for advanced scientific and scholarly research, for subsequent training in the professions, and for the informed exercise of the rights and responsibilities of citizenship.

There is no single or easy path to the benefits of liberal education. A program of study must be shaped as a student grows. But the special strengths of the University of Pennsylvania—its combination of academic and professional excellence, its diverse and interdisciplinary tradition, its active community of scholars at all levels of experience—provide a setting in which the College can dedicate itself to nurturing honest, eager, and critical minds. In the tradition of its eighteenth-century founders, the College of Arts and Sciences regards the enduring purpose of education as the liberation of the mind from ignorance, superstition, and prejudice. Therefore, the College welcomes those who seek to understand, appreciate and contribute to the achievements of the human intellect.

The College of Arts and Sciences is the full-time undergraduate division of the School of Arts and Sciences (SAS), which offers the Bachelor of Arts (B.A.) degree. Other divisions include:

- The Graduate School of Arts and Sciences which offers the advanced degrees of Master of Arts (M.A.), Master of Science (M.S.) and Doctor of Philosophy (Ph.D.);
- The College of Liberal and Professional Studies (LPS) is the home of lifelong learning at the University of Pennsylvania. It offers high school, undergraduate, post-baccalaureate, graduate, summer and online studies as well as customizable professional training with courses that span across disciplines. LPS also administers the Summer Sessions.

The twenty-seven departments in SAS represent the core disciplines of the liberal arts. They individually offer thirty-two major programs. In addition, through interdepartmental collaborations, the SAS faculty offer a number of interdisciplinary majors. Around SAS are grouped the various specialized professional schools, all of them drawing extensively on the intellectual resources provided by SAS. Two of these schools, the Annenberg School for Communication and the School of Design, offer undergraduate majors for College students through special collaborative relationships with SAS.

The College aims to provide its undergraduates with a broad general education that will lay the groundwork for critical and creative thinking in all fields. Ideally the graduate of the College will be well informed about the world and confident in today's complex technological society. He or she will be willing and able to make critical judgments and to exercise intellectual leadership. The B.A. degree thus provides a solid basis for specialized scientific and scholarly research, for education for the professions, and for the informed exercise of the rights and responsibilities of citizenship.

The University of Pennsylvania is particularly well placed to provide its students with an education that links the theoretical and the practical. Within the College and the other schools is an extraordinary range of programs. The College alone offers over fifty different major programs. The College does its best to make all of the University's resources accessible to its students, giving them wide latitude in planning their programs of study and in deciding on their areas of specialization.

Learn more about our history: https://www.college.upenn.edu/college-history.

Learn more about our school leadership: https://www.college.upenn.edu/college-office-directory.

The fundamental purpose of the University as an academic community is the pursuit of knowledge. Essential to the success of this educational mission is a commitment to the principles of academic integrity. Academic work represents not only what we have learned about a subject but also how we have learned it. Values and beliefs about academic integrity have been adopted by scholars so that others may trace our honorable footsteps, verify what we have learned, and build upon our work. Every member of the University community is responsible for upholding the highest standards of honesty at all times.

As members of the University community, students are also responsible for adhering to the principles and spirit of the Code of Academic Integrity (p. 282). Penn believes strongly in the importance of academic integrity. Students who violate its precepts are subject to punishment through the judicial system. Ignorance of the rules is no excuse. If a student is unsure whether his or her action(s) constitute a violation of the Code of Academic Integrity, it is that student's responsibility to consult with the instructor to clarify any ambiguity.
Curriculum

The Purpose of the Curriculum

A curriculum is often identified with a set of degree requirements: “What do I have to do to receive my degree?” But degree requirements are not themselves sufficient to define appropriate educational goals. One might fulfill all of the College’s degree requirements and yet fail to get a good education. It would also be possible to acquire a good education but neglect to fulfill the degree requirements. Now, we certainly do want you to fulfill all of the degree requirements, and we will work with you to see that this happens. But you are not here fundamentally for the purpose of completing degree requirements. If you think of your education solely in those terms, the result will be dull and unsatisfying.

"Curriculum" comes from the Latin for "course," in the sense in which one might speak of the course of a journey. The term denotes a means rather than an end, but it suggests better than "degree requirements" what it is to become educated. It denotes a movement from a starting point to a destination, a movement that proceeds along some path. You are not left to your own devices to figure out how to get from here to there. But neither is the path straight and narrow. You will have many choices to make as you negotiate the course of your education, but they will be informed by the experience of the faculty, who in the curriculum offer their considered advice for your educational journey.

The College’s curriculum draws you toward two distinctive goals: toward general education across the wide range of the arts and sciences and toward specialized education in a major. A commitment to holding these two—general and specialized education—together has been the genius of American higher education since the early part of the last century. We continue to believe that these two elements constitute an education best suited to enabling intelligent individuals to live humane, productive and fulfilling lives in the 21st century.

For more information, visit: https://www.college.upenn.edu/curriculum-purpose.

General Education Curriculum

The College’s General Education Curriculum for its part has two broad objectives. It seeks to develop in you some general skills or approaches to knowledge and to engage you in the intellectual work of the disciplines in a variety of fields across the arts and sciences.

In following this curriculum, you will be guided by two kinds of degree requirements corresponding to these two objectives. One deals with foundational approaches, the other with specific disciplines and fields of knowledge. Within any given course, these two—an approach and a field of study—are integral to one another. An approach is learned by practice in relation to a field of knowledge: your ability to use a foreign language is developed through learning about the culture in which the language is rooted; understanding a work of art is acquired by learning how to write about it—that is, by learning how to use words to describe, compare, question and argue about works of art and the contexts in which they were created and are appreciated; you learn how to analyze quantitative data by thinking about what data mean for our knowledge of natural or social phenomena we observe. Some courses, however, give priority to developing skills and approaches, while others give priority to the field under investigation.

Foundational Approaches (p. 17)

- Communication
- Analysis
- Perspectives

Sectors (p. 18)

I. Society
II. History & Tradition
III. Arts & Letters
IV. Humanities & Social Science
V. Living World
VI. Physical World
VII. Natural Sciences & Mathematics
Foundational Approaches

The Foundational Approaches are key intellectual capabilities demanded in a variety of disciplines.

For policies regarding Foundational Approaches, visit: https://www.college.upenn.edu/node/2434.

Communication (p. 17)
- Writing
- Foreign Language

Analysis (p. 17)
- Quantitative Data Analysis
- Formal Reasoning and Analysis

Perspectives (p. 17)
- Cross-Cultural Analysis
- Cultural Diversity in the U.S.

Writing Requirement

Writing is the primary medium through which the quality of a student’s intellectual work will be judged. The ability to express oneself clearly and persuasively in writing is fundamental for success across all academic disciplines, and throughout one’s personal and professional life.

For these reasons, writing plays a central role within the College curriculum. Students must take a writing seminar to fulfill the College’s Writing Requirement. It is recommended that students take this course during their first year of study. Students are also encouraged to continue development of their writing skills by participating in Penn’s writing programs.

For more information, visit: https://www.college.upenn.edu/writing-requirement.

Foreign Language Requirement

Competence in a foreign language is essential for an educated person. Participation in the global community is predicated on the ability to understand and appreciate cultural difference, and nothing brings this more sharply into focus than the experience of learning a foreign language. The foreign language not only affords unique access to a different culture and its ways of life and thought; it also increases awareness of one’s own language and culture. For this reason, College students are required to attain a certain degree of competency.

While students often opt to satisfy the Language Requirement by continuing to study the language that they have already begun in high school or earlier, the wealth of languages that the University offers is such that many students decide to explore a new culture and area of our globe by beginning a foreign language that they have never studied before. French, Spanish, and a few other languages are taught at the pre-collegiate level, but students are less likely to have been exposed to Arabic, Hindi or Japanese—let alone Uzbek or Hausa—and each of these languages is a mode of access to a fascinating culture and history.

For more information, visit: https://www.college.upenn.edu/language-requirement.

Formal Reasoning and Analysis Requirement

In contrast to Quantitative Data Analysis courses, which deal with inductive reasoning, courses designated for this requirement focus on deductive reasoning and the formal structure of human thought, including its linguistic, logical and mathematical constituents. These courses emphasize mathematical and logical thinking and reasoning about formal structures and their application to the investigation of real-world phenomena. In addition to courses in mathematics, this requirement includes courses in computer science, formal linguistics, symbolic logic and decision theory.

For more information, visit: https://www.college.upenn.edu/formal-reasoning-requirement.

Quantitative Data Analysis Requirement

In contemporary society, citizenship, work and personal decision-making all require sophisticated thinking about quantitative evidence.

Students in the College must complete a course that uses mathematical or statistical analysis of quantitative data as an important method for understanding another subject. Through such study, students learn to think critically about quantitative data and the inferences that can be drawn from these data. They also gain experience with the use of quantitative analysis to interpret empirical data and to test hypotheses.

Courses in calculus and computer science do not fulfill the requirement because these courses do not require students to analyze actual data sets with the goal of evaluating hypotheses or interpreting results. To count toward the Quantitative Data Analysis Requirement, a course must include such data analysis.

For more information, visit: https://www.college.upenn.edu/quantitative-data-requirement.

Cross-Cultural Analysis Requirement

In our increasingly interconnected world, the Cross-Cultural Analysis Requirement aims to increase students’ knowledge and understanding of socio-cultural systems outside the United States.

College students are required to take at least one course to develop their ability to understand and interpret the cultures of peoples with histories different from their own. The focus may be on the past or the present and it should expose students to distinctive sets of values, attitudes and methods of organizing experience that may not be obtained from American cultures. This exposure to the internal dynamic of another society should lead students to understand the values and practices that define their own cultural framework.

For more information, visit: https://www.college.upenn.edu/cross-cultural-requirement.

Cultural Diversity in the U.S. Requirement

The Cultural Diversity in the U.S. Requirement complements the Cross-Cultural Analysis Requirement and aims to develop students’ knowledge of the history, dynamic cultural systems and heterogeneous populations that make up the national culture of the United States.
College students are required to take at least one course to develop the skills necessary for understanding the population and culture of the United States as it becomes increasingly diverse. Through historical inquiry, the study of cultural expressions and the analysis of social data, students will develop their ability to examine issues of diversity with a focus on race, ethnicity, gender, sexuality, class and religion. The goal is to equip graduates with the ability to become perceptive and engaged members of society.

For more information, visit: https://www.college.upenn.edu/cultural-diversity-requirement.

**Sectors**

The sectors are intended to ensure breadth of education across the sectors or fields of knowledge, along with interdisciplinary explorations that link several fields of knowledge.

For policies regarding Sectors, visit: https://www.college.upenn.edu/node/2432.

**I. Society**

This sector focuses on the structure and norms of contemporary human society, including their psychological and cultural dimensions.

Courses in this sector use many analytical techniques that have been developed to study contemporary society, with its complex relations between individuals and larger forms of mass participation. Some Society courses are largely devoted to the analysis of aggregate forms of human behavior (encounters, markets, civil society, nations, supranational organizations, and so on), while others may focus on the relations between individuals and their various societies. While historical materials may be studied, the primary objective of Society courses is to enable students to develop concepts and principles, test theories, and perfect tools that can be used to interpret, explain and evaluate the behavior of human beings in contemporary societies. This objective will be realized through the specific content of the various courses, but the emphasis in each course should be on developing in students a general capacity for social analysis and understanding.

For more information, visit: https://www.college.upenn.edu/sectors-society.

**II. History and Tradition**

This sector focuses on studies of continuity and change in human thought, belief and action. Understanding both ancient and modern civilizations provides students with an essential perspective on contemporary life. Courses in this sector examine the histories of diverse civilizations, their cultures and forms of expression, their formal and informal belief systems and ideologies, and the record of their human actors. Students should learn to interpret primary sources, identify and discuss their core intellectual issues, understand the social contexts in which these sources were created, pose questions about their validity and ability to represent broader perspectives and utilize them when writing persuasive essays.

For more information, visit: https://www.college.upenn.edu/sectors-history-tradition.

**III. Arts & Letters**

This sector encompasses the means and meaning of visual arts, literature and music, together with the criticism surrounding them.

Most courses in this sector are concerned with works of creativity—paintings, films, poetry, fiction, theatre, dance and music. They generally address a considerable breadth of material rather than an individual work or artist. The objective of Arts and Letters courses is to confront students with works of creativity; cultivate their powers of perception (visual, textual, auditory); and equip them with tools for analysis, interpretation and criticism. This objective will be realized through the specific content of the various courses, but the emphasis in each course should be on developing and strengthening in students a general capacity for understanding meaning and the ways in which it is achieved in its distinctive environment of culture and moment.

For more information, visit: https://www.college.upenn.edu/sectors-arts-letters.

**IV. Humanities & Social Science**

This sector comprises courses that combine methods and approaches at work in at least two of the first three sectors.

Students will engage with diverse approaches to society, history, tradition and the arts more deeply than a single course from each domain can allow. Greater depth of experience is gained by bringing to bear several humanistic and social scientific perspectives upon a single issue or topic or by engaging directly in academically-based service or performance informed by these perspectives.

In this sector, students seek to broaden their perspective by taking a course in the humanities or social sciences that has been approved as a general education course but that cuts across two or more of sectors I, II, and III. Some courses approved for this sector will seek a more integrative approach by addressing a problem or topic from a variety of disciplinary perspectives. Others will combine disciplinary study with community service or activism, and constructively and reflectively connect the theoretical with the actual. Finally, some courses in the arts that combine creative or performance experience with reflection and grounding within a discipline may be found in this sector.

For more information, visit: https://www.college.upenn.edu/sectors-humanities-social-sciences.

**V. The Living World**

This sector deals substantively with the evolution, development, structure and/or function of living systems.

Courses in this sector study the variety of approaches that are useful in understanding the diversity of living organisms, their interrelatedness, and their interactions with their environment. Analytical approaches employed range from analyses at the molecular and cellular level, to analyses of the cognitive and neural bases of behavior, to analyses of evolutionary processes and ecological systems. Students learn the methods used by contemporary natural science to study these topics, including ways in which hypotheses are developed, tested, and reformulated in light of new research findings. A full understanding of living organisms incorporates insights from approaches at many different levels.
For more information, visit: https://www.college.upenn.edu/sectors-living-world.

VI. The Physical World
This sector focuses on the methodology and concepts of physical science.

Courses in this sector aim to provide insight into the content and workings of modern physical science. Some courses in this sector are part of a major, while others are designed primarily to provide an introduction to the field for non-science majors. Courses for non-science majors may include some discussion of the historical development of the subject as well as the most important conceptual notions and their mathematical expressions. All courses in this sector seek to demonstrate the generally accepted paradigm of modern science: experiment and observation suggest mathematically formulated theories, which are then tested by comparison with new experiments and observations.

All courses in this sector use a significant mathematical prerequisite (advanced high school algebra through introductory calculus) - that is, students will actually be expected to use mathematical methods and concepts to achieve an understanding of subjects in physical science.

For more information, visit: https://www.college.upenn.edu/sectors-physical-world.

VII. Natural Sciences & Mathematics
Students should engage with the diverse approaches to the natural sciences and mathematics more deeply than a single course from the physical and life sciences would allow. Greater depth of experience can be accomplished by either greater focus on one area, study in a related area, bringing various scientific perspectives to bear upon a single issue or topic, or engaging directly in academically-based activities informed by these perspectives.

In this sector, students broaden their perspective by taking a course in the natural sciences or mathematics that has been approved as a General Education course and that cuts across the two sectors. Other courses approved for this sector will seek a more integrative approach by addressing a problem or topic from a variety of disciplinary perspectives. Still others will combine disciplinary study with community service or activism, constructively and reflectively connecting the theoretical with the actual.

For more information, visit: https://www.college.upenn.edu/sectors-science-math.

The Major
The Major provides an opportunity to know a segment of human knowledge deeply, with a sufficient grasp of its modes of thinking and analysis to make your own contribution.

Click here for a list of majors offered by the College (p. 20).

For policies governing the Major requirement, visit: https://www.college.upenn.edu/node/2436.

Free Electives
In addition to these structural elements, the curriculum provides space in your studies for a number of Free Electives. These give you the freedom to pursue interests that may lie outside your major and that extend beyond those addressed in the General Education Curriculum. Take a course in a field that you have not otherwise encountered. Use one or more Free Electives to explore further a subject introduced in a sector course or learn about a subject that sheds light on your major.

For policies regarding Free Electives, visit: https://www.college.upenn.edu/node/2437.

Academic Opportunities
Learning happens inside and outside of the traditional classroom. The value of a rich liberal arts tradition extends beyond the curriculum itself to the far reaches of cutting edge research and real-world internships, community partnerships and study abroad.

• Penn is a world-class research institution where undergraduates have the opportunity to participate in the creation of knowledge.
• Students in the College integrate knowledge from a variety of specializations or dig deeply into a particular area of study.
• Through their work with local schools and organizations, students in Academically Based Community Service Courses combine classroom and community work to solve critical issues.
• Students in study abroad programs and internship experience diverse communities and real world challenges in and outside of Philadelphia.

Click here (https://www.college.upenn.edu/academic-opportunities) for a comprehensive view of academic opportunities for College students.

Advising
College students need to choose courses, declare a major and define career goals. They will need to examine their performance in different courses, identify their skills and those they wish to develop, and decide what really matters to them. Much of this assessment they will do themselves, but faculty members, academic advisors, career counselors and peers can help.

Students in the College have a strong network of academic advisors available to assist them throughout their undergraduate careers.

• Pre-major advisors help first- and second-year students navigate their entrance into academic and intellectual life in the College beginning with the issues of incoming freshmen and continuing through the student's exploration of a potential major.
• Peer advisors work with the pre-major advisor and are one of the first points of contact for incoming College students. They provide the perspective of an upperclass student in the College and assist first-year students in making the transition from high school to Penn by sharing their strategies for academic success and knowledge of campus resources.
• After declaring a major, students are assigned an academic advisor affiliated with the major department or program.
• All students are welcome and encouraged to speak with assistant deans for advising in the College Office. These advisors can help students explore the many options and opportunities available to College students, and are available by appointment or on a walk-in basis throughout the year.
Policies and Procedures

For more information, visit: https://www.college.upenn.edu/academic-advising.

Policies and Procedures

The majority of policies can be found in the Policies and Procedures (p. 265) section of the Catalog.

The College of Arts and Sciences Policies and Procedures are intended to provide guidelines for academic conduct and planning.

Students are encouraged to read the policies pertinent to their specific class or academic interests to make informed decisions throughout their undergraduate career. Academic advisors and staff in the College Office are available to provide further information, clarification, and to confirm the most current policies.

Important Note: Students are subject to the policies and procedures in place for the class into which they matriculated and are encouraged to use the Archive of Policies by Class (http://www.college.upenn.edu/node/3636) as a reference. Policies and procedures are subject to change throughout the year at the discretion of the University of Pennsylvania and the College of Arts and Sciences.

For College policies specific to the Class of 2021 (entering in Fall 2017), visit: https://www.college.upenn.edu/sites/www.college.upenn.edu/files/C%2721.pdf.

For more information about College policies, visit: http://www.college.upenn.edu/policies/.

Majors

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Africana Studies: African American Studies, BA

Africana Studies is an interdisciplinary field of study devoted to the critical and systematic examination of the cultural, political, social, economic, and historical experiences of African Americans, Africans, and peoples of African descent around the world. Our course of study is designed to provide students with an integrated understanding and appreciation for a new global black studies. An undergraduate degree in Africana Studies prepares students for graduate work in the humanities, social sciences, and professional schools, as well as a range of careers in teaching, business, public service, and the arts, among others.

The minimum total course units (http://www.college.upenn.edu/credits-needed) for graduation in this major is 32. Double majors may entail more course units.

African Language courses do not count toward the Major Requirements.

For more information: https://africana.sas.upenn.edu/department/undergraduate

For information about the General Education requirements, please visit the College of Arts & Sciences Curriculum (https://www.college.upenn.edu/curriculum-structure) page.

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<td>AFST 190</td>
<td>Introduction to Africa</td>
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<td>or AFRC 176</td>
<td>Afro-American History 1550-1876</td>
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<td>or AFRC 177</td>
<td>Afro-American History 1876 to Present</td>
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<td>or AFRC 307</td>
<td>Race, Science and Justice</td>
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<td>or SOCI 006</td>
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1 You may count no more than one course toward both a Major and a Sector requirement. For Exceptions, check the Policy Statement (http://www.college.upenn.edu/sectors-policy).

2 Research Course 300-400 level

3 Must include one history course.

Honors

A minimum GPA of 3.3 is required. Please consult with the Program Director for further details of requirements.

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The degree and major requirements displayed are intended as a guide for students entering in the Fall of 2017 and later. Students should consult with their academic program regarding final certifications and requirements for graduation.

Africana Studies: African Diaspora Studies, BA

Africana Studies is an interdisciplinary field of study devoted to the critical and systematic examination of the cultural, political, social, economic, and historical experiences of African Americans, Africans, and peoples of African descent around the world. Our course of study is designed to provide students with an integrated understanding and appreciation for a new global black studies. An undergraduate degree in Africana Studies prepares students for graduate work in the humanities, social sciences, and professional schools, as well as a range of careers in teaching, business, public service, and the arts, among others.

The minimum total course units (http://www.college.upenn.edu/credits-needed) for graduation in this major is 32. Double majors may entail more course units.

African Language courses do not count toward the Major Requirements.

For more information: https://africana.sas.upenn.edu/department/undergraduate
For information about the General Education requirements, please visit the College of Arts & Sciences Curriculum (https://www.college.upenn.edu/curriculum-structure) page.

### Africana Studies: African Studies, BA

Africana Studies is an interdisciplinary field of study devoted to the critical and systematic examination of the cultural, political, social, economic, and historical experiences of African Americans, Africans, and peoples of African descent around the world. Our course of study is designed to provide students with an integrated understanding and appreciation for a new global black studies. An undergraduate degree in Africana Studies prepares students for graduate work in the humanities, social sciences, and professional schools, as well as a range of careers in teaching, business, public service, and the arts, among others.

The minimum total course units (http://www.college.upenn.edu/credits-needed) for graduation in this major is 32. Double majors may entail more course units.

African Language courses do not count toward the Major Requirements.

**For more information:** https://africana.sas.upenn.edu/department/undergraduate

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**Ancient History, BA**

The major in Ancient History coordinates a curriculum encompassing the whole of the ancient history of the Near East and the Mediterranean Basin.

The minimum total course units (http://www.college.upenn.edu/credits-needed) for graduation in this major is 32. Double majors may entail more course units.

For more information: https://www.classics.upenn.edu/majoring-and-minoring/major-ancient-history

For information about the General Education requirements, please visit the College of Arts & Sciences Curriculum (https://www.college.upenn.edu/curriculum-structure) page.

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<td>AFRC 499</td>
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The degree and major requirements displayed are intended as a guide for students entering in the Fall of 2017 and later. Students should consult with their academic program regarding final certifications and requirements for graduation.

**Anthropology: Archaeology, BA**

Anthropology is the global social science. It is the study of the human condition everywhere; its cultural, linguistic, and biological diversity; and how it evolved and developed from the prehistoric past into the globalizing present. Anthropology is an interdisciplinary 14 credit major that intersects with programs and departments across the University. Students may major in anthropology as a whole (General Anthropology), or choose to concentrate in Biological Anthropology, Archaeology, Cultural and Linguistic Anthropology, or Medical Anthropology.

Archaeology is the study of past societies through the excavation of material culture, from the Paleolithic into the early Historical periods. Students study excavation methods and techniques of analysis, and have opportunities to work with collections in the Penn Museum and its Center for the Analysis of Archaeological Materials (CAAM). Archaeology majors take introductory courses in all sub-fields of Anthropology, and complete the remainder of their coursework primarily in Archaeology.

For more information: https://www.sas.upenn.edu/anthropology/

For information about the General Education requirements, please visit the College of Arts & Sciences Curriculum (https://www.college.upenn.edu/curriculum-structure) page.

<table>
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<tr>
<td>ANCH 398</td>
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The degree and major requirements displayed are intended as a guide for students entering in the Fall of 2017 and later. Students should consult with their academic program regarding final certifications and requirements for graduation.

---

1 Must include one history course.

2 You may count no more than one course toward both a Major and a Sector requirement. For Exceptions, check the Policy Statement (http://www.college.upenn.edu/sectors-policy).

3 The degree and major requirements displayed are intended as a guide for students entering in the Fall of 2017 and later. Students should consult with their academic program regarding final certifications and requirements for graduation.
Select 1 course unit of Biological course 1
Select 1 course unit of Cultural and Linguistic Course 1

Block III
Select 8 course units of Archaeological courses 2 8
Capstone Seminar

ANTH 300 Capstone Seminar 1

Total Course Units 34

1 You may count no more than one course toward both a Major and a Sector requirement. For Exceptions, check the Policy Statement (http://www.college.upenn.edu/sectors-policy).

2 For up to three of these, non-ANTH courses with anthropological content may be requested. All non-ANTH courses must be approved by the Undergraduate Program Coordinator.

Honors
Applicants must have a minimum GPA of 3.5 in the Major and write a senior thesis.

The degree and major requirements displayed are intended as a guide for students entering in the Fall of 2017 and later. Students should consult with their academic program regarding final certifications and requirements for graduation.

Anthropology: Human Biology, BA
Anthropology is the global social science. It is the study of the human condition everywhere; its cultural, linguistic, and biological diversity; and how it evolved and developed from the prehistoric past into the globalizing present. Anthropology is an interdisciplinary 14 credit major that intersects with programs and departments across the University. Students may major in anthropology as a whole (General Anthropology), or choose to concentrate in Biological Anthropology, Archaeology, Cultural and Linguistic Anthropology, or Medical Anthropology.

Biological Anthropology is the study of human evolution and the biology of modern populations. Areas of study include genetics, osteology, and forensics. Students have the opportunity to work in laboratory settings, as well as in the Penn Museum's Physical Anthropology section or its Center for the Analysis of Archaeological Materials (CAAM). Biological Anthropology majors take introductory courses in all sub-fields of Anthropology, and complete the remainder of their coursework primarily in Biological Anthropology.

The minimum total course units (http://www.college.upenn.edu/credits-needed) for graduation in this major is 34. Double majors may entail more course units.

For more information: https://www.sas.upenn.edu/anthropology/

For information about the General Education requirements, please visit the College of Arts & Sciences Curriculum (https://www.college.upenn.edu/curriculum-structure) page.

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<td>Foundational Approaches + Sectors + Free Electives</td>
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<table>
<thead>
<tr>
<th>Block I: Introductory Courses</th>
</tr>
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<tbody>
<tr>
<td>ANTH 001 Archaeology: Window to the Human Past 1</td>
</tr>
<tr>
<td>or ANTH 005 Great Transformations</td>
</tr>
<tr>
<td>ANTH 002 Introduction to Cultural Anthropology 1</td>
</tr>
<tr>
<td>or ANTH 004 The Modern World and Its Cultural Background</td>
</tr>
<tr>
<td>ANTH 003 Introduction to Human Evolution 1</td>
</tr>
</tbody>
</table>

Block II
Select 1 Archaeological course 1
Select 1 Cultural and Linguistic course 1

Block III
ANTH 143 Being Human: Biology, Culture & Human Diversity 1
ANTH 244 Disease and Human Evolution 1
Select 6 Biological courses 2 6
Capstone Seminar

ANTH 300 Capstone Seminar 1

Total Course Units 34

1 You may count no more than one course toward both a Major and a Sector requirement. For Exceptions, check the Policy Statement (http://www.college.upenn.edu/sectors-policy).

2 Up to three courses from BIBB, BIOL, HSSC and PSYC may be requested. All non-ANTH courses must be approved by the Undergraduate Program Coordinator.

Honors
Applicants must have a minimum GPA of 3.5 in the Major and write a senior thesis.

The degree and major requirements displayed are intended as a guide for students entering in the Fall of 2017 and later. Students should consult with their academic program regarding final certifications and requirements for graduation.

Anthropology: Cultural and Linguistic Anthropology, BA
Anthropology is the global social science. It is the study of the human condition everywhere; its cultural, linguistic, and biological diversity; and how it evolved and developed from the prehistoric past into the globalizing present. Anthropology is an interdisciplinary 14 credit major that intersects with programs and departments across the University. Students may major in anthropology as a whole (General Anthropology), or choose to concentrate in Biological Anthropology, Archaeology, Cultural and Linguistic Anthropology, or Medical Anthropology.

Cultural and Linguistic Anthropology is the study of cultural, social, and semiotic variation in the modern world since the development of the ethnographic method in the late 19th century. Areas of study include comparisons of different cultural communities and their relationship to social and demographic factors, as well as communication and media.

Cultural and Linguistic Anthropology majors take introductory courses...
in all sub-fields of Anthropology, and complete the remainder of their coursework primarily in Cultural and Linguistic Anthropology.

The minimum total course units (http://www.college.upenn.edu/credits-needed) for graduation in this major is 34. Double majors may entail more course units.

For more information: https://www.sas.upenn.edu/anthropology/

For information about the General Education requirements, please visit the College of Arts & Sciences Curriculum (https://www.college.upenn.edu/curriculum-structure) page.

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<td></td>
<td>Major Requirements</td>
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<td></td>
<td>Block I: Introductory Courses</td>
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<tr>
<td>ANTH 001</td>
<td>Archaeology: Window to the Human Past</td>
<td>1</td>
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<tr>
<td>or ANTH 005</td>
<td>Great Transformations</td>
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</tr>
<tr>
<td>ANTH 002</td>
<td>Introduction to Cultural Anthropology</td>
<td>1</td>
</tr>
<tr>
<td>or ANTH 004</td>
<td>The Modern World and Its Cultural Background</td>
<td></td>
</tr>
<tr>
<td>ANTH 003</td>
<td>Introduction to Human Evolution</td>
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<tr>
<td></td>
<td>Block II</td>
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<tr>
<td></td>
<td>Select 1 course unit of Biology</td>
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<tr>
<td></td>
<td>Select 1 course unit of Archaeology</td>
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<tr>
<td></td>
<td>Block III</td>
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<tr>
<td></td>
<td>Select 8 course units in Cultural-and-Linguistic courses</td>
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<tr>
<td></td>
<td>Capstone Seminar</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>ANTH 300</td>
<td>Capstone Seminar</td>
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<tr>
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<td>Total Course Units</td>
<td>34</td>
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1 You may count no more than one course toward both a Major and a Sector requirement. For Exceptions, check the Policy Statement (http://www.college.upenn.edu/sectors-policy).

2 For up to three of these, non-ANTH courses with anthropological content may be requested.

3 All non-ANTH courses must be approved by the Undergraduate Program Coordinator.

Honors

Applicants must have a minimum GPA of 3.5 in the Major and write a senior thesis.

The degree and major requirements displayed are intended as a guide for students entering in the Fall of 2017 and later. Students should consult with their academic program regarding final certifications and requirements for graduation.

Anthropology: General Anthropology, BA

Anthropology is the global social science. It is the study of the human condition everywhere, its cultural, linguistic, and biological diversity; and how it evolved and developed from the prehistoric past into the globalizing present. Anthropology is an interdisciplinary 14 credit major that intersects with programs and departments across the University. Students may major in anthropology as a whole (General Anthropology), or choose to concentrate in Biological Anthropology, Archaeology, Cultural and Linguistic Anthropology, or Medical Anthropology.

General Anthropology majors study all four anthropology sub-fields, acquiring an introduction to the full range of anthropological research. Students are required to take courses in Biological Anthropology, Archaeology, and Cultural and Linguistic Anthropology (including Medical Anthropology).

The minimum total course units (http://www.college.upenn.edu/credits-needed) for graduation in this major is 34. Double majors may entail more course units.

For more information: https://www.sas.upenn.edu/anthropology/

For information about the General Education requirements, please visit the College of Arts & Sciences Curriculum (https://www.college.upenn.edu/curriculum-structure) page.

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<td></td>
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<td></td>
</tr>
<tr>
<td>ANTH 001</td>
<td>Archaeology: Window to the Human Past</td>
<td>1</td>
</tr>
<tr>
<td>or ANTH 005</td>
<td>Great Transformations</td>
<td></td>
</tr>
<tr>
<td>ANTH 002</td>
<td>Introduction to Cultural Anthropology</td>
<td>1</td>
</tr>
<tr>
<td>or ANTH 004</td>
<td>The Modern World and Its Cultural Background</td>
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</tr>
<tr>
<td>ANTH 003</td>
<td>Introduction to Human Evolution</td>
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<td></td>
<td>Block II</td>
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<tr>
<td></td>
<td>Select 10 course units with at least at least two each from Archaeological, Biological, and Cultural-and-Linguistic courses</td>
<td>8</td>
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<td></td>
<td>Capstone Seminar</td>
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<td>Capstone Seminar</td>
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<td>34</td>
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</table>

1 You may count no more than one course toward both a Major and a Sector requirement. For Exceptions, check the Policy Statement (http://www.college.upenn.edu/sectors-policy).

2 Up to three non-ANTH courses with anthropological content may be requested. All non-ANTH courses must be approved by the Undergraduate Program Coordinator.

Honors

Applicants must have a minimum GPA of 3.5 in the Major and write a senior thesis.

The degree and major requirements displayed are intended as a guide for students entering in the Fall of 2017 and later. Students should consult with their academic program regarding final certifications and requirements for graduation.
Anthropology: Medical Anthropology & Global Health, BA

Anthropology is the global social science. It is the study of the human condition everywhere; its cultural, linguistic, and biological diversity; and how it evolved and developed from the prehistoric past into the globalizing present. Anthropology is an interdisciplinary 14 credit major that intersects with programs and departments across the University. Students may major in anthropology as a whole (General Anthropology), or choose to concentrate in Biological Anthropology, Archaeology, Cultural and Linguistic Anthropology, or Medical Anthropology.

Medical Anthropology applies anthropological methods to the study of global health, well-being, and disease. The concentration provides students with a theoretical and methodological foundation to address problems of global health inequality. Medical Anthropology majors take introductory courses in all sub-fields of Anthropology, and complete the remainder of their coursework primarily in Medical Anthropology.

The minimum total course units (http://www.college.upenn.edu/credits-needed) for graduation in this major is 34. Double majors may entail more course units.

For more information: https://www.sas.upenn.edu/anthropology/

For information about the General Education requirements, please visit the College of Arts & Sciences Curriculum (https://www.college.upenn.edu/curriculum-structure) page.

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<td><strong>Block I: Introductory Courses</strong></td>
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<tr>
<td>ANTH 001</td>
<td>Archaeology: Window to the Human Past</td>
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<tr>
<td>or ANTH 005</td>
<td>Great Transformations</td>
<td></td>
</tr>
<tr>
<td>ANTH 002</td>
<td>Introduction to Cultural Anthropology</td>
<td>1</td>
</tr>
<tr>
<td>or ANTH 004</td>
<td>The Modern World and Its Cultural Background</td>
<td></td>
</tr>
<tr>
<td>ANTH 003</td>
<td>Introduction to Human Evolution</td>
<td>1</td>
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<tr>
<td></td>
<td><strong>Block II: Fundamentals</strong></td>
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<tr>
<td>ANTH 238</td>
<td>Introduction to Medical Anthropology</td>
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<tr>
<td>ANTH 273</td>
<td>Global Health: Anthropological Perspectives</td>
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<td><strong>Block III</strong></td>
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<td>Select 8 course units from approved list</td>
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<td>Total Course Units</td>
<td>34</td>
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1 You may count no more than one course toward both a Major and a Sector requirement. For Exceptions, check the Policy Statement (http://www.college.upenn.edu/sectors-policy).

2 For up to three of these, non-ANTH courses with anthropological content may be requested. All non-ANTH courses must be approved by the Undergraduate Program Coordinator.

Honors

Applicants must have a minimum GPA of 3.5 in the Major and write a senior thesis.

The degree and major requirements displayed are intended as a guide for students entering in the Fall of 2017 and later. Students should consult with their academic program regarding final certifications and requirements for graduation.

Architecture: Design (Intensive), BA

A select number of seniors in the Architecture Major enroll in the Intensive Major, which includes first-year technology courses in the graduate professional degree program. Students who have successfully completed the Intensive Major are qualified to be admitted with advanced placement into the second year of the graduate program. The Intensive Major in Architecture is for students in the Design Concentration who intend to pursue a graduate professional degree in architecture. Students in the Intensive Major enroll in their senior year in the technology courses offered in the first year of the Master of Architecture Professional Degree Program. Students in the Intensive Major who are accepted into the School of Design's Master of Architecture Professional Degree Program are qualified to be admitted with advanced placement into the second year of the graduate program, reducing the length of study from three to two years.

The minimum total course units (http://www.college.upenn.edu/credits-needed) for graduation in this major is 36. Double majors may entail more course units.

Application requirements: At least Sophomore Standing. Please consult with the Undergraduate Chair for other important criteria.

For more information: www.architecture.sas.upenn.edu

For information about the General Education requirements, please visit the College of Arts & Sciences Curriculum (https://www.college.upenn.edu/curriculum-structure) page.

<table>
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<td></td>
<td><strong>Architecture Requirements</strong></td>
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<tr>
<td></td>
<td>Architecture courses must be taken in the following sequence:</td>
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<tr>
<td>ARCH 102</td>
<td>Introduction to Design</td>
<td>1</td>
</tr>
<tr>
<td>ARCH 201</td>
<td>Design Fundamentals I</td>
<td>1.5</td>
</tr>
<tr>
<td>ARCH 202</td>
<td>Design Fundamentals II</td>
<td>1.5</td>
</tr>
<tr>
<td>ARCH 301</td>
<td>Design I</td>
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</tr>
<tr>
<td>ARCH 302</td>
<td>Design II</td>
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<tr>
<td>ARCH 312</td>
<td>Topics in Theory I</td>
<td>1</td>
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<tr>
<td>ARCH 401</td>
<td>Advanced Design</td>
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<tr>
<td>ARCH 411</td>
<td>Theory II</td>
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Art History Requirements
Architecture: Design, BA

The Major in Architecture is for students who intend to pursue a career in architecture or a related design discipline (e.g., landscape architecture, urban design, product design, etc.). The Major is a studio-based liberal arts program offering two concentrations. The Design Concentration includes a six-semester sequence of design studios and courses in the history and theory of art, architecture, and landscape architecture.

The minimum total course units (http://www.college.upenn.edu/credits-needed) for graduation in this major is 36. Double majors may entail more course units.

For more information: www.architecture.sas.upenn.edu

For information about the General Education requirements, please visit the College of Arts & Sciences Curriculum (https://www.college.upenn.edu/curriculum-structure) page.

<table>
<thead>
<tr>
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<tr>
<td>ARTH 102</td>
<td>Renaissance to Contemporary: Introduction to Western Art, 1400 to the Present</td>
<td>1</td>
</tr>
<tr>
<td>ARTH 106</td>
<td>Architect and History</td>
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</tr>
<tr>
<td>ARTH 281</td>
<td>Modern Architecture, 1900-Present</td>
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<tr>
<td>Select 1 course unit of ARTH course (200 to 500-level)</td>
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Additional Required Courses

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<tr>
<td>ARCH 431</td>
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<tr>
<td>ARCH 432</td>
<td>Construction II</td>
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</tr>
<tr>
<td>ARCH 433</td>
<td>Building Systems Integration</td>
<td>0.5</td>
</tr>
<tr>
<td>ARCH 434</td>
<td>Environmental Systems II</td>
<td>0.5</td>
</tr>
<tr>
<td>ARCH 435</td>
<td>Structures I</td>
<td>0.5</td>
</tr>
<tr>
<td>ARCH 436</td>
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<td>Total Course Units</td>
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<td>36</td>
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You may count no more than one course toward both a Major and a Sector requirement. For Exceptions, check the Policy Statement (http://www.college.upenn.edu/sectors-policy).

The degree and major requirements displayed are intended as a guide for students entering in the Fall of 2017 and later. Students should consult with their academic program regarding final certifications and requirements for graduation.

Architecture: History and Theory, BA

The History and Theory Concentration includes a four-semester sequence of design studios and courses in the history and theory of art, architecture, and landscape architecture followed by additional coursework and a written thesis in the history and theory of architecture.

The minimum total course units (http://www.college.upenn.edu/credits-needed) for graduation in this major is 34. Double majors may entail more course units.

For more information: www.architecture.sas.upenn.edu

For information about the General Education requirements, please visit the College of Arts & Sciences Curriculum (https://www.college.upenn.edu/curriculum-structure) page.

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<td>Design I</td>
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<tr>
<td>ARCH 302</td>
<td>Design II</td>
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</tr>
<tr>
<td>ARCH 312</td>
<td>Topics in Theory I</td>
<td>1</td>
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<tr>
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<td>Theory II</td>
<td>1</td>
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</tr>
<tr>
<td>ARTH 281</td>
<td>Modern Architecture, 1900-Present</td>
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<td>ARTH 301</td>
<td>Undergraduate Seminar</td>
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College General Education Requirements and Free Electives

Foundational Approaches + Sectors + Free Electives | 20

Major Requirements

Architecture Requirements

Architecture courses must be taken in the following sequence:

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</tr>
<tr>
<td>ARCH 411</td>
<td>Theory II</td>
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</table>

Art History Requirements

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Course Units</th>
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<tbody>
<tr>
<td>ARTH 102</td>
<td>Renaissance to Contemporary: Introduction to Western Art, 1400 to the Present</td>
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<tr>
<td>ARTH 106</td>
<td>Architect and History</td>
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<td>ARTH 281</td>
<td>Modern Architecture, 1900-Present</td>
<td>1</td>
</tr>
<tr>
<td>ARTH 301</td>
<td>Undergraduate Seminar</td>
<td>1</td>
</tr>
</tbody>
</table>
Biochemistry, BA

Contemporary biological sciences are based on principles of chemistry and physics. The importance of this relationship is the basis of the Penn biochemistry major, which prepares students for advanced study in areas as diverse as biophysics, biotechnology, cell biology, genetic engineering, genomics, molecular biology, molecular genetics, nanotechnology, neurobiology, structural biology, systems biology, and biochemistry. It provides the basic science background for graduate and health professional schools and for prospective science teachers.

The minimum total course units (http://www.college.upenn.edu/credits-needed) for graduation in this major is 36. Double majors may entail more course units.

For more information: http://www.sas.upenn.edu/biochem/biochem.html

For information about the General Education requirements, please visit the College of Arts & Sciences Curriculum (https://www.college.upenn.edu/curriculum-structure) page.

<table>
<thead>
<tr>
<th>Code</th>
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<th>Course Units</th>
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<tr>
<td></td>
<td>College General Education Requirements and Free Electives</td>
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<tr>
<td>MATH 104</td>
<td>Calculus, Part I</td>
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<td>MATH 114</td>
<td>Calculus, Part II</td>
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<td></td>
<td>Chemistry Requirement</td>
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<tr>
<td></td>
<td>General Chemistry</td>
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<tr>
<td>CHEM 101</td>
<td>General Chemistry I</td>
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</tr>
<tr>
<td>or CHEM 001</td>
<td>Introductory Chemistry I</td>
<td></td>
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<tr>
<td>CHEM 102</td>
<td>General Chemistry II</td>
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<td></td>
<td>General Chemistry Laboratories:</td>
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<td>CHEM 053</td>
<td>General Chemistry Laboratory I</td>
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<tr>
<td>&amp; CHEM 054</td>
<td>and General Chemistry Laboratory II</td>
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<tr>
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<tr>
<td>CHEM 241</td>
<td>Principles of Organic Chemistry</td>
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<tr>
<td>CHEM 242</td>
<td>Principles of Organic Chemistry II</td>
<td>1</td>
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<tr>
<td>CHEM 221</td>
<td>Physical Chemistry I (Fall Only)</td>
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<tr>
<td>CHEM 222</td>
<td>Physical Chemistry II (Spring Only)</td>
<td>1</td>
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<tr>
<td>CHEM 251</td>
<td>Principles of Biological Chemistry ²</td>
<td>1</td>
</tr>
<tr>
<td>CHEM 451</td>
<td>Biological Chemistry I (Fall Only)</td>
<td>1</td>
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</table>

¹ You may count no more than one course toward both a Major and a Sector requirement. For Exceptions, check the Policy Statement (http://www.college.upenn.edu/sectors-policy).
² Take concurrently with or after CHEM 241 Principles of Organic Chemistry but BEFORE CHEM 451 Biological Chemistry I.

Honors

Requirements: GPA of 3.2 in courses required for for the major, taken at Penn, and not including BCHE 404 Biochemistry Laboratory.

The degree and major requirements displayed are intended as a guide for students entering in the Fall of 2017 and later. Students should consult with their academic program regarding final certifications and requirements for graduation.

Biological Basis of Behavior, BA

Biological Basis of Behavior is an interdisciplinary program in which students explore the relationship between behavior (both human and animal) and its organic bases. The Program offers courses in virtually all areas of neuroscience ranging from cellular neurobiology to cognitive neuropsychology and integrates these basic interdisciplinary courses with basic science requirements in biology, chemistry and psychology. Students also engaged in supervised research in areas as diverse as molecular neurobiology, chemical neuroanatomy, visual sciences and behavioral ecology.

The minimum total course units (http://www.college.upenn.edu/credits-needed) for graduation in this major is 36. Double majors may entail more course units.

For more information: http://www.sas.upenn.edu/bbb/

For information about the General Education requirements, please visit the College of Arts & Sciences Curriculum (https://www.college.upenn.edu/curriculum-structure) page.

<table>
<thead>
<tr>
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<tbody>
<tr>
<td></td>
<td>College General Education Requirements and Free Electives</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Foundational Approaches + Sectors¹ + Free Electives</td>
<td>17.5</td>
</tr>
</tbody>
</table>
## Major Requirements

### Core Requirements

**Introductory Chemistry:**
- CHEM 101 General Chemistry I 1
- CHEM 102 General Chemistry II 1

**Introductory Biology:**
Select one of the following Options: 3

**Option 1:**
- BIOL 101 Introduction to Biology A
- BIOL 102 Introduction to Biology B

**Option 2:**
- BIOL 121 Introduction to Biology - The Molecular Biology of Life
- BIOL 123 Introductory Molecular Biology Laboratory
- BIOL 124 Introductory Organismal Biology Lab

**200-Level BIOL Course**

**Introduction to Brain & Behavior:**
Select one of the following: 1
- BIBB 109 Introduction to Brain and Behavior
- BIOL 109 Introduction to Brain and Behavior
- PSYC 109 Introduction to Brain and Behavior

**Behavioral Neuroscience:**
Select one of the following 200-level BIBB courses: 1
- BIBB 227 Physiology of Motivated Behaviors
- BIBB 233 Neuroethology
- BIBB 269 Autonomic Physiology

**Cognitive Neuroscience:**
Select one of the following 200-level BIBB courses: 1
- BIBB 249 Cognitive Neuroscience
- BIBB 270 Drugs, Brain and Mind

**Neurobiology:**
- BIBB 251 Molecular and Cellular Neurobiology 1.5
  or BIOL 251 Molecular and Cellular Neurobiology 1.5

**Statistics:**
Select one of the following: 1
- BIOL 446 Statistics for Biologists
- STAT 101 Introductory Business Statistics
- STAT 111 Introductory Statistics

**Additional BBB Major Elective Courses**
Students may pick any 8 courses from the approved electives for the BBB major: 8

**Total Course Units**
36

1. You may count no more than one course toward both a Major and a Sector requirement. For Exceptions, check the Policy Statement (http://www.college.upenn.edu/sectors-policy).
2. See the BBB web site for approved courses in areas of specialized study. Students are encouraged to take a research course or do sponsored research in their junior or senior year.
3. BIBB 399 Independent Research, BIBB 499 Senior Honors Thesis or a 400-level BIBB course are three of the options.

## Honors Option

**BIBB Honors Complete**

The degree and major requirements displayed are intended as a guide for students entering in the Fall of 2017 and later. Students should consult with their academic program regarding final certifications and requirements for graduation.

## Biology: Computational Biology, BA

Computational and Mathematical Biology are important new areas in the biological sciences. Many areas in genetics, ecology, and evolution depend on sophisticated quantitative analyses. For example, the advent of data from the human genome project (and similar data from other species) has shown the need for computer, statistical and mathematical methods to store, retrieve and analyze massive data sets. Recognizing the growing importance of these quantitative techniques and skills, we have developed undergraduate concentrations in both Computational and Mathematical Biology. These Concentrations are designed to prepare students for the world of data-driven science.

The minimum total course units (http://wwwcollege.upenn.edu/credits-needed) for graduation in this major is 36. Double majors may entail more course units.

With permission of the Undergraduate Chair, two course units away or LPS courses may count toward the Biology major. This limit does not apply to Study Abroad.

For more information: http://www.bio.upenn.edu/undergraduate/concentrations/computational-and-mathematical-biology

For information about the General Education requirements, please visit the College of Arts & Sciences Curriculum (https://www.college.upenn.edu/curriculum-structure) page.

### Code Title Course Units

<table>
<thead>
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<th>Title</th>
<th>Course Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIOL</td>
<td>121</td>
<td>Introduction to Biology - The Molecular Biology of Life</td>
</tr>
<tr>
<td>BIOL</td>
<td>123</td>
<td>Introductory Molecular Biology Laboratory</td>
</tr>
<tr>
<td>BIOL</td>
<td>124</td>
<td>Introductory Organismal Biology Lab</td>
</tr>
<tr>
<td>BIOL</td>
<td>101</td>
<td>Introduction to Biology A</td>
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<tr>
<td>BIOL</td>
<td>102</td>
<td>Introduction to Biology B</td>
</tr>
<tr>
<td>BIOL</td>
<td>221</td>
<td>Molecular Biology and Genetics</td>
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<tr>
<td>BIOL</td>
<td>230</td>
<td>Evolutionary Biology</td>
</tr>
<tr>
<td>BIBB</td>
<td>109</td>
<td>Introduction to Brain and Behavior</td>
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<tr>
<td>BIBB</td>
<td>227</td>
<td>Physiology of Motivated Behaviors</td>
</tr>
<tr>
<td>BIBB</td>
<td>233</td>
<td>Neuroethology</td>
</tr>
<tr>
<td>BIBB</td>
<td>269</td>
<td>Autonomic Physiology</td>
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<tr>
<td>BIBB</td>
<td>249</td>
<td>Cognitive Neuroscience</td>
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<td>BIBB</td>
<td>270</td>
<td>Drugs, Brain and Mind</td>
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<tr>
<td>BIOL</td>
<td>446</td>
<td>Statistics for Biologists</td>
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<tr>
<td>STAT</td>
<td>101</td>
<td>Introductory Business Statistics</td>
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<tr>
<td>STAT</td>
<td>111</td>
<td>Introductory Statistics</td>
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For the College General Education Requirements and Free Electives

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<thead>
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<th>Free Electives 1.5</th>
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### Major Requirements

#### Introductory Biology

Select one of the following tracks: 2-3

<table>
<thead>
<tr>
<th>Track 1:</th>
<th>Track 2:</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIOL 121</td>
<td>BIOL 101</td>
</tr>
<tr>
<td>BIOL 123</td>
<td>BIOL 102</td>
</tr>
<tr>
<td>BIOL 124</td>
<td></td>
</tr>
</tbody>
</table>

#### Intermediate Biology

| BIOL 221 | Molecular Biology and Genetics |
| BIOL 230 | Evolutionary Biology |

#### Introductory Chemistry or Physics

Select one of the following: 1.5
CHEM 101 & CHEM 053
PHYS 101
PHYS 150
PHYS 170

General Chemistry I and General Chemistry Laboratory I
General Physics: Mechanics, Heat and Sound
Principles of Physics I: Mechanics and Wave Motion
Honors Physics I: Mechanics and Wave Motion

Introductory Math & Statistics
MATH 104
Select one of the following:
BIOL 446
STAT 102
STAT 111
STAT 431

Calculus, Part I
Statistics for Biologists
Introductory Business Statistics
Introductory Statistics
Statistical Inference

Computer Science
CIS 120
CIS 121
CIS 160

Programming Languages and Techniques I
Programming Languages and Techniques II
Mathematical Foundations of Computer Science

Biology: Ecology & Evolutionary Biology, BA

Ecology and evolutionary biology are among the most exciting and challenging fields in biology today. The Concentration in Ecology and Evolutionary Biology provides intensive training in both areas, along with essential background in the statistical and mathematical methods essential for understanding Ecological and Evolutionary research and field practices.

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Course Units</th>
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</thead>
<tbody>
<tr>
<td>BIOL 121</td>
<td>Introduction to Biology - The Molecular Biology of Life</td>
<td>1</td>
</tr>
<tr>
<td>BIOL 123</td>
<td>Introductory Molecular Biology Laboratory</td>
<td>1</td>
</tr>
<tr>
<td>BIOL 124</td>
<td>Introductory Organismal Biology Lab</td>
<td>1</td>
</tr>
<tr>
<td>BIOL 215</td>
<td>Vertebrate Physiology</td>
<td>1</td>
</tr>
<tr>
<td>or BIOL 231</td>
<td>The Evolution of Animal Behavior</td>
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<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Course Units</th>
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</thead>
<tbody>
<tr>
<td>BIOL 101</td>
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<tr>
<td>BIOL 102</td>
<td>Introduction to Biology B</td>
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Chemistry Requirement

Select 2 course units of Chemistry

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<tr>
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<tbody>
<tr>
<td>PHYS 101</td>
<td>General Physics: Mechanics, Heat and Sound</td>
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</tr>
<tr>
<td>PHYS 102</td>
<td>General Physics: Electromagnetism, Optics, and Modern Physics</td>
<td>1</td>
</tr>
<tr>
<td>PHYS 150</td>
<td>Principles of Physics I: Mechanics and Wave Motion</td>
<td>1</td>
</tr>
<tr>
<td>PHYS 151</td>
<td>Principles of Physics II: Electromagnetism and Radiation</td>
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</table>

<table>
<thead>
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<td>MATH 114</td>
<td>Calculus, Part II</td>
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<tr>
<td>or MATH 115</td>
<td>Calculus, Part II with Probability and Matrices</td>
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Select one of the following:

<table>
<thead>
<tr>
<th>Code</th>
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<tbody>
<tr>
<td>BIOL 446</td>
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<tr>
<td>STAT 102</td>
<td>Introductory Business Statistics</td>
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<tr>
<td>STAT 111</td>
<td>Introductory Statistics</td>
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Intermediate Biology

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Course Units</th>
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<tbody>
<tr>
<td>BIOL 221</td>
<td>Molecular Biology and Genetics</td>
<td>1</td>
</tr>
<tr>
<td>BIOL 230</td>
<td>Evolutionary Biology</td>
<td>1</td>
</tr>
<tr>
<td>BIOL 240</td>
<td>Ecology: From individuals to ecosystems</td>
<td>1</td>
</tr>
</tbody>
</table>
Ecology & Evolutionary Biology Electives
Select 4 course units of Ecology & Evolutionary Biology electives  4

Research Requirement
BIOL 399 Independent Study  1
Thesis
SURB 2

Total Course Units  36

1 You may count no more than one course toward both a Major and a Sector requirement. For Exceptions, check the Policy Statement (http://www.college.upenn.edu/sectors-policy).
2 Symposium on Undergraduate Research in Biology

Honors
Applicants must have a minimum GPA of 3.25 in the Major and the Thesis must be approved by the departmental honors committee.

The degree and major requirements displayed are intended as a guide for students entering in the Fall of 2017 and later. Students should consult with their academic program regarding final certifications and requirements for graduation.

Biology: General Biology, BA

Studies in biology can serve as preparation for graduate study in the biological sciences, graduate training in health-related professions, teaching, or employment in a laboratory or conservation-related job. The Biology Department offers courses in many areas of biology, ranging from the workings of cells and cellular components to species interactions and ecosystem function. Penn’s curriculum keeps pace with recent developments in molecular biology and the study of evolutionary processes, including proteomics, computational genomics, molecular evolution, and epigenetics. The General Biology Major allows students to explore the wide range of topics in Biology, while also providing a strong foundation in core subject areas such as cell and molecular biology, genetics, physiology, and ecology and evolution.

The minimum total course units (http://www.college.upenn.edu/credits-needed) for graduation in this major is 36. Double majors may entail more course units.

With permission from the Undergraduate Chair, two course units away or LPS courses may count toward the Biology major. This limit does not apply to Study Abroad.

For more information: http://www.bio.upenn.edu/undergraduate/current-students/major-requirements

For information about the General Education requirements, please visit the College of Arts & Sciences Curriculum (https://www.college.upenn.edu/curriculum-structure) page.

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<tr>
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<tr>
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<td>Foundational Approaches + Sectors + Free Electives</td>
<td>20</td>
</tr>
</tbody>
</table>

Intermediate Level Biology Courses
Select one of the following Tracks:  4
Track 1 (2 units):
BIOL 121 Introduction to Biology - The Molecular Biology of Life
BIOL 123 Introductory Molecular Biology Laboratory
BIOL 124 Introductory Organismal Biology Lab
Track 2 (3 units):
BIOL 101 Introduction to Biology A
BIOL 102 Introduction to Biology B

Chemistry Requirement
Select 2 course units of Chemistry  2

Additional Chemistry and/or Physics Requirement
Select 2 course units of additional Chemistry and/or Physics  2

Calculus/Statistics Requirement
Select 2 course units of Calculus/Statistics  2

Additional Biology/Biology-Related Requirement
Select 4 course units of Biology (Two of them may be Biology related courses)  4

Total Course Units  36

1 You may count no more than one course toward both a Major and a Sector requirement. For Exceptions, check the Policy Statement (http://www.college.upenn.edu/sectors-policy).
2 A third course is needed if the additional CHEM or PHYS courses total less than 2 course units.

Honors
Applicants must have a minimum GPA of 3.25 in the Major and the Thesis must be approved by the departmental honors committee.

The degree and major requirements displayed are intended as a guide for students entering in the Fall of 2017 and later. Students should consult with their academic program regarding final certifications and requirements for graduation.
Biology: Mathematical Biology, BA

Computational and Mathematical Biology are important new areas in the biological sciences. Many areas in genetics, ecology, and evolution depend on sophisticated quantitative analyses. For example, the advent of data from the human genome project (and similar data from other species) has shown the need for computer, statistical and mathematical methods to store, retrieve and analyze massive data sets. Recognizing the growing importance of these quantitative techniques and skills, we have developed undergraduate concentrations in both Computational and Mathematical Biology. These Concentrations are designed to prepare students for the world of data-driven science.

The minimum total course units (http://www.college.upenn.edu/credits-needed) for graduation in this major is 36. Double majors may entail more course units.

With permission of the Undergraduate Chair, two course units away or LPS courses may count toward the Biology major. This limit does not apply to Study Abroad.

For more information: http://www.bio.upenn.edu/undergraduate/concentrations/computational-and-mathematical-biology

For information about the General Education requirements, please visit the College of Arts & Sciences Curriculum (https://www.college.upenn.edu/curriculum-structure) page.

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<td>College General Education Requirements and Free Electives</td>
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| Foundational Approaches + Sectors & Free Electives |

| Major Requirements |

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<tr>
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<tbody>
<tr>
<td>Select one of the following tracks:</td>
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<table>
<thead>
<tr>
<th>Track 1:</th>
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<tbody>
<tr>
<td>BIOL 121 Introduction to Biology - The Molecular Biology of Life</td>
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<tr>
<td>BIOL 123 Introductory Molecular Biology Laboratory</td>
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<tr>
<td>BIOL 124 Introductory Organismal Biology Lab</td>
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<table>
<thead>
<tr>
<th>Track 2:</th>
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<tbody>
<tr>
<td>BIOL 101 Introduction to Biology A</td>
</tr>
<tr>
<td>BIOL 102 Introduction to Biology B</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Intermediate Biology</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIOL 221 Molecular Biology and Genetics</td>
</tr>
<tr>
<td>BIOL 230 Evolutionary Biology</td>
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<table>
<thead>
<tr>
<th>Introductory Chemistry or Physics</th>
</tr>
</thead>
<tbody>
<tr>
<td>Select one of the following:</td>
</tr>
</tbody>
</table>

| CHEM 101 General Chemistry I |
| & CHEM 053 General Chemistry Laboratory I |

| PHYS 101 General Physics: Mechanics, Heat and Sound |
| PHYS 150 Principles of Physics I: Mechanics and Wave Motion |
| PHYS 170 Honors Physics I: Mechanics and Wave Motion |

| Introductory Math & Statistics |

<table>
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<th>Code</th>
<th>Title</th>
<th>Course Units</th>
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</thead>
<tbody>
<tr>
<td>MATH 104</td>
<td>Calculus, Part I</td>
<td>1</td>
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</tbody>
</table>

Select one of the following:

| BIOL 446 | Statistics for Biologists | 1 |
| STAT 102 | Introductory Business Statistics |
| STAT 111 | Introductory Statistics |
| STAT 431 | Statistical Inference |

| Mathematics Requirement |

| MATH 114 | Calculus, Part II | 1 |
| MATH 240 | Calculus, Part III | 1 |
| MATH 320 | Computer Methods in Mathematical Science I | 1 |

<table>
<thead>
<tr>
<th>Capstone Courses</th>
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</thead>
<tbody>
<tr>
<td>BIOL 437</td>
</tr>
<tr>
<td>BIOL 399</td>
</tr>
</tbody>
</table>

| Additional Biology Major Courses |

| Select 2 course units of Additional Biology Major courses | 2 |

| Mathematical Biology-Related Courses |

| Select 3 course units of Computational Biology-Related courses | 3 |

Total Course Units 36

1 You may count no more than one course toward both a Major and a Sector requirement. For Exceptions, check the Policy Statement (http://www.college.upenn.edu/sectors-policy).

Honors

Applicants must have a minimum GPA of 3.25 in the Major and the Thesis must be approved by the departmental honors committee.

The degree and major requirements displayed are intended as a guide for students entering in the Fall of 2017 and later. Students should consult with their academic program regarding final certifications and requirements for graduation.

Biology: Mechanisms of Disease, BA

Among the most important and interesting areas of scientific investigation are the mechanisms that underlie disease. The study of this topic can be of great interest to those pursuing fundamental research, as well as to those drawn to medicine, biotechnology, law, and public health. The introductory and intermediate level course offerings of the Biology Department provide a foundation in understanding the fundamental principles underlying the mechanisms of disease. Advanced electives are selected from the fields of Microbes and Infectious Disease, Genetic Disease, Molecular Genetics and Genomics, and Biochemistry.

The minimum total course units (http://www.college.upenn.edu/credits-needed) for graduation in this major is 36. Double majors may entail more course units.

With permission from the Undergraduate Chair, two course units away or LPS courses may count toward the Biology major. This limit does not apply to Study Abroad.
For more information: http://www.bio.upenn.edu/undergraduate/concentrations/mechanisms-disease

For information about the General Education requirements, please visit the College of Arts & Sciences Curriculum (https://www.college.upenn.edu/curriculum-structure) page.

<table>
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<th>Title</th>
<th>Course Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>College General Education Requirements and Free Electives</td>
<td>Foundational Approaches + Sectors + Free Electives</td>
<td>18</td>
</tr>
</tbody>
</table>

**Major Requirements**

**Introductory Biology**

BIOL 121 Introduction to Biology - The Molecular Biology of Life

BIOL 123 Introductory Molecular Biology Laboratory 0.5

**Chemistry**

Select 4 course units of Chemistry 4

**Mathematics Requirement**

Select 1 course unit of Calculus 1

Select 1 course unit of Statistics 1

**Intermediate Biology**

BIOL 204 Biochemistry 1

BIOL 205 Cell Biology 1

BIOL 221 Molecular Biology and Genetics 1

**Additional BIOL Elective 1 to 1.5 course units** 1.5

**Advanced Electives**

Select 1 course unit of Microbes & Infectious Disease 1

Select 2 course units of Genetic Disease 2

Select 1 course unit of Molecular Genetics and Genomics 1

Select 1 course unit of additional electives 1

**Research Requirement**

BIOL 399 Independent Study 1

Total Course Units 36

1 You may count no more than one course toward both a Major and a Sector requirement. For Exceptions, check the Policy Statement (http://www.college.upenn.edu/sectors-policy).

2 Students are required to present their research at the annual Symposium on Undergraduate Research in Biology (SURB) poster session, held at the end of the Spring Term.

**Honors**

Applicants must have a minimum GPA of 3.25 in the Major and the Thesis must be approved by the departmental honors committee.

The degree and major requirements displayed are intended as a guide for students entering in the Fall of 2017 and later. Students should consult with their academic program regarding final certifications and requirements for graduation.

---

**Biology: Molecular & Cell Biology, BA**

The concentration in Molecular and Cell Biology explores how the techniques of molecular biology and genetics are used to understand cell function. As with the previous Molecular Biology Concentration (https://www.bio.upenn.edu/undergraduate/concentrations/molecular-biology), this concentration allows Biology majors to focus on a molecular approach to biological problems by combining lecture and seminar coursework with training in laboratory research. The list of course electives is organized into two categories: **Molecular and Cell Biology** and **Genetics and Genomics**. Advanced Experimental Research is required for the concentration.

The minimum total course units (http://www.college.upenn.edu/credits-needed) for graduation in this major is 36. Double majors may entail more course units.

With permission of the Undergraduate Chair, two course units away or LPS courses may count toward the Biology major. This limit does not apply to Study Abroad.

For more information: http://www.bio.upenn.edu/undergraduate/concentrations/molecular-and-cell-biology

For information about the General Education requirements, please visit the College of Arts & Sciences Curriculum (https://www.college.upenn.edu/curriculum-structure) page.

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<tr>
<th>Code</th>
<th>Title</th>
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</thead>
<tbody>
<tr>
<td>College General Education Requirements and Free Electives</td>
<td>Foundational Approaches + Sectors + Free Electives</td>
<td>18.5</td>
</tr>
</tbody>
</table>

**Major Requirements**

**Introductory Biology**

Select one of the following tracks: 1.5-3

Track 1:

BIOL 121 Introduction to Biology - The Molecular Biology of Life

BIOL 123 Introductory Molecular Biology Laboratory

Track 2:

BIOL 101 Introduction to Biology A

BIOL 102 Introduction to Biology B

**Chemistry Requirement**

Take 4 Chemistry courses 4

**Calculus/Statistics Requirement**

Take 2 Calculus/Statistics courses 2

**Intermediate Biology**

BIOL 204 Biochemistry 1

or CHEM 251 Principles of Biological Chemistry

BIOL 205 Cell Biology 1

BIOL 221 Molecular Biology and Genetics 1

**Intermediate and Advanced Biology Electives** 4-5

Two Molecular/Cell electives

Two Genetics/Genomics electives

One additional elective

**Research Requirement**

BIOL 399 Independent Study

BIOL 499 Advanced Independent Study

BIOL 376 Microbial Diversity and Pathogenesis Lab

BIOL 425 Biochemistry and Molecular Genetics Superlab
**Symposium on Undergraduate Research in Biology (SURB)**

Total Course Units 36

1 You may count no more than one course toward both a Major and a Sector requirement. For Exceptions, check the Policy Statement (http://www.college.upenn.edu/sectors-policy).

2 Students in Track 2 need only 4 electives

**Honors**

Applicants must have a minimum GPA of 3.25 in the Major and have taken BIOL 399 Independent Study. Thesis must be approved by the departmental honors committee.

The degree and major requirements displayed are intended as a guide for students entering in the Fall of 2017 and later. Students should consult with their academic program regarding final certifications and requirements for graduation.

---

**Biology: Neurobiology, BA**

Neurobiology is one of the most exciting fields within biology today. The basis of neurological disease, molecular mechanisms of brain function, and behavior are major foci of research in medicine, biotechnology, and academia. The Neurobiology Concentration provides fundamental training in brain physiology, coupled with a background in molecular genetics that is essential for understanding the molecular mechanisms of brain function at the gene and protein levels.

The minimum total course units (http://www.college.upenn.edu/credits-needed) for graduation in this major is 36. Double majors may entail more course units.

With permission from the Undergraduate Chair, two course units away or LPS courses may count toward the Biology major. This limit does not apply to Study Abroad.

For more information: http://www.bio.upenn.edu/undergraduate/concentrations/neurobiology

For information about the General Education requirements, please visit the College of Arts & Sciences Curriculum (https://www.college.upenn.edu/curriculum-structure) page.

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<th>Code</th>
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**Physics Requirement**

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<th>Course Units</th>
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</thead>
<tbody>
<tr>
<td>PHYS 102</td>
<td>General Physics: Electromagnetism, Optics, and Modern Physics</td>
<td>1.5</td>
</tr>
<tr>
<td>or PHYS 151</td>
<td>Principles of Physics II: Electromagnetism and Radiation</td>
<td></td>
</tr>
</tbody>
</table>

**Chemistry Requirement**

Select 3 course units of Chemistry courses 3

**Math Requirement**

Select 2 course units of Math courses 2

**Required Biology Courses**

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Course Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIOL 221</td>
<td>Molecular Biology and Genetics</td>
<td>1</td>
</tr>
<tr>
<td>BIOL 251</td>
<td>Molecular and Cellular Neurobiology</td>
<td>1.5</td>
</tr>
<tr>
<td>Select one of the following: 1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>BIOL 436</td>
<td>Molecular Physiology</td>
<td></td>
</tr>
<tr>
<td>BIOL 442</td>
<td>Neurobiology of Learning and Memory</td>
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</tr>
<tr>
<td>BIOL 451</td>
<td>Neural Systems and Behavior</td>
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</tr>
</tbody>
</table>

**Required Biology Courses**

Select 2 course units of Cell/Molec/Develop Neurobiology courses 2

Select 1 course unit of Systems & Integrative Neurobiology courses 1

**Research Requirement**

BIOL 399 | Independent Study                          | 1            |

BIOL 499 | Advanced Independent Study                 |              |

**Thesis**

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Course Units</th>
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</tbody>
</table>

| Total Course Units | 36 |

1 You may count no more than one course toward both a Major and a Sector requirement. For Exceptions, check the Policy Statement (http://www.college.upenn.edu/sectors-policy).

2 Students are required to present their research at the annual Symposium on Undergraduate Research in Biology (SURB) poster session, held at the end of the Spring Term.

**Honors**

Applicants must have a minimum GPA of 3.25 in the Major and the Thesis must be approved by the departmental honors committee.

The degree and major requirements displayed are intended as a guide for students entering in the Fall of 2017 and later. Students should consult with their academic program regarding final certifications and requirements for graduation.

---

**Biophysics, BA**

Bridging the biological sciences and the physical sciences, Biophysics is concerned with physical and chemical explanations of living processes, especially at the cellular and molecular levels. Detailed molecular descriptions are emerging for genetic elements and the mechanisms that control their propagation and expression. Biophysical studies include the investigation of protein structure, nucleic acid structure, enzyme mechanisms, the phenomena underlying cellular behavior, excitable
Chemistry, BA

Phenomena in nerve, muscle, and visual cells, and integrative neural phenomena.

The minimum total course units (http://www.college.upenn.edu/credits-needed) for graduation in this major is 36. Double majors may entail more course units.

**Note:** Though not a requirement of the major, participation in an independent research project is strongly encouraged.

**For more information:** http://www.sas.upenn.edu/biophysics/

For information about the General Education requirements, please visit the College of Arts & Sciences Curriculum (https://www.college.upenn.edu/curriculum-structure) page.

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<td>Foundational Approaches + Sectors(^1) + Free Electives</td>
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<td></td>
<td><strong>Major Requirements</strong></td>
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<tr>
<td></td>
<td><strong>Cell Biology and Biochemistry</strong></td>
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</tr>
<tr>
<td></td>
<td>BIOL 204 Biochemistry</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>or CHEM 251 Principles of Biological Chemistry</td>
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</tr>
<tr>
<td></td>
<td>BIOL 205 Cell Biology</td>
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<td></td>
<td><strong>Biophysics</strong></td>
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<tr>
<td></td>
<td>PHYS 280 Physical Models of Biological Systems</td>
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<tr>
<td></td>
<td>or BCHE 280 Biological Physics</td>
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<td></td>
<td>1 course unit of Elective or two .5 course units of electives</td>
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<tr>
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<tr>
<td></td>
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<tr>
<td></td>
<td>or CHEM 115 Honors Chemistry I: Theoretical Perspectives</td>
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<tr>
<td></td>
<td>CHEM 102 General Chemistry II</td>
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<tr>
<td></td>
<td>or CHEM 116 Honors Chemistry II</td>
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<tr>
<td></td>
<td>CHEM 053 General Chemistry Laboratory I</td>
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<tr>
<td></td>
<td>&amp; CHEM 054 and General Chemistry Laboratory II</td>
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<tr>
<td></td>
<td>or CHEM 245 Experimental Organic Chemistry</td>
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<tr>
<td></td>
<td>CHEM 241 Principles of Organic Chemistry</td>
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<tr>
<td></td>
<td>CHEM 242 Principles of Organic Chemistry II</td>
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</tr>
<tr>
<td></td>
<td>or CHEM 243 Organic Chemistry II: Principles of Organic Chemistry with applications in Chemical Biology</td>
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<tr>
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<td>&amp; CHEM 222 and Physical Chemistry II</td>
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<tr>
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<td>PHYS 230 Principles of Physics III: Thermal Physics and Waves</td>
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<td></td>
<td>PHYS 240 Principles of Physics IV: Modern Physics (without laboratory)</td>
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<td></td>
<td>or PHYS 250 Principles of Physics IV: Modern Physics</td>
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<td></td>
<td><strong>Math</strong></td>
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<td>MATH 104 Calculus, Part I</td>
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<td>Select one of the following:</td>
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<tr>
<td></td>
<td>MATH 114 Calculus, Part II</td>
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<tr>
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<td>MATH 115 Calculus, Part II with Probability and Matrices</td>
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<td>MATH 116 Honors Calculus</td>
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<td>MATH 240 Calculus, Part III</td>
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<td><strong>Physics</strong></td>
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<td></td>
<td>PHYS 150 Principles of Physics I: Mechanics and Wave Motion</td>
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<td>or PHYS 170 Honors Physics I: Mechanics and Wave Motion</td>
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<td>Select one of the following:</td>
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<tr>
<td></td>
<td>PHYS 151 Principles of Physics II: Electromagnetism and Radiation</td>
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<td>or PHYS 171 Honors Physics II: Electromagnetism and Radiation</td>
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<td></td>
<td>PHYS 093 AP Credit for Principles I (PHYS 150)</td>
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<td>&amp; PHYS 094 and AP Credit for Principles II (PHYS 151)</td>
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<td></td>
<td>&amp; PHYS 364 and Laboratory Electronics</td>
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<td>PHYS 361 Electromagnetism I: Electricity and Potential Theory</td>
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<td>or PHYS 561 Electromagnetism I</td>
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<td></td>
<td>PHYS 362 Electromagnetism II: Magnetism, Maxwell's Equations, and Electromagnetic Waves</td>
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<tr>
<td></td>
<td>or PHYS 562 Electromagnetism II: Magnetism, Maxwell's Equations, and Electromagnetic Waves</td>
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<tr>
<td></td>
<td><strong>Total Course Units</strong></td>
<td>36</td>
</tr>
</tbody>
</table>

\(^1\) You may count no more than one course toward both a Major and a Sector requirement. For Exceptions, check the Policy Statement (http://www.college.upenn.edu/sectors-policy).

**Honors**

Applicant must have a minimum GPA of 3.3 in the Major. Thesis Required

The degree and major requirements displayed are intended as a guide for students entering in the Fall of 2017 and later. Students should consult with their academic program regarding final certifications and requirements for graduation.

**Chemistry, BA**

The different disciplines of modern physical and biological sciences have much to offer each other through advances in technology. Aside from basic research, society continually generates fundamental scientific and technological challenges such as the need for new sources of energy, new synthetic and biotechnologies; new materials exhibiting unusual catalytic, metallic, or electrolytic properties; and developments in laser, computer, and communications technology. We consider these within the province of a unified field of molecular sciences, in which chemistry plays the central role.

Chemistry is concerned with the study of matter and the changes matter can undergo. The chemistry program provides a basic foundation for career opportunities in chemical research and teaching, in scientific communication and information transfer, and in the health professions. Students who want to prepare for advanced study in chemistry or allied fields where research experience is advantageous should complete the chemistry honors program.
The minimum total course units (http://www.college.upenn.edu/credits-needed) for graduation in this major is 36. Double majors may entail more course units.

Those considering the Chemistry major should consult with the undergraduate chairman as soon as possible, preferably in the freshman year, especially if you have AP credit in Science and Mathematics from high school.

For more information: http://www.chem.upenn.edu/

For information about the General Education requirements, please visit the College of Arts & Sciences Curriculum (https://www.college.upenn.edu/curriculum-structure) page.

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</table>

### College General Education Requirements and Free Electives

| Foundational Approaches + Sectors 1 | 19 |

### Major Requirements

#### Introductory Sequences 2

General Chemistry:
- CHEM 101 General Chemistry I
- CHEM 102 General Chemistry II
- CHEM 053 General Chemistry Laboratory I
- CHEM 054 General Chemistry Laboratory II

Organic Chemistry and Laboratories:
- CHEM 241 Principles of Organic Chemistry
- CHEM 242 Principles of Organic Chemistry II
- CHEM 245 Experimental Organic Chemistry
- MATH 104 Calculus, Part I
- MATH 114 Calculus, Part II
- PHYS 150 Principles of Physics I: Mechanics and Wave Motion
- PHYS 151 Principles of Physics II: Electromagnetism and Radiation

#### Additional Chemistry Requirements

Physical Chemistry and Laboratories:
- CHEM 221 Physical Chemistry I 3
- CHEM 222 Physical Chemistry II 4
- CHEM 223 Experimental Physical Chemistry I 4

Biological Chemistry:
- CHEM 251 Principles of Biological Chemistry 5

Inorganic Chemistry:
- CHEM 261 Inorganic Chemistry I 3

One Advanced Laboratory:
- CHEM 246 Advanced Synthesis and Spectroscopy Laboratory 6

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<tr>
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<th>Course Units</th>
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<tbody>
<tr>
<td>CHEM 246</td>
<td>Advanced Synthesis and Spectroscopy Laboratory</td>
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</table>

Total Course Units: 36

1. You may count no more than one course toward both a Major and a Sector requirement. For Exceptions, check the Policy Statement (http://www.college.upenn.edu/sectors-policy).
2. Majors should complete by the end of the sophomore year.
3. Offered Fall only.
4. Offered Spring only.
6. Offered Fall only and must be taken concurrently with or after CHEM 261 Inorganic Chemistry I.

### Honors

Applicants must have a minimum GPA of 3.0 in all Math and Science courses.

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<tr>
<th>Code</th>
<th>Title</th>
<th>Course Units</th>
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<tbody>
<tr>
<td>CHEM 399</td>
<td>Independent Research</td>
<td>1</td>
</tr>
</tbody>
</table>

### Cinema and Media Studies, BA

The Penn Cinema and Media Studies major and minor are traditional humanities programs involving the critical study of film and media history, theory, and aesthetics. Reflecting the hybrid nature of the field of Cinema and Media Studies, our faculty members are housed in departments across SAS and the university, and we cross-list courses with various departments and schools, including Africana Studies, Anthropology, Communications, East Asian Language and Civilizations, English, Fine Arts, German, History, History of Art, Near Eastern Languages and Civilizations, Romance Languages, Slavic Languages and Literatures, and Women's Studies. This truly interdisciplinary program will introduce students to the wide range of methodologies used to study film and media, and this intersection with other disciplines makes Cinema and Media Studies an ideal component of a double major.

The minimum total course units (http://www.college.upenn.edu/credits-needed) for graduation in this major is 33. Double majors may entail more course units.

For more information: http://cinemastudies.sas.upenn.edu/undergraduate/major

For information about the General Education requirements, please visit the College of Arts & Sciences Curriculum (https://www.college.upenn.edu/curriculum-structure) page.
Classical Studies: Classical Civilizations, BA

Classical Studies encompasses the civilization of the ancient Greeks and Romans from prehistory to the Middle Ages, with emphasis on the literature, philosophy, and history of the classical Greek and Roman periods. It includes economic, political, social, and intellectual history as well as philosophy, archaeology, religion, and myth. Students may choose a track that emphasizes the study of texts in Greek and/or Latin or opt for a program of courses that do not require any knowledge of the ancient languages. The Classical Studies Department provides extensive training at the Undergraduate level and graduate training in both Classical Studies and Ancient History. We also offer a special Post-Baccalaureate Program for students who wish to continue the study of Greek and Latin but who do not yet meet the requirements of a conventional graduate program.

The minimum total course units (http://www.college.upenn.edu/credits-needed) for graduation in this major is 32. Double majors may entail more course units.

For more information: http://www.classics.upenn.edu/

For information about the General Education requirements, please visit the College of Arts & Sciences Curriculum (https://www.college.upenn.edu/curriculum-structure) page.

Classical Studies: Classical Languages and Literature, BA

Classical Studies encompasses the civilization of the ancient Greeks and Romans from prehistory to the Middle Ages, with emphasis on the literature, philosophy, and history of the classical Greek and Roman periods. It includes economic, political, social, and intellectual history as well as philosophy, archaeology, religion, and myth. Students may choose a track that emphasizes the study of texts in Greek and/or Latin or opt for a program of courses that do not require any knowledge of the ancient languages. The Classical Studies Department provides extensive training at the Undergraduate level and graduate training in both Classical Studies and Ancient History. We also offer a special Post-Baccalaureate Program for students who wish to continue the study of Greek and Latin but who do not yet meet the requirements of a conventional graduate program.

The minimum total course units (http://www.college.upenn.edu/credits-needed) for graduation in this major is 32. Double majors may entail more course units.

For more information: http://www.classics.upenn.edu/

For information about the General Education requirements, please visit the College of Arts & Sciences Curriculum (https://www.college.upenn.edu/curriculum-structure) page.
### Classical Studies: Mediterranean Archaeology, BA

Classical Studies encompasses the civilization of the ancient Greeks and Romans from prehistory to the Middle Ages, with emphasis on the literature, philosophy, and history of the classical Greek and Roman periods. It includes economic, political, social, and intellectual history as well as philosophy, archaeology, religion, and myth. Students may choose a track that emphasizes the study of texts in Greek and/or Latin, or they may opt for a program of courses that do not require any knowledge of the ancient languages. The Classical Studies Department provides extensive training at the Undergraduate level and graduate training in both Classical Studies and Ancient History. The department also offers a special Post-Baccalaureate Program for students who wish to continue the study of Greek and Latin but do not yet meet the requirements of a conventional graduate program.

The minimum total course units (http://www.classics.upenn.edu/credits-needed) for graduation in this major is 32. Double majors may entail more course units.

For more information: http://www.classics.upenn.edu/

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### Cognitive Science: Cognitive Neuroscience, BA

Cognitive science is the empirical study of intelligent systems, including the human mind. An interdisciplinary science, it combines results from biology, computer science, linguistics, mathematics, neuroscience, philosophy and psychology to the study of language processing, perception, action, learning, concept formation, inference and other activities of the mind, with applications for information technology and the study of artificial intelligence.

The minimum total course units (http://www.college.upenn.edu/credits-needed) for graduation in this major is 36. Double majors may entail more course units.

For more information: https://web.sas.upenn.edu/cogsci/program/major/

For information about the General Education requirements, please visit the College of Arts & Sciences Curriculum (https://www.college.upenn.edu/curriculum-structure) page.
Core Requirement

COGS 001 Introduction to Cognitive Science 2 1

Breadth Requirement

Psychology:

PSYC 001 Introduction to Experimental Psychology 1
or PSYC 151 Language and Thought

Computation:

Select one of the following:

- CIS 110 Introduction to Computer Programming
- CIS 120 Programming Languages and Techniques I
- PHIL 005 Formal Logic I

Language:

LING 001 Introduction to Linguistics 1
or LING 106 Introduction to Formal Linguistics

Philosophy:

Select one of the following:

- PHIL 004 History of Modern Philosophy
- PHIL 244 Introduction to Philosophy of Mind
- PHIL 405 Philosophy of Language
- PHIL 426 Philosophy of Psychology

Neuroscience:

BIBB 249/PSYC 149 Cognitive Neuroscience 1

Mathematics:

Select one of the following:

- STAT 111 Introductory Statistics
- MATH 104 Calculus, Part I
- MATH 114 Calculus, Part II
- MATH 115 Calculus, Part II with Probability and Matrices

Concentration Requirement

Select 9 course units of Concentration Electives 3,4 9

Total Course Units 36

1 You may count no more than one course toward both a Major and a Sector requirement. For Exceptions, check the Policy Statement (http://www.college.upenn.edu/sectors-policy).


3 See COGS website for lists of approved courses.

4 NOTE: You must take BIBB 109 Introduction to Brain and Behavior/PSYC 109 Introduction to Brain and Behavior either in Breadth or as a Concentration Elective.

Honors

Required: A Minimum Overall GPA of 3.0 and 3.5 in Major Related Courses

The degree and major requirements displayed are intended as a guide for students entering in the Fall of 2017 and later. Students should consult with their academic program regarding final certifications and requirements for graduation.

Cognitive Science: Computation and Cognition, BA

Cognitive science is the empirical study of intelligent systems, including the human mind. An interdisciplinary science, it combines results from biology, computer science, linguistics, mathematics, neuroscience, philosophy and psychology to the study of language processing, perception, action, learning, concept formation, inference and other activities of the mind, with applications for information technology and the study of artificial intelligence.

The minimum total course units (http://www.college.upenn.edu/credits-needed) for graduation in this major is 36. Double majors may entail more course units.

For more information: https://web.sas.upenn.edu/cogsci/program/major/

For information about the General Education requirements, please visit the College of Arts & Sciences Curriculum (https://www.college.upenn.edu/curriculum-structure) page.

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<td>College General Education Requirements and Free Electives</td>
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<tr>
<td></td>
<td>Foundational Approaches + Sectors¹ + Free Electives</td>
<td></td>
</tr>
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<td></td>
<td>Major Requirements</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Core Requirement</td>
<td></td>
</tr>
<tr>
<td></td>
<td>COGS 001 Introduction to Cognitive Science 2</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Breadth Requirement</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Psychology:</td>
<td></td>
</tr>
<tr>
<td></td>
<td>PSYC 001 Introduction to Experimental Psychology 1</td>
<td></td>
</tr>
<tr>
<td></td>
<td>or PSYC 151 Language and Thought</td>
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</tr>
<tr>
<td></td>
<td>Computation:</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Select one of the following: 1</td>
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<tr>
<td></td>
<td>CIS 110 Introduction to Computer Programming</td>
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<tr>
<td></td>
<td>CIS 120 Programming Languages and Techniques I</td>
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<tr>
<td></td>
<td>LGIC 010 Ideas in Logic and Computation</td>
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</tr>
<tr>
<td></td>
<td>PHIL 005 Formal Logic I</td>
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</tr>
<tr>
<td></td>
<td>Language:</td>
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</tr>
<tr>
<td></td>
<td>LING 001 Introduction to Linguistics 1</td>
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</tr>
<tr>
<td></td>
<td>or LING 106 Introduction to Formal Linguistics</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Philosophy:</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Select one of the following:</td>
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</tr>
<tr>
<td></td>
<td>PHIL 004 History of Modern Philosophy</td>
<td></td>
</tr>
<tr>
<td></td>
<td>PHIL 244 Introduction to Philosophy of Mind</td>
<td></td>
</tr>
<tr>
<td></td>
<td>PHIL 405 Philosophy of Language</td>
<td></td>
</tr>
<tr>
<td></td>
<td>PHIL 426 Philosophy of Psychology</td>
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<tr>
<td></td>
<td>Neuroscience:</td>
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</tr>
<tr>
<td></td>
<td>BIBB 249/PSYC 149 Cognitive Neuroscience 1</td>
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</table>

¹ You may count no more than one course toward both a Major and a Sector requirement. For Exceptions, check the Policy Statement (http://www.college.upenn.edu/sectors-policy).


³ See COGS website for lists of approved courses.

⁴ NOTE: You must take BIBB 109 Introduction to Brain and Behavior/PSYC 109 Introduction to Brain and Behavior either in Breadth or as a Concentration Elective.
or BIBB/BIOL/PSYC 109
Introduction to Brain and Behavior

Mathematics:
Select one of the following:
- STAT 111 Introductory Statistics
- MATH 104 Calculus, Part I
- MATH 114 Calculus, Part II
- MATH 115 Calculus, Part II with Probability and Matrices

Concentration Requirement
Select 9 course units of Concentration Electives

Total Course Units

1 You may count no more than one course toward both a Major and a Sector requirement. For Exceptions, check the Policy Statement (http://www.college.upenn.edu/sectors-policy).


3 See COGS website for lists of approved courses.

Honors
Required: A Minimum Overall GPA of 3.0 and 3.5 in Major Related Courses

The degree and major requirements displayed are intended as a guide for students entering in the Fall of 2017 and later. Students should consult with their academic program regarding final certifications and requirements for graduation.

Cognitive Science: Individualized, BA

Cognitive science is the empirical study of intelligent systems, including the human mind. An interdisciplinary science, it combines results from biology, computer science, linguistics, mathematics, neuroscience, philosophy and psychology to the study of language processing, perception, action, learning, concept formation, inference and other activities of the mind, with applications for information technology and the study of artificial intelligence.

The minimum total course units (http://www.college.upenn.edu/credits-needed) for graduation in this major is 36. Double majors may entail more course units.

For more information: https://web.sas.upenn.edu/cogsci/program/major/

For information about the General Education requirements, please visit the College of Arts & Sciences Curriculum (https://www.college.upenn.edu/curriculum-structure) page.

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Course Units</th>
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<tbody>
<tr>
<td></td>
<td>College General Education Requirements and Free Electives</td>
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</tr>
<tr>
<td></td>
<td>Foundational Approaches + Sectors + Free Electives</td>
<td>20</td>
</tr>
<tr>
<td></td>
<td>Major Requirements</td>
<td></td>
</tr>
</tbody>
</table>

For more information: https://web.sas.upenn.edu/cogsci/program/major/

The degree and major requirements displayed are intended as a guide for students entering in the Fall of 2017 and later. Students should consult with their academic program regarding final certifications and requirements for graduation.

Honors
Required: A Minimum Overall GPA of 3.0 and 3.5 in Major Related Courses

The degree and major requirements displayed are intended as a guide for students entering in the Fall of 2017 and later. Students should consult with their academic program regarding final certifications and requirements for graduation.
Cognitive Science: Language & Mind, BA

Cognitive science is the empirical study of intelligent systems, including the human mind. An interdisciplinary science, it combines results from biology, computer science, linguistics, mathematics, neuroscience, philosophy and psychology to the study of language processing, perception, action, learning, concept formation, inference and other activities of the mind, with applications for information technology and the study of artificial intelligence.

The minimum total course units (http://www.college.upenn.edu/credits-needed) for graduation in this major is 36. Double majors may entail more course units.

For more information: https://web.sas.upenn.edu/cogsci/program/major/

For information about the General Education requirements, please visit the College of Arts & Sciences Curriculum (https://www.college.upenn.edu/curriculum-structure) page.

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</tbody>
</table>

College General Education Requirements and Free Electives

Foundational Approaches + Sectors\(^1\) + Free Electives 20

Major Requirements

Core Requirement

COGS 001 Introduction to Cognitive Science\(^2\) 1

Breadth Requirement

Psychology:

PSYC 001 Introduction to Experimental Psychology 1

or PSYC 151 Language and Thought

Computation:

Select one of the following:

CIS 110 Introduction to Computer Programming 1

CIS 120 Programming Languages and Techniques I

PHIL 005 Formal Logic I

Language:

LING 001 Introduction to Linguistics 1

or LING 106 Introduction to Formal Linguistics

Philosophy:

Select one of the following:

PHIL 004 History of Modern Philosophy

PHIL 244 Introduction to Philosophy of Mind

PHIL 405 Philosophy of Language

PHIL 426 Philosophy of Psychology

Neuroscience:

BIBB 249/PSYC 149/ or BIBB/BIOL/PSYC 109 Cognitive Neuroscience 1

Mathematics:

Select one of the following:

STAT 111 Introductory Statistics

MATH 104 Calculus, Part I

MATH 114 Calculus, Part II

MATH 115 Calculus, Part II with Probability and Matrices

Concentration Requirement

Select 9 course units of Concentration Electives\(^3\) 9

Total Course Units 36

1 You may count no more than one course toward both a Major and a Sector requirement. For Exceptions, check the Policy Statement (http://www.college.upenn.edu/sectors-policy).


3 See COGS website for lists of approved courses.

Honors

Required: A Minimum Overall GPA of 3.0 and 3.5 in Major Related Courses

The degree and major requirements displayed are intended as a guide for students entering in the Fall of 2017 and later. Students should consult with their academic program regarding final certifications and requirements for graduation.

Communication: Communication & Public Service, BA

A Communication major with a concentration in Communication and Public Service (ComPS) offers students a special program that combines individual research opportunities with hands-on experience in the public arena. Classes, seminars, internships, field experiences, and individual research projects provide students with opportunities to meet and learn from current and former officeholders, journalists, and public servants who have been leaders in government and civil society. The program is closely matched to the undergraduate Communication major, and like the Communication major, ComPS students must complete 14 courses.

The minimum total course units (http://www.college.upenn.edu/credits-needed) for graduation in this major is 34. Double majors may entail more course units.

Students must meet the following minimum requirements as a condition of application to the major. Meeting these prerequisites is NOT a guarantee of admission to the major:

1. Completion of two of the following COMM 125 Introduction to Communication Behavior or COMM 130 Media Industries and Society or COMM 123 Critical Approaches to Popular Culture

2. Completion of at least 1 additional COMM courses.

3. Cumulative GPA at time of application should be at least 2.0.

For more information: https://www.asc.upenn.edu/communication-and-public-service
For information about the General Education requirements, please visit the College of Arts & Sciences Curriculum (https://www.college.upenn.edu/curriculum-structure) page.

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<thead>
<tr>
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<tr>
<td></td>
<td>College General Education Requirements and Free Electives</td>
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<tr>
<td></td>
<td>Foundational Approaches + Sectors + Free Electives</td>
<td>20</td>
</tr>
<tr>
<td></td>
<td>Major Requirements</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Core Survey Courses</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Select two of the following:</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>COMM 123 Critical Approaches to Popular Culture</td>
<td></td>
</tr>
<tr>
<td></td>
<td>COMM 125 Introduction to Communication Behavior</td>
<td></td>
</tr>
<tr>
<td></td>
<td>COMM 130 Media Industries and Society</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Core COMPS Course</td>
<td></td>
</tr>
<tr>
<td></td>
<td>COMM 323 Contemporary Politics, Policy and Journalism</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>or COMM 395 Communication and the Presidency</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Additional COMPS Courses</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Select 2 course units of COMPS courses</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>Methods Course</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Select one of the following:</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>COMM 210 Quantitative Research Methods in Communication</td>
<td></td>
</tr>
<tr>
<td></td>
<td>or COMM 333 Survey Research and Design</td>
<td></td>
</tr>
<tr>
<td></td>
<td>or COMM 498 Experimental Design</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Methods course from approved list</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>Intermediate Level Courses</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Select 2 course units of Intermediate Level courses</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>Upper Level Courses</td>
<td></td>
</tr>
<tr>
<td></td>
<td>COMM 494 Honors &amp; Capstone Thesis</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Select 1 course unit of Upper Level courses with 1 course unit in a seminar</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>Capstone Thesis</td>
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<tr>
<td></td>
<td>COMM 495 COMPS Capstone Thesis</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Major Cluster</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Select 3 course units in upto three departments but only 1 course unit may be an introductory class</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Total Course Units</td>
<td>34</td>
</tr>
</tbody>
</table>

1 You may count no more than one course toward both a Major and a Sector requirement. For Exceptions, check the Policy Statement (http://www.college.upenn.edu/sectors-policy).
2 Course not used for the Core may count toward the Intermediate requirement.
3 See listing of COMPS course options here (https://www.asc.upenn.edu/communication-and-public-service).
4 Methods course from approved list may be found here (https://www.asc.upenn.edu/academics/undergraduate-program/curriculum-and-major-requirements/course-requirements).
5 Intermediate Level Courses are those courses numbered between 100 and 299.
6 Upper level courses are those numbered 300 through 499.
7 Must be approved by the Director of Student Services.

**Honors**

A capstone thesis project is completed over two semesters during the senior year. Students choose the topic of the capstone thesis from a range of public policy or public service issues. During the year they work with a thesis advisor and are enrolled in a thesis seminar to complete their project. A credit is earned in both semesters. **Students who achieve a cumulative grade point average of 3.5 or higher and earn an A- or higher on their project will graduate with honors.**

The degree and major requirements displayed are intended as a guide for students entering in the Fall of 2017 and later. Students should consult with their academic program regarding final certifications and requirements for graduation.

**Communication: General Communication, BA**

The Communication Program, housed at Penn’s Annenberg School for Communication, offers a dynamic environment where students and faculty explore a wide range of communication-centered questions using a variety of methods and theories from the humanities and social sciences. Undergraduates (who major in Communication through the School of Arts and Sciences) explore how messages are created and adapted to audiences and examine the implications of those messages for individuals and society.

Areas of concentration include critical, cultural, and historical media studies; research on children, family, and media; health communication; the media business; and political communication. The curriculum also offers opportunities for independent study, internship experience, study abroad, and putting communication to work in the service of community (through the Communication and Public Service Program).

The minimum total course units (http://www.college.upenn.edu/credits-needed) for graduation in this major is 34. Double majors may entail more course units.

Students must meet the following minimum requirements prior to acceptance into the major.

1. Completion of at least two of the following introductory courses:

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Course Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>COMM 125</td>
<td>Introduction to Communication Behavior</td>
<td>1</td>
</tr>
<tr>
<td>COMM 130</td>
<td>Media Industries and Society</td>
<td>1</td>
</tr>
<tr>
<td>COMM 123</td>
<td>Critical Approaches to Popular Culture</td>
<td>1</td>
</tr>
</tbody>
</table>

2. Completion of a third Communication course.
3. Cumulative GPA of 2.0 or higher in all University of Pennsylvania courses.

For more information: https://www.asc.upenn.edu/academics/undergraduate-program

For information about the General Education requirements, please visit the College of Arts & Sciences Curriculum (https://www.college.upenn.edu/curriculum-structure) page.
Comparative Literature: Globalization, BA

College General Education Requirements and Free Electives

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Course Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>Foundational Approaches + Sectors</td>
<td>+ Free Electives</td>
<td>20</td>
</tr>
</tbody>
</table>

Major Requirements

Core Survey Courses

Select two of the following:

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Course Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>COMM 123</td>
<td>Critical Approaches to Popular Culture</td>
<td>2</td>
</tr>
<tr>
<td>COMM 125</td>
<td>Introduction to Communication Behavior</td>
<td></td>
</tr>
<tr>
<td>COMM 130</td>
<td>Media Industries and Society</td>
<td></td>
</tr>
</tbody>
</table>

Methods Course

Select one of the following:

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Course Units</th>
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</thead>
<tbody>
<tr>
<td>COMM 210</td>
<td>Quantitative Research Methods in Communication</td>
<td>1</td>
</tr>
<tr>
<td>or COMM 33</td>
<td>Survey Research and Design</td>
<td></td>
</tr>
<tr>
<td>or COMM 49</td>
<td>Experimental Design</td>
<td></td>
</tr>
</tbody>
</table>

Intermediate Level Courses

Select 4 course units of Intermediate Level courses

Advanced Level Courses

Select 4 course units of Advanced Level courses

Cognate Courses

Select 3 course units of Cognate courses

Total Course Units

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Course Units</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>34</td>
</tr>
</tbody>
</table>

1. You may count no more than one course toward both a Major and a Sector requirement. For Exceptions, check the Policy Statement (http://www.college.upenn.edu/sectors-policy).
2. Course not used for the Core may count toward the Intermediate requirement.
3. Please visit the website (https://www.asc.upenn.edu/academics/undergraduate-program/curriculum-and-major-requirements/course-requirements) for a listing of approved Method Courses.
4. Intermediate Level Courses are those courses numbered between 100 and 299.
5. Advanced Level courses are those course numbered 300 through 499.
6. Only 1 course unit may be an introductory class. Must be approved by the Director of Student Services.

Honors

A thesis project is completed over two semesters during the senior year. A credit is earned in both semesters. Students who achieve a cumulative grade point average of 3.5 or higher and earn an A- or higher on their project will graduate with honors.

Optional Concentrations

Concentrations give our majors an opportunity to pursue their personal interests within the diverse field of Communication. In some cases, these concentrations can also help students market themselves for employment or graduate school in a related field. The concentration utilizes five of the fourteen courses listed below (three of which are COMM courses, two of which are cognate courses). No course can be used more than once toward concentration requirements. A list of approved concentration courses can be found here (https://www.asc.upenn.edu/academics/undergraduate-program/curriculum-and-major-requirements/concentrations) Cognate courses are to be approved by Annenberg's Director of Student Services.

Students may only complete one concentration.

Comparative Literature: Globalization, BA

The undergraduate program in Comparative Literature welcomes students interested in the study of literature from theoretical, interdisciplinary, cross-cultural, and global perspectives. The core courses train students to appreciate the variety of meanings that texts acquire in different institutional and philosophical contexts and different socio-political frameworks. There are three concentrations within the major: National and Transnational Literatures (four courses in each of two languages), Theory, and Globalization.

Comparative Literature is a flexible program, allowing students to take courses in a variety of departments in the College. Students with interests in more than one national literature and in fields such as philosophy and political theory, art and aesthetics, and film and music will find the requirements congenial. The program provides students with a cosmopolitan intellectual background that is increasingly in demand today.

The minimum total course units (http://www.college.upenn.edu/credits-needed) for graduation in this major is 34. Double majors may entail more course units.
For more information: http://ccat.sas.upenn.edu/Complit/undergraduate.htm

For information about the General Education requirements, please visit the College of Arts & Sciences Curriculum (https://www.college.upenn.edu/curriculum-structure) page.

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<tr>
<th>Code</th>
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<td>Foundational Approaches + Sectors + Free Electives</td>
<td>20</td>
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<td></td>
<td>Major Requirements</td>
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<tr>
<td></td>
<td>Core Requirements</td>
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<td></td>
<td>Core Course 1:</td>
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<tr>
<td></td>
<td>COML 100 Introduction to Literary Study</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>or COML 125 Narrative Across Cultures</td>
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<tr>
<td></td>
<td>or COML 191 World Literature</td>
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<tr>
<td></td>
<td>Core Course 2:</td>
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<tr>
<td></td>
<td>COML 094 Introduction to Literary Theory</td>
<td>1</td>
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<tr>
<td></td>
<td>or COML 36C Introduction to Literary Theory</td>
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<tr>
<td></td>
<td>or COML 38C Topics in Literary Theory</td>
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<tr>
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<td>Core Course 3: Capstone Seminar or Thesis</td>
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<td>Select one of the following:</td>
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<td></td>
<td>COML 399 Independent Study</td>
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<tr>
<td></td>
<td>COML 498 Honors Thesis</td>
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<tr>
<td></td>
<td>&amp; COML 499 and Independent Study</td>
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<tr>
<td></td>
<td>Advanced Elective</td>
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<td></td>
<td>Comparative Literature Electives</td>
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</tr>
<tr>
<td></td>
<td>Select 3 COML Electives</td>
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<tr>
<td></td>
<td>Concentration Requirements</td>
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<tr>
<td></td>
<td>Select 8 course units in Literature or Film and Theory</td>
<td>8</td>
</tr>
<tr>
<td></td>
<td>Select 1 Post-colonial Theory course</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Select 3 Globalization &amp; Culture courses</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Select 4 Advanced Literature or Film courses</td>
<td>5</td>
</tr>
<tr>
<td></td>
<td>Total Course Units</td>
<td>34</td>
</tr>
</tbody>
</table>

1 You may count no more than one course toward both a Major and a Sector requirement. For Exceptions, check the Policy Statement (http://www.college.upenn.edu/sectors-policy).
2 Must be COML courses
3 All Concentration courses to be chosen in consultation with the Undergraduate Chair.
4 4 course units must be courses that offer the student a theoretical or historical perspective on Globalization & Culture, and 4 course units must be Advanced Literature or Film courses.
5 4 course units must be Advanced Literature or Film courses, of which at least two must be taught in a language other than English, and one must be in non-western or in post-colonial literature.

**Comparative Literature: (Trans)national Literatures, BA**

The undergraduate program in Comparative Literature welcomes students interested in the study of literature from theoretical, interdisciplinary, cross-cultural, and global perspectives. The core courses train students to appreciate the variety of meanings that texts acquire in different institutional and philosophical contexts and different socio-political frameworks. There are three concentrations within the major: National and Transnational Literatures (four courses in each of two languages), Theory, and Globalization.

Comparative Literature is a flexible program, allowing students to take courses in a variety of departments in the College. Students with interests in more than one national literature and in fields such as philosophy and political theory, art and aesthetics, and film and music will find the requirements congenial. The program provides students with a cosmopolitan intellectual background that is increasingly in demand today.

The minimum total course units (http://www.college.upenn.edu/credits-needed) for graduation in this major is 34. Double majors may entail more course units.

For more information: http://ccat.sas.upenn.edu/Complit/undergraduate.htm

For information about the General Education requirements, please visit the College of Arts & Sciences Curriculum (https://www.college.upenn.edu/curriculum-structure) page.

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<td></td>
<td>Major Requirements</td>
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<td></td>
<td>Core Requirements</td>
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<tr>
<td></td>
<td>Core Course 1:</td>
<td></td>
</tr>
<tr>
<td></td>
<td>COML 100 Introduction to Literary Study</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>or COML 125 Narrative Across Cultures</td>
<td></td>
</tr>
<tr>
<td></td>
<td>or COML 191 World Literature</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Core Course 2:</td>
<td></td>
</tr>
<tr>
<td></td>
<td>COML 094 Introduction to Literary Theory</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>or COML 360 Introduction to Literary Theory</td>
<td></td>
</tr>
<tr>
<td></td>
<td>or COML 383 Topics in Literary Theory</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Core Course 3: Capstone Seminar or Thesis</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Select one of the following:</td>
<td></td>
</tr>
<tr>
<td></td>
<td>COML 399 Independent Study</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>COML 498 Honors Thesis</td>
<td></td>
</tr>
<tr>
<td></td>
<td>&amp; COML 499 and Independent Study</td>
<td></td>
</tr>
</tbody>
</table>

Applicants must have an overall GPA of 3.4 and a GPA of 3.6 in Major Related courses.
Comparative Literature: Theory, BA

The undergraduate program in Comparative Literature welcomes students interested in the study of literature from theoretical, interdisciplinary, cross-cultural, and global perspectives. The core courses train students to appreciate the variety of meanings that texts acquire in different institutional and philosophical contexts and different socio-political frameworks. There are three concentrations within the major: National and Transnational Literatures (four courses in each of two languages), Theory, and Globalization.

Comparative Literature is a flexible program, allowing students to take courses in a variety of departments in the College. Students with interests in more than one national literature and in fields such as philosophy and political theory, art and aesthetics, and film and music will find the requirements congenial. The program provides students with a cosmopolitan intellectual background that is increasingly in demand today.

The minor in Comparative Literature requires students to take an introductory course and a course in theory, along with an open selection of four literature and film courses.

Honors

Applicants must have an overall GPA of 3.4 and a GPA of 3.6 in Major Related courses.

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Course Units</th>
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<tbody>
<tr>
<td>COML 498</td>
<td>Honors Thesis (required)</td>
<td>1</td>
</tr>
<tr>
<td>COML 499</td>
<td>Independent Study (required)</td>
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</tbody>
</table>

The degree and major requirements displayed are intended as a guide for students entering in the Fall of 2017 and later. Students should consult with their academic program regarding final certifications and requirements for graduation.

Honors

Applicants must have an overall GPA of 3.4 and a GPA of 3.6 in Major Related courses.

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<tr>
<th>Code</th>
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<th>Course Units</th>
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<tbody>
<tr>
<td>COML 498</td>
<td>Honors Thesis (required)</td>
<td>1</td>
</tr>
<tr>
<td>COML 499</td>
<td>Independent Study (required)</td>
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</tbody>
</table>

The minimum total course units (http://www.college.upenn.edu/credits-needed) for graduation in this major is 34. Double majors may entail more course units.

For more information: http://ccat.sas.upenn.edu/Complit/undergraduate.htm

For information about the General Education requirements, please visit the College of Arts & Sciences Curriculum (https://www.college.upenn.edu/curriculum-structure) page.
Criminology, BA

The major in Criminology enables students to acquire a theoretical and methodological framework for generating and assessing knowledge about crime and social control. The program draws upon disciplines from statistics to neuroscience to develop a liberal arts approach to the subject of crime.

The minimum total course units (http://www.college.upenn.edu/credits-needed) for graduation in this major is 34. Double majors may entail more course units.

For more information: http://crim.sas.upenn.edu/

For information about the General Education requirements, please visit the College of Arts & Sciences Curriculum (https://www.college.upenn.edu/curriculum-structure) page.

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Course Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>COML 498</td>
<td>Honors Thesis (required)</td>
<td>1</td>
</tr>
<tr>
<td>COML 499</td>
<td>Independent Study (required)</td>
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<tr>
<td>CRIM 450</td>
<td>Senior Research Thesis</td>
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</tbody>
</table>

The degree and major requirements displayed are intended as a guide for students entering in the Fall of 2017 and later. Students should consult with their academic program regarding final certifications and requirements for graduation.

Earth Science: Environmental Science, BA

The Earth Science major provides graduates with a broad understanding of the physical and chemical processes that operate in and on the planet and how direct and indirect methods are used to examine and understand the structure, composition, and dynamics of the Earth. Graduates appreciate how humans and ecosystems interact with the dynamic Earth, and they have an in-depth knowledge of the atmosphere and climate change, the rock cycle, natural hazards, and the hydrologic and biogeochemical cycles. Additionally, they understand how to measure and use the structure, sequence, and properties of rocks, sediments, and fossils to reconstruct events in Earth’s history and identify potential natural hazards or earth resources.

The Environmental Science concentration within the Earth Science major integrates geology, biology, chemistry, and physics in an effort to have students undertake a scientific study of the environment and the effects of humans on Earth systems.

The minimum total course units (http://www.college.upenn.edu/credits-needed) for graduation in this major is 35. Double majors may entail more course units.

For more information: http://www.sas.upenn.edu/earth/earth-science/environmental-science-concentration

For information about the General Education requirements, please visit the College of Arts & Sciences Curriculum (https://www.college.upenn.edu/curriculum-structure) page.

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Course Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENVS 100</td>
<td>Introduction to Environmental Science</td>
<td>1</td>
</tr>
<tr>
<td>GEOL 100</td>
<td>Introduction to Geology (if not taken)</td>
<td>1</td>
</tr>
<tr>
<td>GEOL 103</td>
<td>Natural Disturbances and Human Disasters</td>
<td>1</td>
</tr>
<tr>
<td>GEOL 125</td>
<td>Earth and Life Through Time</td>
<td>1</td>
</tr>
<tr>
<td>GEOL 130</td>
<td>Oceanography</td>
<td>1</td>
</tr>
<tr>
<td>GEOL 204</td>
<td>Global Climate Change</td>
<td>1</td>
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</tbody>
</table>

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<th>Title</th>
<th>Course Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>CRIM 100</td>
<td>Criminology</td>
<td>1</td>
</tr>
<tr>
<td>CRIM 200</td>
<td>Criminal Justice</td>
<td>1</td>
</tr>
<tr>
<td>CRIM 410</td>
<td>Research Seminar in Experiments in Crime and Justice</td>
<td>1</td>
</tr>
</tbody>
</table>

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<tr>
<th>Code</th>
<th>Title</th>
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<td>Earth and Life Through Time</td>
<td>1</td>
</tr>
<tr>
<td>GEOL 130</td>
<td>Oceanography</td>
<td>1</td>
</tr>
<tr>
<td>GEOL 204</td>
<td>Global Climate Change</td>
<td>1</td>
</tr>
</tbody>
</table>

Math, Physics & Chemistry Requirement

Select 3 course units of Math, Physics and Chemistry courses with at least one course from two different disciplines. Mathematics:

1. You may count no more than one course toward both a Major and a Sector requirement. For Exceptions, check the Policy Statement (http://www.college.upenn.edu/sectors-policy).
2. Students completing a minor elective track are exempt from the 2 course units of Criminology electives.

Honors

Applicants must have a minimum GPA of 3.4 in the Major.
Earth Science: Geology, BA

The Earth Science major provides graduates with a broad understanding of the physical and chemical processes that operate in and on the planet and how direct and indirect methods are used to examine and understand the structure, composition, and dynamics of the Earth. Graduates appreciate how humans and ecosystems interact with the dynamic Earth, and they have an in-depth knowledge of the atmosphere and climate change, the rock cycle, natural hazards, and the hydrologic and biogeochemical cycles. Additionally, they understand how to measure and use the structure, sequence, and properties of rocks, sediments, and fossils to reconstruct events in Earth’s history and identify potential natural hazards or earth resources.

Students in the Geology concentration learn the various processes at work within the planet and on its surface. Students gain hands-on experience with fossils, rocks, minerals, maps, aerial photographs, and satellite images in the laboratory and on field trips.

The minimum total course units (http://www.college.upenn.edu/credits-needed) for graduation in this major is 35. Double majors may entail more course units.

For more information: http://www.sas.upenn.edu/earth/earth-science/geology-concentration

For information about the General Education requirements, please visit the College of Arts & Sciences Curriculum (https://www.college.upenn.edu/curriculum-structure) page.

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<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Course Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>GEOL 100</td>
<td>Introduction to Geology</td>
<td>1</td>
</tr>
<tr>
<td>GEOL 111</td>
<td>Geology Laboratory</td>
<td>1</td>
</tr>
<tr>
<td>GEOL 201</td>
<td>Mineralogy</td>
<td>1</td>
</tr>
<tr>
<td>GEOL 205</td>
<td>Paleontology</td>
<td>1</td>
</tr>
<tr>
<td>GEOL 206</td>
<td>Stratigraphy</td>
<td>1</td>
</tr>
<tr>
<td>GEOL 208</td>
<td>Structural Geology</td>
<td>1</td>
</tr>
<tr>
<td>GEOL 317</td>
<td>Petrology and Petrography</td>
<td>1</td>
</tr>
<tr>
<td>MATH 104</td>
<td>Calculus, Part I</td>
<td>1</td>
</tr>
<tr>
<td>PHYS 101</td>
<td>General Physics: Mechanics, Heat and Sound</td>
<td>1.5</td>
</tr>
<tr>
<td>CHEM 101 &amp; CHEM 053</td>
<td>General Chemistry I and General Chemistry Laboratory I</td>
<td>1.5</td>
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</table>

Selected 2 course units with one course from each of two disciplines

Mathematics:

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Course Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>MATH 114</td>
<td>Calculus, Part II</td>
<td>1</td>
</tr>
<tr>
<td>MATH 115</td>
<td>Calculus, Part II with Probability and Matrices</td>
<td>1</td>
</tr>
</tbody>
</table>

Honors Applicants must have a 3.25 GPA in the Major and complete a Senior Thesis with a B+ or above.

The degree and major requirements displayed are intended as a guide for students entering in the Fall of 2017 and later. Students should consult with their academic program regarding final certifications and requirements for graduation.
Earth Science: Paleobiology, BA

The Earth Science major provides graduates with a broad understanding of the physical and chemical processes that operate in and on the planet and how direct and indirect methods are used to examine and understand the structure, composition, and dynamics of the Earth. Graduates appreciate how humans and ecosystems interact with the dynamic Earth, and they have an in-depth knowledge of the atmosphere and climate change, the rock cycle, natural hazards, and the hydrologic and biogeochemical cycles. Additionally, they understand how to measure and use the structure, sequence, and properties of rocks, sediments, and fossils to reconstruct events in Earth’s history and identify potential natural hazards or earth resources.

Students in the Paleobiology concentration learn how the biological and physical conditions in deep time shaped the current conditions on Earth. Paleobiologists use image analysis and evolutionary theory to deduce the patterns of change in the biosphere.

The minimum total course units (http://www.college.upenn.edu/credits-needed) for graduation in this major is 36. Double majors may entail more course units.

For more information: http://www.sas.upenn.edu/earth/earth-science/paleobiology-concentration

### Code Title Course
1. GEOL 100 Introduction to Geology 1
2. GEOL 111 Geology Laboratory 1
3. GEOL 125 Earth and Life Through Time 1
4. GEOL 205 Paleontology 1
5. GEOL 206 Stratigraphy 1
6. CHEM 101 & CHEM 053 General Chemistry I and General Chemistry Laboratory I 1.5
7. CHEM 102 & CHEM 054 General Chemistry II and General Chemistry Laboratory II 1.5
8. MATH 104 Calculus, Part I 1
9. Select one of the following: 1.5
10. PHYS 150 Principles of Physics I: Mechanics and Wave Motion
11. PHYS 170 Honors Physics I: Mechanics and Wave Motion
12. MATH 114 Calculus, Part II 1
13. BIOL 446 Statistics for Biologists
14. STAT 111 Introductory Statistics 1
15. STAT 112 Introductory Statistics 1

Total Course Units 36

1. You may count no more than one course toward both a Major and a Sector requirement. For Exceptions, check the Policy Statement (http://www.college.upenn.edu/sectors-policy).
2. Two semester course, 2 course units granted only upon completion of second semester.

### Honors

Applicants must have a minimum GPA of 3.25 overall and a GPA of 3.25 in the major.
East Asian Area Studies, BA

East Asian Studies focuses on East Asia as a region of the world and human experience, and provides an integrated curriculum drawing on the approaches of the social sciences and the humanities. The program requires relevant courses in areas including history, international relations, political science, sociology, legal studies, and East Asian arts and cultures, while maintaining high standards in language study.

The minimum total course units (http://www.college.upenn.edu/credits-needed) for graduation in this major is 32. Double majors may entail more course units.

For more information: https://ceas.sas.upenn.edu/academics/east-asia-area-studies-major

For information about the General Education requirements, please visit the College of Arts & Sciences Curriculum (https://www.college.upenn.edu/curriculum-structure) page.

East Asian Languages and Civilizations: Chinese and Japanese, BA

The undergraduate program in EALC offers language training and courses in the culture, history, literature, and archaeology of East Asia. The graduate program in EALC deals with two major areas, China and Japan (a graduate program in Korean is planned for the future), and all of its programs focus mainly upon language, philology, and the study of civilization and culture. Each provides training for the Ph.D. and A.M. degrees.

The minimum total course units (http://www.college.upenn.edu/credits-needed) for graduation in this major is 36. Double majors may entail more course units.

For more information: http://www.sas.upenn.edu/ealc/

For information about the General Education requirements, please visit the College of Arts & Sciences Curriculum (https://www.college.upenn.edu/curriculum-structure) page.
### East Asian Languages and Civilizations: Chinese, BA

The undergraduate program in EALC offers language training and courses in the culture, history, literature, and archaeology of East Asia. The graduate program in EALC deals with two major areas, China and Japan (a graduate program in Korean is planned for the future), and all of its programs focus mainly upon language, philology, and the study of civilization and culture. Each provides training for the Ph.D. and A.M. degrees.

The minimum total course units (http://www.college.upenn.edu/credits-needed) for graduation in this major is 34. Double majors may entail more course units.

For more information:  http://www.sas.upenn.edu/ealc/

For information about the General Education requirements, please visit the College of Arts & Sciences Curriculum (https://www.college.upenn.edu/curriculum-structure) page.

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Course Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>College General Education Requirements and Free Electives</td>
<td>Foundational Approaches + Sectors(^{1}) + Free Electives</td>
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</tr>
<tr>
<td>Major Requirements</td>
<td>Language Requirements</td>
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<tr>
<td>Select one of the following Options:</td>
<td>6</td>
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</tr>
<tr>
<td><strong>Option 1:</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CHIN 011</td>
<td>Beginning Modern Chinese I</td>
<td></td>
</tr>
<tr>
<td>CHIN 012</td>
<td>Beginning Modern Chinese II</td>
<td></td>
</tr>
<tr>
<td>CHIN 111</td>
<td>Beginning Chinese III (Non-Intensive)</td>
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</tr>
<tr>
<td>CHIN 112</td>
<td>Beginning Chinese IV</td>
<td></td>
</tr>
<tr>
<td>CHIN 211</td>
<td>Intermediate Modern Chinese I</td>
<td></td>
</tr>
<tr>
<td>CHIN 212</td>
<td>Intermediate Modern Chinese II</td>
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<tr>
<td><strong>Option 2:</strong></td>
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<td></td>
</tr>
<tr>
<td>CHIN 021</td>
<td>Intensive Beginning Modern Chinese I &amp; II</td>
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<tr>
<td>CHIN 022</td>
<td>Intensive Beginning Modern Chinese III &amp; IV</td>
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<tr>
<td>CHIN 211</td>
<td>Intermediate Modern Chinese I</td>
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<tr>
<td>CHIN 212</td>
<td>Intermediate Modern Chinese II</td>
<td></td>
</tr>
</tbody>
</table>

### Introductory Courses - China and Japan

| EALC 001 | Introduction to Chinese Civilization | 1 |
| EALC 002 | Introduction to Japanese Civilization | 1 |

**Topic Seminars**

Select 1 course unit of 200-level China Seminar | 1
Select 1 course unit of 200-level Japan Seminar | 1

**Major Seminars**

| EALC 301 | Major Seminar on China | 1 |
| EALC 302 | Major Seminar on Japan | 1 |

Total Course Units | 36

\(^{1}\) You may count no more than one course toward both a Major and a Sector requirement. For Exceptions, check the Policy Statement (http://www.college.upenn.edu/sectors-policy).

### Honors

**Additional Electives & Thesis**

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Course Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>Honors Elective 1</td>
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<td></td>
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<tr>
<td>Honors Elective 2</td>
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<tr>
<td>Honors Thesis</td>
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</tr>
</tbody>
</table>

The degree and major requirements displayed are intended as a guide for students entering in the Fall of 2017 and later. Students should consult with their academic program regarding final certifications and requirements for graduation.

\(^{2}\) Pre-requisite: EALC 001 Introduction to Chinese Civilization
## Honors

### Additional Electives & Thesis

<table>
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<tr>
<th>Code</th>
<th>Title</th>
<th>Course Units</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Honors Elective 1</td>
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</tr>
<tr>
<td></td>
<td>Honors Elective 2</td>
<td></td>
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<tr>
<td></td>
<td>Honors Thesis</td>
<td></td>
</tr>
</tbody>
</table>

The degree and major requirements displayed are intended as a guide for students entering in the Fall of 2017 and later. Students should consult with their academic program regarding final certifications and requirements for graduation.

### East Asian Languages and Civilizations: Japanese, BA

The undergraduate program in EALC offers language training and courses in the culture, history, literature, and archaeology of East Asia. The graduate program in EALC deals with two major areas, China and Japan (a graduate program in Korean is planned for the future), and all of its programs focus mainly upon language, philology, and the study of civilization and culture. Each provides training for the Ph.D. and A.M. degrees.

The minimum total course units (http://www.college.upenn.edu/credits-needed) for graduation in this major is 34. Double majors may entail more course units.

For more information: [http://www.sas.upenn.edu/ealc/](http://www.sas.upenn.edu/ealc/)

For information about the General Education requirements, please visit the College of Arts & Sciences Curriculum (https://www.college.upenn.edu/curriculum-structure) page.

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</tr>
<tr>
<td></td>
<td>Language Requirements</td>
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<tr>
<td></td>
<td>Select one of the following Options:</td>
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<td></td>
<td>Option 1:</td>
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<tr>
<td>JPAN 011</td>
<td>Beginning Japanese I</td>
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<td></td>
</tr>
<tr>
<td>JPAN 111</td>
<td>Beginning Japanese III</td>
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<tr>
<td>JPAN 112</td>
<td>Beginning Japanese IV</td>
<td></td>
</tr>
<tr>
<td>JPAN 211</td>
<td>Intermediate Japanese I</td>
<td></td>
</tr>
<tr>
<td>JPAN 212</td>
<td>Intermediate Japanese II</td>
<td></td>
</tr>
<tr>
<td>Option 2:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>JPAN 021</td>
<td>Intensive Beginning Japanese I</td>
<td></td>
</tr>
<tr>
<td>JPAN 022</td>
<td>Intensive Beginning Japanese II</td>
<td></td>
</tr>
<tr>
<td>JPAN 211</td>
<td>Intermediate Japanese I</td>
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<tr>
<td>JPAN 212</td>
<td>Intermediate Japanese II</td>
<td></td>
</tr>
</tbody>
</table>

### Introductory Courses - China and Japan

- EALC 001 Introduction to Chinese Civilization 1
- EALC 002 Introduction to Japanese Civilization 1

On Japan

Select 1 course unit of 200-level Japan Seminar 1

Major Seminar - On Japan

EALC 302 Major Seminar on Japan 2

Electives

Select 4 course units of Electives 4

Total Course Units 34

1. You may count no more than one course toward both a Major and a Sector requirement. For Exceptions, check the Policy Statement (http://www.college.upenn.edu/sectors-policy).
2. Pre-requisite: EALC 002 Introduction to Japanese Civilization

## Honors

### Additional Electives & Thesis

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</thead>
<tbody>
<tr>
<td></td>
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<td></td>
</tr>
<tr>
<td></td>
<td>Honors Elective 2</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Honors Thesis</td>
<td></td>
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</tbody>
</table>

### East Asian Languages and Civilizations: Korean, BA

The undergraduate program in EALC offers language training and courses in the culture, history, literature, and archaeology of East Asia. The graduate program in EALC deals with two major areas, China and Japan (a graduate program in Korean is planned for the future), and all of its programs focus mainly upon language, philology, and the study of civilization and culture. Each provides training for the Ph.D. and A.M. degrees.

The minimum total course units (http://www.college.upenn.edu/credits-needed) for graduation in this major is 34. Double majors may entail more course units.

For more information: [https://www.sas.upenn.edu/ealc/undergraduate/major](https://www.sas.upenn.edu/ealc/undergraduate/major)

For information about the General Education requirements, please visit the College of Arts & Sciences Curriculum (https://www.college.upenn.edu/curriculum-structure) page.

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<td></td>
</tr>
<tr>
<td></td>
<td>Foundational Approaches + Sectors + Free Electives</td>
<td>20</td>
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<tr>
<td></td>
<td>Major Requirements</td>
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Introduction Courses - China and Japan
Language Requirements 2

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
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<tbody>
<tr>
<td>KORN 011</td>
<td>Elementary Korean I</td>
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<td>KORN 012</td>
<td>Elementary Korean II</td>
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</tr>
<tr>
<td>KORN 111</td>
<td>Intermediate Korean I</td>
<td>1</td>
</tr>
<tr>
<td>KORN 112</td>
<td>Intermediate Korean II</td>
<td>1</td>
</tr>
<tr>
<td>KORN 211</td>
<td>Advanced Korean I</td>
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<tr>
<td>KORN 212</td>
<td>Advanced Korean II</td>
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</table>

Gateway Courses

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Course Units</th>
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<tbody>
<tr>
<td>EALC 001</td>
<td>Introduction to Chinese Civilization</td>
<td>1</td>
</tr>
<tr>
<td>or EALC 002</td>
<td>Introduction to Japanese Civilization</td>
<td>1</td>
</tr>
<tr>
<td>EALC 003</td>
<td>Introduction to Korean Civilization</td>
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EALC Seminars

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Course Units</th>
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<tbody>
<tr>
<td>200 Level Seminar</td>
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</tr>
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</table>

EALC 303 | Major Seminar on Korea | 1            |

Electives

Select four elective courses 3

Total Course Units 34

1. You may count no more than one course toward both a Major and a Sector requirement. For Exceptions, check the Policy Statement (http://www.college.upenn.edu/sectors-policy).
2. Students who place out of the elementary courses must fulfill the 6 course units with more advanced courses chosen in consultation with the Korean concentration advisor.
3. Courses to be chosen in consultation with the Major advisor.

Honors

Additional Electives & Thesis

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Course Units</th>
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</thead>
<tbody>
<tr>
<td>Honors Elective 1</td>
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<tr>
<td>Honors Elective 2</td>
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<td></td>
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<tr>
<td>Honors Thesis</td>
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</table>

Economics, BA

Economics is a social science and, as such, an important component of the liberal arts curriculum. At the core of economics are theories of how individuals, firms, and other organizations make choices and interact, taking into account constraints on their behaviors. Among the topics studied in economics are the determination of prices and quantities in various types of markets (from perfectly competitive commodity markets to highly regulated utility markets and internet auctions); the effects of taxes, subsidies, and regulations; the determination of aggregate economic activity (e.g., GDP, unemployment); inflation, monetary policy, and financial intermediation; economic growth and income distribution; and international trade and international finance (e.g., exchange rates). The Economics Major provides training in economic principles and provides a useful background for students preparing for a career in public policy, business, or finance.

The minimum total course units (http://www.college.upenn.edu/credits-needed) for graduation in this major is 32. Double majors may entail more course units.

10 course units Economics - 6 course units must be taken in the Economics Department at the University of Pennsylvania.

The Calculus Requirement is: MATH 104 Calculus, Part I and MATH 114 Calculus, Part II or MATH 115 Calculus, Part II with Probability and Matrices.

Economics Core Requirement (Micro, Macro, and Statistics)

Note: LPS academic year courses ECON 001 Introduction to Micro Economics, ECON 002 Introductory Economics: Macro, ECON 101 Intermediate Microeconomics, ECON 102 Intermediate Macroeconomics, or ECON 103 Statistics for Economists ONLY may be used for the Major.

For more information: http://economics.sas.upenn.edu/undergraduate-program/economics-major

For information about the General Education requirements, please visit the College of Arts & Sciences Curriculum (https://www.college.upenn.edu/curriculum-structure) page.

<table>
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<tr>
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<th>Title</th>
<th>Course Units</th>
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Major Requirements

Introduction to Micro and Macro Economics 2

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Course Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>ECON 001</td>
<td>Introduction to Micro Economics</td>
<td></td>
</tr>
<tr>
<td>ECON 002</td>
<td>Introductory Economics: Macro</td>
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<tr>
<td>or Waiver Conversion Complete</td>
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Intro Micro/Macro - For WHARTON Students Only

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Course Units</th>
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</thead>
<tbody>
<tr>
<td>ECON 010</td>
<td>Introduction to Economics for Business</td>
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</table>

Select an additional 200-level ECON course 3

Intermediate Level Micro and Macro Economics 4

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Course Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>ECON 101</td>
<td>Intermediate Microeconomics</td>
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</tr>
<tr>
<td>ECON 102</td>
<td>Intermediate Macroeconomics</td>
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</tbody>
</table>

Statistics

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Course Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>ECON 103</td>
<td>Statistics for Economists</td>
<td>1</td>
</tr>
<tr>
<td>or STAT 430</td>
<td>Probability</td>
<td></td>
</tr>
<tr>
<td>or STAT 431</td>
<td>Statistical Inference</td>
<td></td>
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<tr>
<td>STAT 430</td>
<td>Probability (and one additional ECON course) 5</td>
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<td>STAT 431</td>
<td>Statistical Inference (and one additional ECON course) 5</td>
<td>1</td>
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</table>

Econometrics

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Course Units</th>
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</thead>
<tbody>
<tr>
<td>ECON 104</td>
<td>Econometrics</td>
<td>1</td>
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</tbody>
</table>

Four Major Courses

Select 4 course units of Major Courses from all 200 Level with 2 course units in Econ Dept at U of P

Mathematics Requirement

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Course Units</th>
</tr>
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<tbody>
<tr>
<td>MATH 104</td>
<td>Calculus, Part I</td>
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</tr>
<tr>
<td>MATH 114</td>
<td>Calculus, Part II</td>
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</table>

1. You may count no more than one course toward both a Major and a Sector requirement. For Exceptions, check the Policy Statement (http://www.college.upenn.edu/sectors-policy).
2. Students who place out of the elementary courses must fulfill the 6 course units with more advanced courses chosen in consultation with the Korean concentration advisor.
3. Courses to be chosen in consultation with the Major advisor.
4. You may count no more than one course toward both a Major and a Sector requirement. For Exceptions, check the Policy Statement (http://www.college.upenn.edu/sectors-policy).
5. You may count no more than one course toward both a Major and a Sector requirement. For Exceptions, check the Policy Statement (http://www.college.upenn.edu/sectors-policy).
English: 18th/19th Centuries, BA

Students deciding to pursue English at Penn study language, literature, literary history and theories of literary production in a thirteen-course major of flexible design. While completing the language and literature requirement and the five required courses in the literary historical "core," majors also pursue their own special literary interests in six-course concentrations of their own choosing. English offers more than twenty distinct concentrations, including several options for creative writers.

The minimum total course units (http://www.college.upenn.edu/credits-needed) for graduation in this major is 32. Double majors may entail more course units.

For more information: http://www.english.upenn.edu/Undergrad/

For information about the General Education requirements, please visit the College of Arts & Sciences Curriculum (https://www.college.upenn.edu/curriculum-structure) page.

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Course Units</th>
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</thead>
<tbody>
<tr>
<td>ECON 001</td>
<td>Introduction to Micro Economics</td>
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</tr>
<tr>
<td>ECON 002</td>
<td>Introductory Economics: Macro</td>
<td>1</td>
</tr>
<tr>
<td>ECON 101</td>
<td>Intermediate Microeconomics</td>
<td>1</td>
</tr>
<tr>
<td>ECON 102</td>
<td>Intermediate Macroeconomics</td>
<td>1</td>
</tr>
<tr>
<td>ECON 103</td>
<td>Statistics for Economists</td>
<td>1</td>
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<tr>
<td>ECON 104</td>
<td>Econometrics</td>
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<tr>
<td>ENGL 200</td>
<td>Junior Research Seminar (Seminar 1)</td>
<td>1</td>
</tr>
<tr>
<td>ENGL 110-599</td>
<td>Seminars</td>
<td>4</td>
</tr>
<tr>
<td>ENGL 110-599</td>
<td>Electives</td>
<td>2-5</td>
</tr>
<tr>
<td>ENGL 110-599</td>
<td>Concentration Requirements</td>
<td>4</td>
</tr>
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The degree and major requirements displayed are intended as a guide for students entering in the Fall of 2017 and later. Students should consult with their academic program regarding final certifications and requirements for graduation.
English: 20th/21st Centuries, BA

Students deciding to pursue English at Penn study language, literature, literary history and theories of literary production in a thirteen-course major of flexible design. While completing the language and literature requirement and the five required courses in the literary historical “core,” majors also pursue their own special literary interests in six-course concentrations of their own choosing. English offers more than twenty distinct concentrations, including several options for creative writers.

The minimum total course units (http://www.college.upenn.edu/credits-needed) for graduation in this major is 33. Double majors may entail more course units.

For more information: http://www.english.upenn.edu/Undergrad/

For information about the General Education requirements, please visit the College of Arts & Sciences Curriculum (https://www.college.upenn.edu/curriculum-structure) page.

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Course Units</th>
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<tr>
<td></td>
<td>College General Education Requirements and Free Electives</td>
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<td>Foundation Approaches + Sectors</td>
<td>Free Electives</td>
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<tr>
<td>Core Requirement</td>
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</tr>
<tr>
<td>Select one course in each sector from ENGL 015-ENGL 099:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sector 1 - Theory &amp; Poetics</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sector 2 - Difference and Diaspora</td>
<td></td>
<td></td>
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<tr>
<td>Sector 3 - Medieval/Renaissance</td>
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<td></td>
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<tr>
<td>Sector 4 - Lit of the Long 18th C (ca. 1660-1832)</td>
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<tr>
<td>Sector 5 - 19th Century Literature</td>
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<tr>
<td>Sector 6 - 20th Century Literature</td>
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<tr>
<td>The Junior Seminar</td>
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<tr>
<td>ENGL 200 - Junior Research Seminar (Seminar 1) (may be double-counted in the core)</td>
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<tr>
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<tr>
<td>Sem 1: Literature Before 1700</td>
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<tr>
<td>Sem 2: Literature Before 1900</td>
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<tr>
<td>Sem 3: ENGL (may be double-counted in the core)</td>
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<td>Sem 4: ENGL or Related (may be double-counted in the core)</td>
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<tr>
<td>Electives</td>
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<td></td>
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<tr>
<td>Select 2-5 course units from ENGL 015-ENGL 599</td>
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<tr>
<td>Concentration Requirements</td>
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<td></td>
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<tr>
<td>Select 4 course units of 20th &amp; 21st Century Literature &amp; Culture courses with 2 course units 200-level seminar or higher</td>
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<tr>
<td>Total Course Units</td>
<td>33</td>
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</table>

1 You may count no more than one course toward both a Major and a Sector requirement. For Exceptions, check the Policy Statement (http://www.college.upenn.edu/sectors-policy).
2 For up to three sectors, a seminar may be double-counted in the core.
3 Take additional 3 course units if Seminars 1, 2 and 3 are double-counted in the core.
4 Concentration may be comprised from the 13 course units of the major, or other courses.

Honors

Applicants must have a 3.6 GPA in the Major. Thesis required.

The degree and major requirements displayed are intended as a guide for students entering in the Fall of 2017 and later. Students should consult with their academic program regarding final certifications and requirements for graduation.

English: Africana Literatures & Culture, BA

Students deciding to pursue English at Penn study language, literature, literary history and theories of literary production in a thirteen-course major of flexible design. While completing the language and literature requirement and the five required courses in the literary historical “core,” majors also pursue their own special literary interests in six-course concentrations of their own choosing. English offers more than twenty distinct concentrations, including several options for creative writers.

The minimum total course units (http://www.college.upenn.edu/credits-needed) for graduation in this major is 33. Double majors may entail more course units.

For more information: http://www.english.upenn.edu/Undergrad/

For information about the General Education requirements, please visit the College of Arts & Sciences Curriculum (https://www.college.upenn.edu/curriculum-structure) page.

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<tr>
<td></td>
<td>College General Education Requirements and Free Electives</td>
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</tr>
<tr>
<td>Foundation Approaches + Sectors</td>
<td>Free Electives</td>
<td>20</td>
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<td></td>
<td>Major Requirements</td>
<td></td>
</tr>
<tr>
<td>Core Requirement</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Select one course in each sector from ENGL 015-ENGL 099:</td>
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<td></td>
</tr>
<tr>
<td>Sector 1 - Theory &amp; Poetics</td>
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<td>Sector 4 - Lit of the Long 18th C (ca. 1660-1832)</td>
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<tr>
<td>The Junior Seminar</td>
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<tr>
<td>ENGL 200 - Junior Research Seminar (Seminar 1) (may be double-counted in the core)</td>
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<tr>
<td>Seminars</td>
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<tr>
<td>Select one seminar in each area from ENGL 110-ENGL 599:</td>
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<tr>
<td>Sem 1: Literature Before 1700</td>
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<tr>
<td>Sem 2: Literature Before 1900</td>
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<tr>
<td>Sem 3: ENGL (may be double-counted in the core)</td>
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<tr>
<td>Sem 4: ENGL or Related (may be double-counted in the core)</td>
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<tr>
<td>Electives</td>
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<td></td>
</tr>
<tr>
<td>Select 2-5 course units from ENGL 015-ENGL 599</td>
<td>2-5</td>
<td></td>
</tr>
<tr>
<td>Concentration Requirements</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Select 4 course units of 20th &amp; 21st Century Literature &amp; Culture courses with 2 course units 200-level seminar or higher</td>
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<td></td>
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<tr>
<td>Total Course Units</td>
<td>33</td>
<td></td>
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</tbody>
</table>

1 You may count no more than one course toward both a Major and a Sector requirement. For Exceptions, check the Policy Statement (http://www.college.upenn.edu/sectors-policy).
2 For up to three sectors, a seminar may be double-counted in the core.
3 Take additional 3 course units if Seminars 1, 2 and 3 are double-counted in the core.
Electives
Select 2-5 course units from ENGL 015-ENGL 599 3 2-5

Concentration Requirements
Select 4 course units of Africana Literatures and Culture courses with 2 course units 200-level seminar or higher 4

Total Course Units 33

1 You may count no more than one course toward both a Major and a Sector requirement. For Exceptions, check the Policy Statement (http://www.college.upenn.edu/sectors-policy).
2 For up to three sectors, a seminar may be double-counted in the core.
3 Take additional 3 course units if Seminars 1, 2 and 3 are double-counted in core.
4 Concentration may be comprised from the 13 course units of the major, or other courses.

Honors
Applicants must have a 3.6 GPA in the Major. Thesis required.

The degree and major requirements displayed are intended as a guide for students entering in the Fall of 2017 and later. Students should consult with their academic program regarding final certifications and requirements for graduation.

English: American Literature & Culture, BA

Students deciding to pursue English at Penn study language, literature, literary history and theories of literary production in a thirteen-course major of flexible design. While completing the language and literature requirement and the five required courses in the literary historical "core," majors also pursue their own special literary interests in six-course concentrations of their own choosing. English offers more than twenty distinct concentrations, including several options for creative writers.

The minimum total course units (http://www.college.upenn.edu/credits-needed) for graduation in this major is 33. Double majors may entail more course units.

For more information: http://www.english.upenn.edu/Undergrad/

For information about the General Education requirements, please visit the College of Arts & Sciences Curriculum (https://www.college.upenn.edu/curriculum-structure) page.

<table>
<thead>
<tr>
<th>Code</th>
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</thead>
<tbody>
<tr>
<td>ENGL 015-ENGL 599</td>
<td>Foundational Approaches + Sectors + Free Electives</td>
<td>20</td>
</tr>
</tbody>
</table>

| Major Requirements |

| Sector 1 - Theory & Poetics |
| Sector 2 - Difference and Diaspora |
| Sector 3 - Medieval/Renaissance |
| Sector 4 - Lit of the Long 18th C (ca. 1660-1832) |

Honor:
Applicants must have a 3.6 GPA in the Major. Thesis required.

The degree and major requirements displayed are intended as a guide for students entering in the Fall of 2017 and later. Students should consult with their academic program regarding final certifications and requirements for graduation.

English: Celtic Literature & Culture, BA

Students deciding to pursue English at Penn study language, literature, literary history and theories of literary production in a thirteen-course major of flexible design. While completing the language and literature requirement and the five required courses in the literary historical "core," majors also pursue their own special literary interests in six-course concentrations of their own choosing. English offers more than twenty distinct concentrations, including several options for creative writers.

The minimum total course units (http://www.college.upenn.edu/credits-needed) for graduation in this major is 33. Double majors may entail more course units.

For more information: http://www.english.upenn.edu/Undergrad/
English: Cinema & Media Studies, BA

Students deciding to pursue English at Penn study language, literary history and theories of literary production in a thirteen-course major of flexible design. While completing the language and literature requirement and the five required courses in the literary historical "core," majors also pursue their own special literary interests in six-course concentrations of their own choosing. English offers more than twenty distinct concentrations, including several options for creative writers.

The minimum total course units (http://www.college.upenn.edu/credits-needed) for graduation in this major is 33. Double majors may entail more course units.

For more information: http://www.english.upenn.edu/Undergrad/

For information about the General Education requirements, please visit the College of Arts & Sciences Curriculum (https://www.college.upenn.edu/curriculum-structure) page.

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Course Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENGL 091/ CIMS 101</td>
<td>World Film History to 1945</td>
<td>1</td>
</tr>
<tr>
<td>ENGL 092/ CIMS 102</td>
<td>World Film History 1945-Present</td>
<td>1</td>
</tr>
<tr>
<td>ENGL 078/ CIMS 103</td>
<td>Television and New Media</td>
<td>1</td>
</tr>
</tbody>
</table>

Seminars
Select one seminar in each area with 200-level and above

1. You may count no more than one course toward both a Major and a Sector requirement. For Exceptions, check the Policy Statement (http://www.college.upenn.edu/sectors-policy).
2. For up to three sectors, a seminar may be double-counted in the core.
3. Take additional 3 course units if Seminars 1, 2 and 3 are double-counted in core.
4. Concentration may be comprised from the 13 course units of the major, or other courses.

Applicants must have a 3.6 GPA in the Major. Thesis required.

The degree and major requirements displayed are intended as a guide for students entering in the Fall of 2017 and later. Students should consult with their academic program regarding final certifications and requirements for graduation.
Take additional course unit if ENGL 200 Junior Research Seminar is double counted in core.

**Honors**

Applicants must have a 3.6 GPA in the Major. Thesis required.

The degree and major requirements displayed are intended as a guide for students entering in the Fall of 2017 and later. Students should consult with their academic program regarding final certifications and requirements for graduation.

**English: Colonial & Postcolonial, BA**

Students deciding to pursue English at Penn study language, literature, literary history and theories of literary production in a thirteen-course major of flexible design. While completing the language and literature requirement and the five required courses in the literary historical "core," majors also pursue their own special literary interests in six-course concentrations of their own choosing. English offers more than twenty distinct concentrations, including several options for creative writers.

The minimum total course units (http://www.college.upenn.edu/credits-needed) for graduation in this major is 33. Double majors may entail more course units.

For more information: http://www.english.upenn.edu/Undergrad/

For information about the General Education requirements, please visit the College of Arts & Sciences Curriculum (https://www.college.upenn.edu/curriculum-structure) page.

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</thead>
<tbody>
<tr>
<td></td>
<td>Foundational Approaches + Sectors + Free Electives</td>
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</table>

**Major Requirements**

**Core Requirement**

Select one course in each sector from ENGL 015-ENGL 099: 6

- Sector 1 - Theory & Poetics
- Sector 2 - Difference and Diaspora
- Sector 3 - Medieval/Renaissance
- Sector 4 - Lit of the Long 18th C (ca. 1660-1832)
- Sector 5 - 19th Century Literature
- Sector 6 - 20th Century Literature

**The Junior Seminar**

ENGL 200 Junior Research Seminar (Seminar 1) (may be double-counted in the core) 1

**Seminars**

Select one seminar in each area from ENGL 110-ENGL 599: 4

- Sem 1: Literature Before 1700
- Sem 2: Literature Before 1900
- Sem 3: ENGL (may be double-counted in the core)
- Sem 4: ENGL or Related (may be double-counted in the core)

**Electives**

Select 2-5 course units from ENGL 015-ENGL 599 2

**Concentration Requirements**

Select 4 course units of Colonial and Postcolonial Literatures courses with 2 course units 200-level seminar or higher 4

| Total Course Units | 33 |

1 You may count no more than one course toward both a Major and a Sector requirement. For Exceptions, check the Policy Statement (http://www.college.upenn.edu/sectors-policy).

2 For up to three sectors, a seminar may be double-counted in the core.

3 Take additional 3 course units if Seminars 1, 2 and 3 are double-counted in core.

4 Concentration may be comprised from the 13 course units of the major, or other courses.

**Honors**

Applicants must have a 3.6 GPA in the Major. Thesis required.

The degree and major requirements displayed are intended as a guide for students entering in the Fall of 2017 and later. Students should consult with their academic program regarding final certifications and requirements for graduation.

**English: Creative Writing, BA**

Students deciding to pursue English at Penn study language, literature, literary history and theories of literary production in a thirteen-course major of flexible design. While completing the language and literature requirement and the five required courses in the literary historical "core," majors also pursue their own special literary interests in six-course concentrations of their own choosing. English offers more than twenty distinct concentrations, including several options for creative writers.

The minimum total course units (http://www.college.upenn.edu/credits-needed) for graduation in this major is 33. Double majors may entail more course units.

For more information: http://www.english.upenn.edu/Undergrad/

For information about the General Education requirements, please visit the College of Arts & Sciences Curriculum (https://www.college.upenn.edu/curriculum-structure) page.

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<td>Foundational Approaches + Sectors + Free Electives</td>
<td>20</td>
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</table>

**Major Requirements**

**Core Requirement**

Select one course in each sector from ENGL 015-ENGL 099: 6

- Sector 1 - Theory & Poetics
- Sector 2 - Difference and Diaspora
- Sector 3 - Medieval/Renaissance
- Sector 4 - Lit of the Long 18th C (ca. 1660-1832)
- Sector 5 - 19th Century Literature
- Sector 6 - 20th Century Literature

**The Junior Seminar**

ENGL 200 Junior Research Seminar (Seminar 1) (may be double-counted in the core) 1

**Seminars**

Select one seminar in each area from ENGL 110-ENGL 599: 4

- Sem 1: Literature Before 1700
- Sem 2: Literature Before 1900
- Sem 3: ENGL (may be double-counted in the core)
- Sem 4: ENGL or Related (may be double-counted in the core)

**Electives**

Select 2-5 course units from ENGL 015-ENGL 599 2
ENGL 200  Junior Research Seminar (Seminar 1) (may NOT be double-counted in the core)  1

Creative Writing Seminars
Select one seminar from ENGL 010, ENGL 110-ENGL 199  1
Select one seminar from ENGL 110-ENGL 199  1
Select one seminar from ENGL 119-ENGL 199  1

Literature Seminars
Select one seminar in each area with 200-level and above  2
- Sem 1: Literature Before 1900 (may be double-counted in the core)
- Sem 2: ENGL (may be double-counted in the core)

Select one seminar in each area from ENGL 110-ENGL 599:  4
- Sem 1: Literature Before 1700
- Sem 2: Literature Before 1900
- Sem 3: ENGL (may be double-counted in the core)
- Sem 4: ENGL or Related (may be double-counted in the core)

Electives
Select 1-3 course units from ENGL 015-ENGL 599  3

Total Course Units  33

1 You may count no more than one course toward both a Major and a Sector requirement. For Exceptions, check the Policy Statement (http://www.college.upenn.edu/sectors-policy).
2 For up to two sectors, a literature seminar may be double-counted in the core.
3 Take additional 2 course units if Seminars 1 and 2 are double-counted in core.

Honors
Applicants must have a 3.6 GPA in the Major. Thesis required.

The degree and major requirements displayed are intended as a guide for students entering in the Fall of 2017 and later. Students should consult with their academic program regarding final certifications and requirements for graduation.

English: Drama, BA

Students deciding to pursue English at Penn study language, literature, literary history and theories of literary production in a thirteen-course major of flexible design. While completing the language and literature requirement and the five required courses in the literary historical "core," majors also pursue their own special literary interests in six-course concentrations of their own choosing. English offers more than twenty distinct concentrations, including several options for creative writers.

The minimum total course units (http://www.college.upenn.edu/credits-needed) for graduation in this major is 33. Double majors may entail more course units.

For more information: http://www/english.upenn.edu/Undergrad/

For information about the General Education requirements, please visit the College of Arts & Sciences Curriculum (https://www.college.upenn.edu/curriculum-structure) page.

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<td>Major Requirements</td>
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|              | Core Requirement                            | 6            |
|              | Select one course in each sector from ENGL 015-ENGL 099: | |
|              | Sector 1 - Theory & Poetics                 |              |
|              | Sector 2 - Difference and Diaspora          |              |
|              | Sector 3 - Medieval/Renaissance             |              |
|              | Sector 4 - Lit of the Long 18th C (ca. 1660-1832) | |
|              | Sector 5 - 19th Century Literature          |              |
|              | Sector 6 - 20th Century Literature          |              |

|              | Seminars                                    | 4            |
|              | Select one seminar in each area from ENGL 110-ENGL 599: | |
|              | Sem 1: Literature Before 1700               |              |
|              | Sem 2: Literature Before 1900               |              |
|              | Sem 3: ENGL (may be double-counted in the core) | |
|              | Sem 4: ENGL or Related (may be double-counted in the core) | |

|              | Electives                                   | 2-5          |
|              | Select 2-5 course units from ENGL 015-ENGL 599: | |

|              | Concentration Requirements                  |              |
|              | Select 4 course units of Drama courses with 2 course units 200-level seminar or higher | |

|              | Total Course Units                          | 33           |
|              | You may count no more than one course toward both a Major and a Sector requirement. For Exceptions, check the Policy Statement (http://www.college.upenn.edu/sectors-policy). | |
|              | For up to three sectors, a seminar may be double-counted in the core. | |
|              | Take additional 3 course units if Seminars 1, 2 and 3 are double-counted in core. | |
|              | Concentration may be comprised from the 13 course units of the major, or other courses. | |

Honors
Applicants must have a 3.6 GPA in the Major. Thesis required.

The degree and major requirements displayed are intended as a guide for students entering in the Fall of 2017 and later. Students should consult with their academic program regarding final certifications and requirements for graduation.

English: Gender/Sexuality, BA

Students deciding to pursue English at Penn study language, literature, literary history and theories of literary production in a thirteen-course major of flexible design. While completing the language and literature requirement and the five required courses in the literary historical "core," majors also pursue their own special literary interests in six-course concentrations of their own choosing. English offers more than twenty distinct concentrations, including several options for creative writers.
The minimum total course units (http://www.college.upenn.edu/credits-needed) for graduation in this major is 33. Double majors may entail more course units.

For more information: http://www.english.upenn.edu/Undergrad/

For information about the General Education requirements, please visit the College of Arts & Sciences Curriculum (https://www.college.upenn.edu/curriculum-structure) page.

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<td>Core Requirement</td>
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<td>ENGL 200</td>
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<td>Seminars</td>
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<td>Select one seminar in each area from ENGL 110-ENGL 599:</td>
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<tr>
<td>Sem 1: Literature Before 1700</td>
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<td>Sem 2: Literature Before 1900</td>
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<tr>
<td>Sem 3: ENGL (may be double-counted in the core)</td>
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<tr>
<td>Sem 4: ENGL or Related (may be double-counted in the core)</td>
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<td>Concentration Requirements</td>
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<tr>
<td>Select 4 course units of Gender/Sexuality courses with 2 course units 200-level seminar or higher</td>
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<tr>
<td>Total Course Units</td>
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</table>

1 You may count no more than one course toward both a Major and a Sector requirement. For Exceptions, check the Policy Statement (http://www.college.upenn.edu/sectors-policy).
2 For up to three sectors, a seminar may be double-counted in the core.
3 Take additional 3 course units if Seminars 1, 2 and 3 are double-counted in core.
4 Concentration may be comprised from the 13 course units of the major, or other courses.

Honors

Applicants must have a 3.6 GPA in the Major. Thesis required.

The degree and major requirements displayed are intended as a guide for students entering in the Fall of 2017 and later. Students should consult with their academic program regarding final certifications and requirements for graduation.

English: General English, BA

Students deciding to pursue English at Penn study language, literature, literary history and theories of literary production in a thirteen-course major of flexible design. While completing the language and literature requirement and the five required courses in the literary historical "core," majors also pursue their own special literary interests in six-course concentrations of their own choosing. English offers more than twenty distinct concentrations, including several options for creative writers.

The minimum total course units (http://www.college.upenn.edu/credits-needed) for graduation in this major is 33. Double majors may entail more course units.

For more information: http://www.english.upenn.edu/Undergrad/

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<td>Core Requirement</td>
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<td>Select one course in each sector from ENGL 015-ENGL 096:</td>
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<td>Sector 1 - Theory &amp; Poetics</td>
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<tr>
<td>The Junior Seminar</td>
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<tr>
<td>ENGL 200</td>
<td>Junior Research Seminar (Seminar 1) (may be double-counted in the core)</td>
<td>1</td>
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<tr>
<td>Seminars</td>
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<tr>
<td>Select one seminar in each area from ENGL 110-ENGL 599:</td>
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<tr>
<td>Sem 1: Literature Before 1700</td>
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<td>Sem 2: Literature Before 1900</td>
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<td>Sem 4: ENGL or Related (may be double-counted in the core)</td>
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<td>Select 2-5 course units from ENGL 015-ENGL 599</td>
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1 You may count no more than one course toward both a Major and a Sector requirement. For Exceptions, check the Policy Statement (http://www.college.upenn.edu/sectors-policy).
2 For up to three sectors, a seminar may be double-counted in the core.
3 Take additional 3 course units if Seminars 1, 2 and 3 are double-counted in core.
4 Concentration may be comprised from the 13 course units of the major, or other courses.
Honors
Applicants must have a 3.6 GPA in the Major. Thesis required.

The degree and major requirements displayed are intended as a guide for students entering in the Fall of 2017 and later. Students should consult with their academic program regarding final certifications and requirements for graduation.

English: Historical, BA

Students deciding to pursue English at Penn study language, literature, literary history and theories of literary production in a thirteen-course major of flexible design. While completing the language and literature requirement and the five required courses in the literary historical "core," majors also pursue their own special literary interests in six-course concentrations of their own choosing. English offers more than twenty distinct concentrations, including several options for creative writers.

The minimum total course units (http://www.college.upenn.edu/credits-needed) for graduation in this major is 33. Double majors may entail more course units.

For more information: http://www.english.upenn.edu/Undergrad/

For information about the General Education requirements, please visit the College of Arts & Sciences Curriculum (https://www.college.upenn.edu/curriculum-structure) page.

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<td>Course 8 - Contemporary Literature</td>
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1 You may count no more than one course toward both a Major and a Sector requirement. For Exceptions, check the Policy Statement (http://www.college.upenn.edu/sectors-policy).

2 One of them may be ENGL 200 Junior Research Seminar, the Junior Seminar.

3 Take an additional course unit if ENGL 200 Junior Research Seminar is double-counted.

Honors
Applicants must have a 3.6 GPA in the Major. Thesis required.

The degree and major requirements displayed are intended as a guide for students entering in the Fall of 2017 and later. Students should consult with their academic program regarding final certifications and requirements for graduation.

English: Individualized, BA

Students deciding to pursue English at Penn study language, literature, literary history and theories of literary production in a thirteen-course major of flexible design. While completing the language and literature requirement and the five required courses in the literary historical "core," majors also pursue their own special literary interests in six-course concentrations of their own choosing. English offers more than twenty distinct concentrations, including several options for creative writers.

The minimum total course units (http://www.college.upenn.edu/credits-needed) for graduation in this major is 33. Double majors may entail more course units.

For more information: http://www.english.upenn.edu/Undergrad/

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<td>Sem 4: ENGL or Related (may be double-counted in the core)</td>
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English: Law and Literature, BA

Students deciding to pursue English at Penn study language, literature, literary history and theories of literary production in a thirteen-course major of flexible design. While completing the language and literature requirement and the five required courses in the literary historical "core," majors also pursue their own special literary interests in six-course concentrations of their own choosing. English offers more than twenty distinct concentrations, including several options for creative writers.

The minimum total course units (http://www.college.upenn.edu/credits-needed) for graduation in this major is 33. Double majors may entail more course units.

For more information: http://www/english.upenn.edu/Undergrad/

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<td>Select 2-5 course units from ENGL 015-ENGL 599</td>
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Honors

Applicants must have a 3.6 GPA in the Major. Thesis required.

The degree and major requirements displayed are intended as a guide for students entering in the Fall of 2017 and later. Students should consult with their academic program regarding final certifications and requirements for graduation.
### English: Literature, Journalism and Print Culture, BA

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The minimum total course units (http://www.college.upenn.edu/credits-needed) for graduation in this major is 33. Double majors may entail more course units.

**For more information:** [http://www.english.upenn.edu/Undergrad/](http://www.english.upenn.edu/Undergrad/)

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3. Take additional 3 course units if Seminars 1, 2 and 3 are double-counted in core.
4. Concentration may be comprised from the 13 course units of the major, or other courses.

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### Honors

Applicants must have a 3.6 GPA in the Major. Thesis required.
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**English: Medieval/Renaissance, BA**

Students deciding to pursue English at Penn study language, literature, literary history and theories of literary production in a thirteen-course major of flexible design. While completing the language and literature requirement and the five required courses in the literary historical "core," majors also pursue their own special literary interests in six-course concentrations of their own choosing. English offers more than twenty distinct concentrations, including several options for creative writers.

The minimum total course units (http://www.college.upenn.edu/credits-needed) for graduation in this major is 33. Double majors may entail more course units.

**For more information:** http://www.english.upenn.edu/Undergrad/

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<td>Select one seminar in each area from ENGL 110-ENGL 599: 4</td>
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**English: Poetry and Poetics, BA**

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<td>Select one seminar in each area from ENGL 110-ENGL 599: 4</td>
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<td>Total Course Units</td>
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Sem 2: Literature Before 1900
Sem 3: ENGL (may be double-counted in the core)
Sem 4: ENGL or Related (may be double-counted in the core)

**Electives**
Select 2-5 course units from ENGL 015-ENGL 599

**Concentration Requirements**
Select 4 course units of Poetry and Poetics courses with 2 course units 200-level seminar or higher

**Total Course Units**
33

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Applicants must have a 3.6 GPA in the Major. Thesis required.

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**English: The Novel, BA**

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**Code** | **Title** | **Course Units**
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College General Education Requirements and Free Electives | Foundational Approaches + Sectors + Free Electives | 20
Major Requirements | Core Requirement | 6
Select one course in each sector from ENGL 015-ENGL 099 | 2
Sector 1 - Theory & Poetics | 6

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**Environmental Studies:**

Environmental History and Regional Studies, BA

The Environmental Studies major provides graduates with the necessary skills to contribute to society and effectively work on challenging problems that face humanity. Students acquire knowledge in environmental economics, environmental health, sustainability, renewable resources, and environmental management. In addition, they have an in-depth understanding of the human-environment interconnection, knowledge of international and domestic environmental issues, and are well-versed in environmental policies and how these policies are set and changed.
Students in the Environmental History and Regional Studies concentration learn a temporal and spatial perspective to the study of the Environment.

The minimum total course units for graduation in this major is 35. Double majors may entail more course units.

For students with a background in the Arts or Social Sciences.

For more information: http://www.sas.upenn.edu/earth/environmental-studies/environmental-history-regional-studies-concentration

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<td>Select 1 course unit of Environmental Research - Junior Seminar courses</td>
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<td>Select 1 course unit of Earth Systems courses</td>
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</tr>
<tr>
<td></td>
<td>Select 1 course unit of Biotic History courses</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Select 1 course unit of Environmental History courses</td>
<td>1</td>
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<tr>
<td></td>
<td>Select 1 course unit of Environmental Geology courses</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Select 1 course unit of Field Course courses</td>
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</tr>
<tr>
<td></td>
<td>Select 2 course units of 400 or 500-level Concentration Electives</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td><strong>Curriculum-Related Practical Experience</strong></td>
<td></td>
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<tr>
<td></td>
<td>Field course or equivalent experience</td>
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<tr>
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<td><strong>Total Course Units</strong></td>
<td>35</td>
</tr>
</tbody>
</table>

1. You may count no more than one course toward both a Major and a Sector requirement. For Exceptions, check the Policy Statement (http://www.college.upenn.edu/sectors-policy).

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### Honors

Applicants must have a 3.25 GPA in the major

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Course Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENVS 498</td>
<td>Senior Thesis (B+ or above)</td>
<td>0.5</td>
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</tbody>
</table>

The degree and major requirements displayed are intended as a guide for students entering in the Fall of 2017 and later. Students should consult with their academic program regarding final certifications and requirements for graduation.

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### Environmental Studies: Environmental Policy and Application, BA

The Environmental Studies major provides graduates with the necessary skills to contribute to society and effectively work on challenging problems that face humanity. Students acquire knowledge in environmental economics, environmental health, sustainability, renewable resources, and environmental management. In addition, they have an in-depth understanding of the human-environment interconnection, knowledge of international and domestic environmental issues, and are well-versed in environmental policies and how these policies are set and changed.

Students in the Environmental Policy and Application acquire a background in the social and management aspects of environmental problems.

The minimum total course units for graduation in this major is 35. Double majors may entail more course units.

For students who have a second major in a Natural Science.

For more information: http://www.sas.upenn.edu/earth/environmental-studies/environmental-policy-application-concentration

For information about the General Education requirements, please visit the College of Arts & Sciences Curriculum (https://www.college.upenn.edu/curriculum-structure) page.

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Course Units</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td><strong>College General Education Requirements and Free Electives</strong></td>
<td></td>
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<tr>
<td></td>
<td>Foundational Approaches + Sectors + Free Electives</td>
<td>20</td>
</tr>
<tr>
<td></td>
<td><strong>Major Requirements</strong></td>
<td></td>
</tr>
<tr>
<td></td>
<td><strong>Core Requirements</strong></td>
<td></td>
</tr>
<tr>
<td></td>
<td>ENVS 100 Introduction to Environmental Science</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Select one of the following:</td>
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<tr>
<td></td>
<td>GEOL 204 Global Climate Change</td>
<td></td>
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<tr>
<td></td>
<td>GEOL 100 Introduction to Geology</td>
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<td></td>
<td>GEOL 103 Natural Disturbances and Human Disasters</td>
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<td>GEOL 125 Earth and Life Through Time</td>
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<td></td>
<td>GEOL 130 Oceanography</td>
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<tr>
<td></td>
<td>Select 1 course unit of Economics &amp; Policy courses</td>
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</tr>
<tr>
<td></td>
<td>ENVS 301 Environmental Case Studies</td>
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<td></td>
<td>or ENVS 400 Environmental Studies Seminar</td>
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<tr>
<td></td>
<td>Select 1 course unit of Geographical or Environmental Modeling courses</td>
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<tr>
<td></td>
<td>Select 1 course unit of Environmental Research - Junior Seminar courses</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>ENVS 498 Senior Thesis (Semester I)</td>
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<tr>
<td></td>
<td>ENVS 498 Senior Thesis (Semester II)</td>
<td>0.5</td>
</tr>
<tr>
<td></td>
<td><strong>Environmental History &amp; Regional Studies</strong></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Select 1 course unit of Earth Systems courses</td>
<td>1</td>
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<tr>
<td></td>
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<td>Select 1 course unit of Field Course courses</td>
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<td></td>
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</tr>
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<td></td>
<td>Field course or equivalent experience</td>
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<tr>
<td></td>
<td><strong>Total Course Units</strong></td>
<td>35</td>
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</tbody>
</table>

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1. You may count no more than one course toward both a Major and a Sector requirement. For Exceptions, check the Policy Statement (http://www.college.upenn.edu/sectors-policy).
Select 1 course unit of Data Analysis & Statistics courses

Select 1 course unit of Economics & Policy courses

ENVS 301 Environmental Case Studies

or ENVS 400 Environmental Studies Seminar

Select 1 course unit of Geographical or Environmental Modeling courses

Select 1 course unit of Environmental Research - Junior Seminar courses

ENVS 498 Senior Thesis (Semester I) 0.5

ENVS 498 Senior Thesis (Semester II) 0.5

Environmental Policy & Application

Select 1 course unit of Environmental Policy or ABCS in EESC courses

Select 1 course unit of Environmental Economics courses

Select 2 course units of Global Politics & International Relations courses

Select 3 course units of 400 or 500-level Concentration Electives

Curriculum-Related Practical Experience

Field course or equivalent experience

Total Course Units 35

1 You may count no more than one course toward both a Major and a Sector requirement. For Exceptions, check the Policy Statement (http://www.college.upenn.edu/sectors-policy).

Honors

Applicants must have a 3.25 GPA in the major

<table>
<thead>
<tr>
<th>Code</th>
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<th>Course Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENVS 498</td>
<td>Senior Thesis (B+ or above)</td>
<td>0.5</td>
</tr>
</tbody>
</table>

The degree and major requirements displayed are intended as a guide for students entering in the Fall of 2017 and later. Students should consult with their academic program regarding final certifications and requirements for graduation.

Environmental Studies: General Environmental Studies, BA

The Environmental Studies major provides graduates with the necessary skills to contribute to society and effectively work on challenging problems that face humanity. Students acquire knowledge in environmental economics, environmental health, sustainability, renewable resources, and environmental management. In addition, they have an in-depth understanding of the human-environment interconnection, knowledge of international and domestic environmental issues, and are well-versed in environmental policies and how these policies are set and changed.

This is an individualized, specialized concentration designed for students who want to concentrate in an area not represented by the other concentrations. Formal proposals for this concentration must be developed and submitted for review and approved by both the EES program director and undergraduate chair before admittance into this concentration.

The minimum total course units (http://www.college.upenn.edu/credits-needed) for graduation in this major is 35. Double majors may entail more course units.

For more information: http://www.sas.upenn.edu/earth/environmental-studies/individualized-concentration

For information about the General Education requirements, please visit the College of Arts & Sciences Curriculum (https://www.college.upenn.edu/curriculum-structure) page.

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<td>ENVS 100</td>
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Select one of the following:

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<tr>
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<th>Title</th>
<th>Course Units</th>
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<tr>
<td>GEOL 204</td>
<td>Global Climate Change</td>
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</tr>
<tr>
<td>GEOL 100</td>
<td>Introduction to Geology</td>
<td>1</td>
</tr>
<tr>
<td>GEOL 103</td>
<td>Natural Disturbances and Human Disasters</td>
<td>1</td>
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<tr>
<td>GEOL 125</td>
<td>Earth and Life Through Time</td>
<td>1</td>
</tr>
<tr>
<td>GEOL 130</td>
<td>Oceanography</td>
<td>1</td>
</tr>
</tbody>
</table>

Select 1 course unit of Environmental Research - Junior Seminar courses

Select 1 course unit of Geographical or Environmental Modeling courses

Select 1 course unit of Environmental Policy or ABCS in EESC courses

Select 1 course unit of Environmental Economics courses

Select 2 course units of Global Politics & International Relations courses

Select 3 course units of 400 or 500-level Concentration Electives

Curriculum-Related Practical Experience

Field course or equivalent experience

Total Course Units 35

1 You may count no more than one course toward both a Major and a Sector requirement. For Exceptions, check the Policy Statement (http://www.college.upenn.edu/sectors-policy).

Honors

Applicants must have a 3.25 GPA in the major

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</tr>
</tbody>
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The degree and major requirements displayed are intended as a guide for students entering in the Fall of 2017 and later. Students should...
consult with their academic program regarding final certifications and requirements for graduation.

Environmental Studies: Global Environmental Systems, BA

The Environmental Studies major provides graduates with the necessary skills to contribute to society and effectively work on challenging problems that face humanity. Students acquire knowledge in environmental economics, environmental health, sustainability, renewable resources, and environmental management. In addition, they have an in-depth understanding of the human-environment interconnection, knowledge of international and domestic environmental issues, and are well-versed in environmental policies and how these policies are set and changed.

Students in the Global Environmental Systems concentration will focus their coursework on understanding global environmental systems.

The minimum total course units (http://www.college.upenn.edu/credits-needed) for graduation in this major is 35. Double majors may entail more course units.

For students who have a background in either the Natural or the Social Sciences.

For more information: http://www.sas.upenn.edu/earth/environmental-studies/global-environmental-systems-concentration

For information about the General Education requirements, please visit the College of Arts & Sciences Curriculum (https://www.college.upenn.edu/curriculum-structure) page.

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<td></td>
<td><strong>Core Requirements</strong></td>
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<tr>
<td>ENVS 100</td>
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<tr>
<td></td>
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<td></td>
<td>Select 1 course unit of Economics &amp; Policy courses</td>
<td>1</td>
</tr>
<tr>
<td>ENVS 301</td>
<td>Environmental Case Studies</td>
<td>1</td>
</tr>
<tr>
<td>or ENVS 400</td>
<td>Environmental Studies Seminar</td>
<td></td>
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</tr>
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<td>ENVS 498</td>
<td>Senior Thesis (Semester I)</td>
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<tbody>
<tr>
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<td><strong>Curriculum-Related Practical Experience</strong></td>
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<tr>
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</tr>
</tbody>
</table>

1 You may count no more than one course toward both a Major and a Sector requirement. For Exceptions, check the Policy Statement (http://www.college.upenn.edu/sectors-policy).

Honors

Applicants must have a 3.25 GPA in the major

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<tbody>
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</tbody>
</table>

The degree and major requirements displayed are intended as a guide for students entering in the Fall of 2017 and later. Students should consult with their academic program regarding final certifications and requirements for graduation.

Environmental Studies: Sustainability and Environmental Management, BA

The Environmental Studies major provides graduates with the necessary skills to contribute to society and effectively work on challenging problems that face humanity. Students acquire knowledge in environmental economics, environmental health, sustainability, renewable resources, and environmental management. In addition, they have an in-depth understanding of the human-environment interconnection, knowledge of international and domestic environmental issues, and are well-versed in environmental policies and how these policies are set and changed.

The Sustainability and Environmental Management concentration is designed to help students understand the nature of environmental constraints which face organizations and individuals in the modern world, and to understand how these constraints can be effectively considered as part of the decision-making process in for-profit and non-profit organizations.

The minimum total course units (http://www.college.upenn.edu/credits-needed) for graduation in this major is 35. Double majors may entail more course units.

For students who have a background in either the Natural or the Social Sciences.
For more information: http://www.sas.upenn.edu/earth/environmental-studies/sustainability-and-environmental-management-concentration

For information about the General Education requirements, please visit the College of Arts & Sciences Curriculum (https://www.college.upenn.edu/curriculum-structure) page.

### Fine Arts, BA

The Undergraduate Fine Arts Program combines studio practices, seminar courses, and interactions with visiting artists and professionals to provide an open intellectual framework in order to foster critical awareness and independent methods of artistic research and learning. The Fine Arts Department offers a diverse range of studio courses in the areas of animation and 3D modeling, ceramics, design, drawing and painting, photography, printmaking, sculpture, and video. The dynamic curriculum also provides students with the opportunity to thoroughly examine contemporary art, creative research, interactive design, and public art through seminar-based instruction.

A goal of the Undergraduate Fine Arts program is to facilitate an environment where the potentialities of art are considered in relation to the real life conditions of our students. Encouraged to test themselves against the rigors of divergent artistic approaches and their histories, our students develop a more complex set of skills to creatively and critically negotiate the turbulent shifts taking place globally in terms of human experiences.

The Fine Arts major is available for students in the College of Arts and Sciences and the School of Engineering, and the minor is available for undergraduate students across the university. The Fine Arts program works in conjunction with three interdisciplinary degree programs in Cinema Studies, Digital Media Design, and Visual Studies.

The minimum total course units (http://www.college.upenn.edu/credits-needed) for graduation in this major is 36. Double majors may entail more course units.

For more information: http://www.design.upenn.edu/fine-arts/undergraduate/program

For information about the General Education requirements, please visit the College of Arts & Sciences Curriculum (https://www.college.upenn.edu/curriculum-structure) page.

### Honors

Applicants must have a 3.25 GPA in the major

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<tbody>
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</tbody>
</table>

The degree and major requirements displayed are intended as a guide for students entering in the Fall of 2017 and later. Students should consult with their academic program regarding final certifications and requirements for graduation.
French and Francophone Studies, BA

French and Francophone Studies introduces students to the full span of historical and cultural traditions from France and the French-speaking world. Languages courses - from introductory to advanced - promote linguistic fluency, building on the skills students have acquired in high school or at Penn. Upper-level seminars explore a range of topics pertaining to literature, history, visual arts, and/or the media, and they offer majors and minors the opportunity to engage in research on French and global Francophone cultures across periods into contemporary times.

The minimum total course units (http://www.college.upenn.edu/credits-needed) for graduation in this major is 32. Double majors may entail more course units.

At least half of all courses for the major must be taken in the Department at Penn. ALL courses must be taken in French, with the possible exception of Major-related courses.

For more information: http://www.sas.upenn.edu/french/undergraduate/requirements-majors-and-minors/major-french-francophone-studies

For information about the General Education requirements, please visit the College of Arts & Sciences Curriculum (https://www.college.upenn.edu/curriculum-structure) page.

### Studio Electives

Select 6 course units of Fine Arts Studio Electives 4 6

<table>
<thead>
<tr>
<th>Code</th>
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</table>

Total Course Units 36

1. You may count no more than one course toward both a Major and a Sector requirement. For Exceptions, check the Policy Statement (http://www.college.upenn.edu/sectors-policy).

2. Core studio requirements may be taken as early as freshman year and in any order as long as prerequisites are met.

3. Majors must take the Senior Seminar Project in consecutive semesters of their senior year.

4. Studio electives can be taken in any order as long as prerequisites are met.

The degree and major requirements displayed are intended as a guide for students entering in the Fall of 2017 and later. Students should consult with their academic program regarding final certifications and requirements for graduation.

### Literature & Arts

Select 2 course units of the following: 2 2

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Course Units</th>
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<tr>
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</tbody>
</table>

1. You may count no more than one course toward both a Major and a Sector requirement. For Exceptions, check the Policy Statement (http://www.college.upenn.edu/sectors-policy).

2. Must be taken in the Department at Penn

3. At least one course must be taken in the Department at Penn.

4. Major-related courses need approval from the Undergraduate Chair.

### Electives

Select a minimum of 5 course units of 300-level courses with 2 in the Department at Penn

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Course Units</th>
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<td>5</td>
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</table>

### Additional French or Major-related Courses

Select 2 course units of French courses at the 200 or 300 level 4 2

### Research Requirement

Must be completed in the Department at Penn

Total Course Units 32

1. You may count no more than one course toward both a Major and a Sector requirement. For Exceptions, check the Policy Statement (http://www.college.upenn.edu/sectors-policy).

2. Must be taken in the Department at Penn

3. At least one course must be taken in the Department at Penn.

4. Major-related courses need approval from the Undergraduate Chair.

### Honors

Applicants must have a minimum GPA of 3.4 in the Major.

<table>
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<tr>
<td>FREN 398</td>
<td>Honors Thesis</td>
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</tbody>
</table>

The degree and major requirements displayed are intended as a guide for students entering in the Fall of 2017 and later. Students should consult with their academic program regarding final certifications and requirements for graduation.

### Gender, Sexuality, & Women's Studies, BA

The Gender, Sexuality, and Women's Studies Program (GSWS) is an interdisciplinary program that provides exciting intellectual opportunities to explore the role of gender in human affairs. The program offers over 50 courses each year, many cross-listed with other departments, as well as a major, a minor, and a graduate certificate.

The minimum total course units (http://www.college.upenn.edu/credits-needed) for graduation in this major is 33. Double majors may entail more course units.

For more information: http://www.sas.upenn.edu/gsws/
For information about the General Education requirements, please visit the College of Arts & Sciences Curriculum (https://www.college.upenn.edu/curriculum-structure) page.

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<td></td>
<td>Foundational Approaches + Sectors + Free Electives</td>
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</tr>
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<td></td>
<td><strong>Major Requirements</strong></td>
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</tr>
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<td></td>
<td><strong>Required Courses</strong></td>
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<td>GSWS 002 Gender and Society</td>
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<td>GSWS 003 Introduction to Sexuality Studies and Queer Theory</td>
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<td>GSWS Theory Course</td>
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<tr>
<td></td>
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<tr>
<td></td>
<td>Select 4 elective courses for students doing a concentration or 9 elective courses for students not doing a concentration</td>
<td>4-9</td>
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<td>Select 5 course units with four courses in at least two different departments</td>
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<tr>
<td></td>
<td><strong>Research/Capstone Requirement</strong></td>
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<td>Select 1 course unit of Research/Capstone Requirement course</td>
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<td><strong>Total Course Units</strong></td>
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<tr>
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</tbody>
</table>

1 You may count no more than one course toward both a Major and a Sector requirement. For Exceptions, check the Policy Statement (http://www.college.upenn.edu/sectors-policy).

**Honors**

Students with an overall GPA of 3.4 and 3.6 or better in the major are eligible for honors.

**Concentrations**

Students may select one of five concentrations (https://www.sas.upenn.edu/gsws/content/concentrations):

- Feminist Studies
- Global Gender and Sexuality Studies
- Health and Disability
- LGBTQ Studies
- Self-designed

The degree and major requirements displayed are intended as a guide for students entering in the Fall of 2017 and later. Students should consult with their academic program regarding final certifications and requirements for graduation.

**German, BA**

The major and minor programs in the Department of Germanic Languages and Literatures provide deep understandings of language and cultures. Building from basic language competency to synthesizing significant literary works, historical context and current media and politics, the program offers a comprehensive education through engaged, active learning in a combination of core courses with a wide range of electives. Your learning experiences can be broadened and applied in study abroad as well as internship programs.

The minimum total course units (http://www.college.upenn.edu/credits-needed) for graduation in this major is 32.5. Double majors may entail more course units.

**For more information:** https://www.sas.upenn.edu/germanic/

For information about the General Education requirements, please visit the College of Arts & Sciences Curriculum (https://www.college.upenn.edu/curriculum-structure) page.

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<td>GRMN 301 Handschrift-Hypertext: Deutsche Medien</td>
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<td>GRMN 302 Places of Memory. Lieux de memoire. Erinnerungsorte.</td>
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<td>GRMN 401 Trans(l)its</td>
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1 You may count no more than one course toward both a Major and a Sector requirement. For Exceptions, check the Policy Statement (http://www.college.upenn.edu/sectors-policy).

**Honors**

Applicants are required to have a minimum overall GPA of 3.0 in The College and in the Major.

The degree and major requirements displayed are intended as a guide for students entering in the Fall of 2017 and later. Students should consult with their academic program regarding final certifications and requirements for graduation.

**Health and Societies: Bioethics & Society, BA**

The Health and Societies (HSOC) major examines health and medicine in social context, equipping students with the critical faculties and multidisciplinary skills that will prepare them for careers in public health, health services, and a variety of other arenas. The program is built on the foundation of three core disciplines: anthropology, history, and sociology.
Methods and courses from other disciplines and fields—including epidemiology, political science, business/economics, law, environmental studies, and bioethics—supplement the core disciplines and provide majors with the variety of skills necessary to grasp the forces that have shaped our contemporary health landscapes. The Health and Societies graduate is a “multilingual” scholar and citizen, fluent in the methods and perspectives of several social science disciplines— theoretically informed but practically minded, with a global outlook and local experience.

The minimum total course units (http://www.college.upenn.edu/credits-needed) for graduation in this major is 34. Double majors may entail more course units.

For more information: https://hss.sas.upenn.edu/undergraduate/health-and-societies-major

For information about the General Education requirements, please visit the College of Arts & Sciences Curriculum (https://www.college.upenn.edu/curriculum-structure) page.

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<td>HSOC 010</td>
<td>Health and Societies</td>
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<td>Select 1 Technologies, Practices &amp; Practitioners course</td>
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The degree and major requirements displayed are intended as a guide for students entering in the Fall of 2017 and later. Students should consult with their academic program regarding final certifications and requirements for graduation.

For more information: https://hss.sas.upenn.edu/undergraduate/health-and-societies-major

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The minimum total course units (http://www.college.upenn.edu/credits-needed) for graduation in this major is 34. Double majors may entail more course units.

For more information: https://hss.sas.upenn.edu/undergraduate/health-and-societies-major

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1 You may count no more than one course toward both a Major and a Sector requirement. For Exceptions, check the Policy Statement (http://www.college.upenn.edu/sectors-policy).

2 HSOC 100 Introduction to Sociological Research is cross listed with SOCI 100 Introduction to Sociological Research and HSOC 111 Health of Populations. is cross listed with SOCI 111 Health of Populations.
Health and Societies: Environment & Health, BA

The Health and Societies (HSOC) major examines health and medicine in social context, equipping students with the critical faculties and multidisciplinary skills that will prepare them for careers in public health, health services, and a variety of other arenas. The program is built on the foundation of three core disciplines: anthropology, history, and sociology. Methods and courses from other disciplines and fields—including epidemiology, political science, business/economics, law, environmental studies, and bioethics—supplement the core disciplines and provide majors with the variety of skills necessary to grasp the forces that have shaped our contemporary health landscapes. The Health and Societies graduate is a “multilingual” scholar and citizen, fluent in the methods and perspectives of several social science disciplines— theoretically informed but practically minded, with a global outlook and local experience.

The minimum total course units (http://www.college.upenn.edu/credits-needed) for graduation in this major is 34. Double majors may entail more course units.

Honors

Applicants must have a minimum GPA of 3.6 in the Major and 3.3 Overall

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For more information: https://hss.sas.upenn.edu/undergraduate/health-and-societies-major

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<td>Select 3 HSOC or STSC Electives</td>
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The minimum total course units (http://www.college.upenn.edu/credits-needed) for graduation in this major is 34. Double majors may entail more course units.

For more information: https://hss.sas.upenn.edu/undergraduate/health-and-societies-major

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2 HSOC 100 Introduction to Sociological Research is cross listed with SOCI 100 Introduction to Sociological Research and HSOC 111 Health of Populations. is cross listed with SOCI 111 Health of Populations.
Health and Societies: Health Care Markets & Finance, BA

The Health and Societies (HSOC) major examines health and medicine in social context, equipping students with the critical faculties and multidisciplinary skills that will prepare them for careers in public health, health services, and a variety of other arenas. The program is built on the foundation of three core disciplines: anthropology, history, and sociology. Methods and courses from other disciplines and fields—including epidemiology, political science, business/economics, law, environmental studies, and bioethics—supplement the core disciplines and provide majors with the variety of skills necessary to grasp the forces that have shaped our contemporary health landscapes. The Health and Societies graduate is a "multilingual" scholar and citizen, fluent in the methods and perspectives of several social science disciplines— theoretically informed but practically minded, with a global outlook and local experience.

Honors

Applicants must have a minimum GPA of 3.6 in the Major and 3.3 Overall

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For more information: https://hss.sas.upenn.edu/undergraduate/health-and-societies-major

For information about the General Education requirements, please visit the College of Arts & Sciences Curriculum (https://www.college.upenn.edu/curriculum-structure) page.
consult with their academic program regarding final certifications and requirements for graduation.

Health and Societies: Health Policy & Law, BA

The Health and Societies (HSOC) major examines health and medicine in social context, equipping students with the critical faculties and multidisciplinary skills that will prepare them for careers in public health, health services, and a variety of other arenas. The program is built on the foundation of three core disciplines: anthropology, history, and sociology. Methods and courses from other disciplines and fields—including epidemiology, political science, business/economics, law, environmental studies, and bioethics—supplement the core disciplines and provide majors with the variety of skills necessary to grasp the forces that have shaped our contemporary health landscapes. The Health and Societies graduate is a “multilingual” scholar and citizen, fluent in the methods and perspectives of several social science disciplines— theoretically informed but practically minded, with a global outlook and local experience.

The minimum total course units (http://www.college.upenn.edu/credits-needed) for graduation in this major is 34. Double majors may entail more course units.

For more information: https://hss.sas.upenn.edu/undergraduate/health-and-societies-major

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Capstone Research Requirement

Select 1 400-level HSOC or STSC Research Seminar 1

Total Course Units 34

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² HSOC 100 Introduction to Sociological Research is cross listed with SOCI 100 Introduction to Sociological Research and HSOC 111 Health of Populations. is cross listed with SOCI 111 Health of Populations.

Honors

Applicants must have a minimum GPA of 3.6 in the Major and 3.3 Overall

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<td>HSOC 498</td>
<td>Honors Thesis</td>
<td>1</td>
</tr>
</tbody>
</table>

The degree and major requirements displayed are intended as a guide for students entering in the Fall of 2017 and later. Students should consult with their academic program regarding final certifications and requirements for graduation.

Health and Societies: History of Medicine, BA

The Health and Societies (HSOC) major examines health and medicine in social context, equipping students with the critical faculties and multidisciplinary skills that will prepare them for careers in public health, health services, and a variety of other arenas. The program is built on the foundation of three core disciplines: anthropology, history, and sociology. Methods and courses from other disciplines and fields—including epidemiology, political science, business/economics, law, environmental studies, and bioethics—supplement the core disciplines and provide majors with the variety of skills necessary to grasp the forces that have shaped our contemporary health landscapes. The Health and Societies graduate is a “multilingual” scholar and citizen, fluent in the methods and perspectives of several social science disciplines— theoretically informed but practically minded, with a global outlook and local experience.

The minimum total course units (http://www.college.upenn.edu/credits-needed) for graduation in this major is 34. Double majors may entail more course units.

For more information: https://hss.sas.upenn.edu/undergraduate/health-and-societies-major

For information about the General Education requirements, please visit the College of Arts & Sciences Curriculum (https://www.college.upenn.edu/curriculum-structure) page.

<table>
<thead>
<tr>
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<th>Title</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>College General Education Requirements and Free Electives</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Foundational Approaches + Sectors¹ + Free Electives</td>
<td>20</td>
</tr>
</tbody>
</table>
**Major Requirements**

**Foundation Requirement**
- HSOC 010 Health and Societies 1
- or HSOC 145 Comparative Medicine

**Quantitative Methods**
- HSOC/SOCI 100 Introduction to Sociological Research 2
- or HSOC/SOCI 111 Health of Populations.

**Core Discipline**
- HSOC 002 Medicine in History 1
- or HSOC 150 American Health Policy
- HSOC 238 Introduction to Medical Anthropology 1
- or HSOC 275 Medical Sociology

**HSOC or STSC Electives**
- Select 3 HSOC or STSC Electives 3

**History of Medicine Concentration**
- Select one of the following Core Courses:
  - HSOC 002 Medicine in History 1
  - HSOC 145 Comparative Medicine
  - HSOC 150 American Health Policy

- Select 5 Concentration courses

**Capstone Research Requirement**
- Select 1 400-level HSOC or STSC Research Seminar 1

**Total Course Units** 34

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1. You may count no more than one course toward both a Major and a Sector requirement. For Exceptions, check the Policy Statement (http://www.college.upenn.edu/sectors-policy).

2. HSOC 100 Introduction to Sociological Research is cross listed with SOCI 100 Introduction to Sociological Research and HSOC 111 Health of Populations. is cross listed with SOCI 111 Health of Populations.

3. Refer to the HSOC website for a list of "Department Courses".

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**Honors**

Applicants must have a minimum GPA of 3.6 in the Major and 3.3 Overall

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Course Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>HSOC 420</td>
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</tr>
<tr>
<td>HSOC 498</td>
<td>Honors Thesis</td>
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</tr>
</tbody>
</table>

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The degree and major requirements displayed are intended as a guide for students entering in the Fall of 2017 and later. Students should consult with their academic program regarding final certifications and requirements for graduation.

---

**Health and Societies: Public Health, BA**

The Health and Societies (HSOC) major examines health and medicine in social context, equipping students with the critical faculties and multidisciplinary skills that will prepare them for careers in public health, health services, and a variety of other arenas. The program is built on the foundation of three core disciplines: anthropology, history, and sociology. Methods and courses from other disciplines and fields—including epidemiology, political science, business/economics, law, environmental studies, and bioethics—supplement the core disciplines and provide majors with the variety of skills necessary to grasp the forces that have shaped our contemporary health landscapes. The Health and Societies graduate is a "multilingual" scholar and citizen, fluent in the methods and perspectives of several social science disciplines— theoretically informed but practically minded, with a global outlook and local experience.

The minimum total course units (http://www.college.upenn.edu/credits-needed) for graduation in this major is 34. Double majors may entail more course units.

**For more information:** [https://hss.sas.upenn.edu/undergraduate/health-and-societies-major](https://hss.sas.upenn.edu/undergraduate/health-and-societies-major)

For information about the General Education requirements, please visit the [College of Arts & Sciences Curriculum](https://www.college.upenn.edu/curriculum-structure) page.

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**College General Education Requirements and Free Electives**

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<thead>
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<tr>
<td>HSOC 010</td>
<td>Health and Societies</td>
<td>1</td>
</tr>
<tr>
<td>or HSOC 145</td>
<td>Comparative Medicine</td>
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</table>

**Major Requirements**

**Foundation Requirement**
- HSOC 010 Health and Societies 1
- or HSOC 145 Comparative Medicine

**Quantitative Methods**
- HSOC/SOCI 100 Introduction to Sociological Research 2
- or HSOC/SOCI 111 Health of Populations.

**Core Discipline**
- HSOC 002 Medicine in History 1
- or HSOC 150 American Health Policy
- HSOC 238 Introduction to Medical Anthropology 1
- or HSOC 275 Medical Sociology

**HSOC or STSC Electives**
- Select 3 HSOC or STSC Electives 3

**Public Health Concentration**
- Select 1 Public Health Policy core course 1
- Select 5 Concentration Courses 5

**Capstone Research Requirement**
- Select 1 400-level HSOC or STSC Research Seminar 1

**Total Course Units** 34

---

1. You may count no more than one course toward both a Major and a Sector requirement. For Exceptions, check the Policy Statement (http://www.college.upenn.edu/sectors-policy).

2. HSOC 100 Introduction to Sociological Research is cross listed with SOCI 100 Introduction to Sociological Research and HSOC 111 Health of Populations. is cross listed with SOCI 111 Health of Populations.
Honors

Applicants must have a minimum GPA of 3.6 in the Major and 3.3 Overall

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</tbody>
</table>

The degree and major requirements displayed are intended as a guide for students entering in the Fall of 2017 and later. Students should consult with their academic program regarding final certifications and requirements for graduation.

Hispanic Studies, BA

The demographic, economic and political realities of the United States, the articulation of a mainstream English culture with an ever-increasing diversity of Hispanic and Latino cultures, and the ongoing forging of strong cultural and economic ties throughout the Americas, have moved Spanish out of the bounds of the category of "foreign" language and culture in the United States. Culture is the controlling category in this field; the program is orientated to the knowledge generated by new disciplines such as cultural studies, new historicism, ethics and postcolonial studies. The major in Hispanic Studies orients itself to the types of knowledge generated by new disciplines such as cultural studies, new historicism, ethics, and postcolonial studies. In order to reflect these changing realities, the Department of Romance Languages has changed the name of its Spanish concentration from "Spanish" to "Hispanic Studies."

Hence, the knowledge of Spanish culture gives students much more than the ability to communicate in the third-most-spoken language of the world. It prepares them to account for an entirely different national, continental and global reality in all its complexity. Since culture is the controlling category in this field of studies, the major in Hispanic Studies orients itself to the types of knowledge generated by new disciplines such as cultural studies, new historicism, ethics, and postcolonial studies. In order to reflect these changing realities, the Department of Romance Languages has changed the name of its Spanish concentration from "Spanish" to "Hispanic Studies."

Majors in Hispanic Studies are overwhelmingly double majors. This means that they bring to their classes a dialogic perspective that engages in the study of Hispanic cultures informed by interest in other fields such as history, government, sociology, economics, medicine, and law. The richness and depth of these interests make for lively and intellectually rewarding classroom discussions.

The minimum total course units (http://www.college.upenn.edu/credits-needed) for graduation in this major is 32. Double majors may entail more course units.

All courses must be at or above the 200 level.

For more information: https://www.sas.upenn.edu/hispanic-portuguese-studies/undergraduate/hispanic-studies/requirements-majors-minors/major-hispanic-studies

For information about the General Education requirements, please visit the College of Arts & Sciences Curriculum (https://www.college.upenn.edu/curriculum-structure) page.

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<tr>
<th>Code</th>
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</thead>
<tbody>
<tr>
<td>SPAN 212</td>
<td>Advanced Spanish II: Grammar and Composition</td>
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</tr>
<tr>
<td>SPAN 219</td>
<td>Hispanic Texts and Contexts</td>
<td>1</td>
</tr>
</tbody>
</table>

200 or 300 Level Courses

Select three 200 or 300 Level courses

300 Level Courses

Select seven 300 Level courses

Research Requirement

Research Requirement must be completed in the Department at Penn

Total Course Units

32

1 You may count no more than one course toward both a Major and a Sector requirement. For Exceptions, check the Policy Statement (http://www.college.upenn.edu/sectors-policy).

2 Must be taken in the Department at Penn.

3 At least 3 course units must be taken in the Department at Penn.

Honors

Must have minimum 3.5 GPA in the Major and a GPA of 3.3 overall.

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<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Course Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>SPAN 398</td>
<td>Honors Thesis</td>
<td>1</td>
</tr>
</tbody>
</table>

1 Must be completed in the Department at Penn.

The degree and major requirements displayed are intended as a guide for students entering in the Fall of 2017 and later. Students should consult with their academic program regarding final certifications and requirements for graduation.

History of Art, BA

The Major in the History of Art seeks to deepen students’ knowledge of artistic production and practice over the scope of human history, as well as to broaden awareness of the critical and interpretive aims of the discipline itself. Students develop skills in the analysis of works of art, sharpen their understanding of the social, cultural, and personal values embodied by works, and explore the relation of art history to other disciplines. The Department particularly encourages a broad geographic understanding of art production and encourages students to consider the relations and distinctions among different visual cultures.

Students are strongly advised to make an appointment each semester to discuss their progress through the major with the undergraduate chair. Majors are also encouraged to achieve an advanced level of French, German, or other languages as relevant to their subject interests. During their senior year majors may pursue independent research by writing
an honors thesis and are invited to become regular participants in the department colloquium series.

The minimum total course units (http://www.college.upenn.edu/credits-needed) for graduation in this major is 33. Double majors may entail more course units.

For more information: http://www.sas.upenn.edu/arthistory/undergraduate/major

For information about the General Education requirements, please visit the College of Arts & Sciences Curriculum (https://www.college.upenn.edu/curriculum-structure) page.

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<tr>
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</thead>
<tbody>
<tr>
<td>College General Education Requirements and Free Electives</td>
<td>Foundational Approaches + Sectors¹ + Free Electives</td>
<td>20</td>
</tr>
<tr>
<td>Major Requirements</td>
<td>General Surveys</td>
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<td>Select 2 course units of the following:</td>
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<tr>
<td>ARTH 101 Prehistory to Renaissance: Introduction to</td>
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</tr>
<tr>
<td>Western Art from its Beginning to 1400</td>
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<td></td>
</tr>
<tr>
<td>ARTH 102 Renaissance to Contemporary: Introduction to</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Western Art, 1400 to the Present</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ARTH 103 Arts and Civilizations of East Asia</td>
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<td></td>
</tr>
<tr>
<td>ARTH 104 Introduction to Art in South Asia</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ARTH 106 Architect and History</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Methods Seminar</td>
<td>ARTH 300 Undergraduate Methods Seminar</td>
<td>1</td>
</tr>
<tr>
<td>Seminars</td>
<td>Select 2 course units of any 300 or 500-Level Seminar</td>
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</tr>
<tr>
<td>Select one 200-level or higher course from each time period.²</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Ancient</td>
<td>Medieval/Renaissance</td>
<td></td>
</tr>
<tr>
<td>Modern</td>
<td>Geographic Distribution Areas</td>
<td></td>
</tr>
<tr>
<td>Select 1 course unit of Islamic, South Asian, East Asian, African, Native American, Oceanic Geographic Area course at 200-level or higher</td>
<td>1</td>
<td></td>
</tr>
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<td>Additional Courses in History of Art</td>
<td>Select 4 course units of Electives</td>
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</tr>
<tr>
<td>Total Course Units</td>
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<td></td>
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</table>

¹ You may count no more than one course toward both a Major and a Sector requirement. For Exceptions, check the Policy Statement (http://www.college.upenn.edu/sectors-policy).

² Double counting between geographic and chronological requirements is not allowed

### Honors

Application for Honors is by petition. Please consult with the Undergraduate Chair.

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### History: American History, BA

The Department of History offers a variety of courses dealing with the political, social, diplomatic, intellectual, economic, and cultural history of the Americas, Europe, Asia, and Africa, from the early medieval period to the present. The department seeks to give undergraduates both specific mastery of particular times, places, and aspects of the human condition and the critical skills to think historically about both long-term and modern phenomena, emphasizing the dynamics of change and continuity over time. The History Department at the University of Pennsylvania has a long tradition of distinction. Beginning as one of the first programs in the United States to offer doctoral study in history, the department continues to pioneer new areas of scholarship. In the last twenty years, faculty members of the departments in American, European, and World history have assumed a leading role in introducing and promoting new varieties of historical research and writing. Today, no other institution surpasses the Penn history department’s coverage of social history or equals the distinction of its faculty in that field.

The minimum total course units (http://www.college.upenn.edu/credits-needed) for graduation in this major is 32. Double majors may entail more course units.

8 courses must be taken in History at the University of Pennsylvania.

For more information: https://www.history.upenn.edu/undergraduate/history-major

For information about the General Education requirements, please visit the College of Arts & Sciences Curriculum (https://www.college.upenn.edu/curriculum-structure) page.

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<td>College General Education Requirements and Free Electives</td>
<td>Foundational Approaches + Sectors¹ + Free Electives</td>
<td>20</td>
</tr>
<tr>
<td>Major Requirements</td>
<td>Geographic Distribution</td>
<td>12</td>
</tr>
<tr>
<td>Select one distinct course in four of the five geographic regions ²</td>
<td></td>
<td></td>
</tr>
<tr>
<td>United States &amp; Canada</td>
<td></td>
<td></td>
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<tr>
<td>Europe and Australia</td>
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</tr>
<tr>
<td>East Asia and South Asia</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Chronological Distribution</td>
<td>Select 2 Pre-1800 courses ²</td>
<td></td>
</tr>
<tr>
<td>Seminars</td>
<td>Select 2 Penn History Seminars at 200-Level or Above</td>
<td></td>
</tr>
</tbody>
</table>

¹ You may count no more than one course toward both a Major and a Sector requirement. For Exceptions, check the Policy Statement (http://www.college.upenn.edu/sectors-policy).

² Double counting between geographic and chronological requirements is not allowed
## Research Requirement

Research requirement fulfilled

### American Concentration

- Select 1 Seminar
- Select 3 courses at 200-Level or Above
- Select 2 Concentration electives

### Other Courses for the Major

- Select 4 Other courses

**Total Course Units** 32

1. You may count no more than one course toward both a Major and a Sector requirement. For Exceptions, check the Policy Statement [here](http://www.college.upenn.edu/sectors-policy).

2. May be taken abroad. No Major-related courses.

## Honors

**Required:** A minimum Overall GPA of 3.0 and a GPA of 3.5 in Major related courses.

<table>
<thead>
<tr>
<th>Code</th>
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<th>Course Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>HIST 398</td>
<td>Junior Honors in History</td>
<td>1</td>
</tr>
<tr>
<td>HIST 400</td>
<td>Senior Honors in History I</td>
<td>1</td>
</tr>
</tbody>
</table>

The degree and major requirements displayed are intended as a guide for students entering in the Fall of 2017 and later. Students should consult with their academic program regarding final certifications and requirements for graduation.

### History: Diplomatic History, BA

The Department of History offers a variety of courses dealing with the political, social, diplomatic, intellectual, economic, and cultural history of the Americas, Europe, Asia, and Africa, from the early medieval period to the present. The department seeks to give undergraduates both specific mastery of particular times, places, and aspects of the human condition and the critical skills to think historically about both long-term and modern phenomena, emphasizing the dynamics of change and continuity over time. The History Department at the University of Pennsylvania has a long tradition of distinction. Beginning as one of the first programs in the United States to offer doctoral study in history, the department continues to pioneer new areas of scholarship. In the last twenty years, faculty members of the departments in American, European, and World history have assumed a leading role in introducing and promoting new varieties of historical research and writing. Today, no other institution surpasses the Penn history department's coverage of social history or equals the distinction of its faculty in that field.

The minimum total course units (http://www.college.upenn.edu/credits-needed) for graduation in this major is 32. Double majors may entail more course units.

8 courses must be taken in History at the University of Pennsylvania.

For more information: [http://www.history.upenn.edu/undergraduate/history-major](http://www.history.upenn.edu/undergraduate/history-major)

### Code Title Course Units

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</table>

1. You may count no more than one course toward both a Major and a Sector requirement. For Exceptions, check the Policy Statement [here](http://www.college.upenn.edu/sectors-policy).

2. May be taken abroad. No Major-related courses.

### Honors

**Required:** A minimum Overall GPA of 3.0 and a GPA of 3.5 in Major related courses.

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The degree and major requirements displayed are intended as a guide for students entering in the Fall of 2017 and later. Students should consult with their academic program regarding final certifications and requirements for graduation.

### History: Economic History, BA

The Department of History offers a variety of courses dealing with the political, social, diplomatic, intellectual, economic, and cultural history of
the Americas, Europe, Asia, and Africa, from the early medieval period to the present. The department seeks to give undergraduates both specific mastery of particular times, places, and aspects of the human condition and the critical skills to think historically about both long-term and modern phenomena, emphasizing the dynamics of change and continuity over time. The History Department at the University of Pennsylvania has a long tradition of distinction. Beginning as one of the first programs in the United States to offer doctoral study in history, the department continues to pioneer new areas of scholarship. In the last twenty years, faculty members of the departments in American, European, and World history have assumed a leading role in introducing and promoting new varieties of historical research and writing. Today, no other institution surpasses the Penn history department's coverage of social history or equals the distinction of its faculty in that field.

The minimum total course units (http://www.college.upenn.edu/credits-needed) for graduation in this major is 32. Double majors may entail more course units. 8 courses must be taken in History at the University of Pennsylvania.

For more information: http://www.history.upenn.edu/undergraduate/history-major

For information about the General Education requirements, please visit the College of Arts & Sciences Curriculum (https://www.college.upenn.edu/curriculum-structure) page.

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<tr>
<td></td>
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<td>20</td>
</tr>
<tr>
<td></td>
<td><strong>Major Requirements</strong></td>
<td>12</td>
</tr>
<tr>
<td></td>
<td>Geographic Distribution</td>
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<tr>
<td></td>
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</tr>
<tr>
<td></td>
<td>Select 2 Pre-1800 courses ²</td>
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<td></td>
<td>Seminars</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Select 2 Penn History Seminars at 200-Level or Above</td>
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<tr>
<td></td>
<td>Research Requirement</td>
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</tr>
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<td></td>
<td>Research requirement fulfilled</td>
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</tr>
<tr>
<td></td>
<td><strong>Economic History Concentration</strong></td>
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<td></td>
<td>Select 1 Seminar</td>
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<td>Select 5 core courses</td>
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<tr>
<td></td>
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<tr>
<td></td>
<td>ECON 002 Introductory Economics: Macro</td>
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<td></td>
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</tr>
<tr>
<td></td>
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</tr>
<tr>
<td></td>
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</tr>
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¹ You may count no more than one course toward both a Major and a Sector requirement. For Exceptions, check the Policy Statement (http://www.college.upenn.edu/sectors-policy).
² May be taken abroad. No Major-related courses.

**Honors**

**Required:** A minimum Overall GPA of 3.0 and a GPA of 3.5 in Major related courses.

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The degree and major requirements displayed are intended as a guide for students entering in the Fall of 2017 and later. Students should consult with their academic program regarding final certifications and requirements for graduation.

**History: European History, BA**

The Department of History offers a variety of courses dealing with the political, social, diplomatic, intellectual, economic, and cultural history of the Americas, Europe, Asia, and Africa, from the early medieval period to the present. The department seeks to give undergraduates both specific mastery of particular times, places, and aspects of the human condition and the critical skills to think historically about both long-term and modern phenomena, emphasizing the dynamics of change and continuity over time. The History Department at the University of Pennsylvania has a long tradition of distinction. Beginning as one of the first programs in the United States to offer doctoral study in history, the department continues to pioneer new areas of scholarship. In the last twenty years, faculty members of the departments in American, European, and World history have assumed a leading role in introducing and promoting new varieties of historical research and writing. Today, no other institution surpasses the Penn history department's coverage of social history or equals the distinction of its faculty in that field.

The minimum total course units (http://www.college.upenn.edu/credits-needed) for graduation in this major is 32. Double majors may entail more course units. 8 courses must be taken in History at the University of Pennsylvania.

For more information: http://www.history.upenn.edu/undergraduate/history-major

For information about the General Education requirements, please visit the College of Arts & Sciences Curriculum (https://www.college.upenn.edu/curriculum-structure) page.

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<tr>
<td></td>
<td><strong>College General Education Requirements and Free Electives</strong></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Foundational Approaches + Sectors¹ + Free Electives</td>
<td>20</td>
</tr>
<tr>
<td></td>
<td><strong>Major Requirements</strong></td>
<td>12</td>
</tr>
<tr>
<td></td>
<td>Geographic Distribution</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Select one distinct course in four of the five geographic regions ²</td>
<td></td>
</tr>
<tr>
<td></td>
<td>United States &amp; Canada</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Europe and Australia</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Africa and the Middle East</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Latin America &amp; The Caribbean</td>
<td></td>
</tr>
<tr>
<td></td>
<td>East Asia and South Asia</td>
<td></td>
</tr>
</tbody>
</table>

¹ You may count no more than one course toward both a Major and a Sector requirement. For Exceptions, check the Policy Statement (http://www.college.upenn.edu/sectors-policy).
² May be taken abroad. No Major-related courses.
Select one distinct course in four of the five geographic regions.

- United States & Canada
- Europe and Australia
- Africa and the Middle East
- Latin America & The Caribbean
- East Asia and South Asia

Chronological Distribution
Select 2 Pre-1800 courses.

Seminars
Select 2 Penn History Seminars at 200-Level or Above

Research Requirement
Research requirement fulfilled

European Concentration
Select 1 Seminar
Select 3 courses at 200-Level or Above
Select 2 Concentration electives

Other Courses for the Major
Select 4 Other courses

Total Course Units 32

1. You may count no more than one course toward both a Major and a Sector requirement. For Exceptions, check the Policy Statement (http://www.college.upenn.edu/sectors-policy).
2. May be taken abroad. No Major-related courses.

Honors

Required: A minimum Overall GPA of 3.0 and a GPA of 3.5 in Major related courses.

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
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</thead>
<tbody>
<tr>
<td>HIST 398</td>
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<td>1</td>
</tr>
</tbody>
</table>

The degree and major requirements displayed are intended as a guide for students entering in the Fall of 2017 and later. Students should consult with their academic program regarding final certifications and requirements for graduation.

History: Gender History, BA

The Department of History offers a variety of courses dealing with the political, social, diplomatic, intellectual, economic, and cultural history of the Americas, Europe, Asia, and Africa, from the early medieval period to the present. The department seeks to give undergraduates both specific mastery of particular times, places, and aspects of the human condition and the critical skills to think historically about both long-term and modern phenomena, emphasizing the dynamics of change and continuity over time. The History Department at the University of Pennsylvania has a long tradition of distinction. Beginning as one of the first programs in the United States to offer doctoral study in history, the department continues to pioneer new areas of scholarship. In the last twenty years, faculty members of the departments in American, European, and World history have assumed a leading role in introducing and promoting new varieties of historical research and writing. Today, no other institution surpasses the Penn history department’s coverage of social history or equals the distinction of its faculty in that field.

The minimum total course units (http://www.college.upenn.edu/credits-needed) for graduation in this major is 32. Double majors may entail more course units.

8 courses must be taken in History at the University of Pennsylvania.

For more information: http://www.history.upenn.edu/undergraduate/history-major

For information about the General Education requirements, please visit the College of Arts & Sciences Curriculum (https://www.college.upenn.edu/curriculum-structure) page.

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<th>Course Units</th>
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<tr>
<td>College General Education Requirements and Free Electives</td>
<td>Foundational Approaches + Sectors + Free Electives</td>
<td>20</td>
</tr>
<tr>
<td>Major Requirements</td>
<td></td>
<td>12</td>
</tr>
<tr>
<td>Geographic Distribution</td>
<td>Select one distinct course in four of the five geographic regions.</td>
<td>2</td>
</tr>
<tr>
<td>- United States &amp; Canada</td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Europe and Australia</td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Africa and the Middle East</td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Latin America &amp; The Caribbean</td>
<td></td>
<td></td>
</tr>
<tr>
<td>- East Asia and South Asia</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Chronological Distribution</td>
<td>Select 2 Pre-1800 courses.</td>
<td>2</td>
</tr>
<tr>
<td>Seminars</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Research Requirement</td>
<td>Research requirement fulfilled</td>
<td></td>
</tr>
<tr>
<td>Gender History Concentration</td>
<td>Select 1 Seminar</td>
<td></td>
</tr>
<tr>
<td>- Select 3 courses at 200-Level or Above</td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Select 2 Concentration electives</td>
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<td></td>
</tr>
<tr>
<td>Other Courses for the Major</td>
<td>Select 4 Other courses</td>
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<tr>
<td>Total Course Units</td>
<td>32</td>
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</table>

1. You may count no more than one course toward both a Major and a Sector requirement. For Exceptions, check the Policy Statement (http://www.college.upenn.edu/sectors-policy).
2. May be taken abroad. No Major-related courses.

Honors

Required: A minimum Overall GPA of 3.0 and a GPA of 3.5 in Major related courses.

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</tr>
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The degree and major requirements displayed are intended as a guide for students entering in the Fall of 2017 and later. Students should consult with their academic program regarding final certifications and requirements for graduation.

History: General History, BA

The Department of History offers a variety of courses dealing with the political, social, diplomatic, intellectual, economic, and cultural history of the Americas, Europe, Asia, Africa, and the Middle East, from the early medieval period to the present. The History Major gives undergraduates both specific mastery of particular times, places, and aspects of the human condition and the critical skills to think historically about both long-term and modern phenomena, emphasizing the dynamics of change and continuity over time. The History Department at the University of Pennsylvania has a long tradition of distinction, both in its scholarship and in its undergraduate teaching. Beginning as one of the first programs in the United States to offer doctoral study in history, the department continues to pioneer new areas of scholarship. History faculty have assumed a leading role in introducing and promoting new varieties of historical research and writing.

The minimum total course units (http://www.college.upenn.edu/credits-needed) for graduation in this major is 32. Double majors may entail more course units.

8 courses must be taken in History at the University of Pennsylvania.

For more information: http://www.history.upenn.edu/undergraduate/history-major

For information about the General Education requirements, please visit the College of Arts & Sciences Curriculum (https://www.college.upenn.edu/curriculum-structure) page.

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<tr>
<td></td>
<td>Foundational Approaches + Sectors(^1) + Free Electives</td>
<td>20</td>
</tr>
<tr>
<td></td>
<td>Major Requirements</td>
<td>12</td>
</tr>
<tr>
<td></td>
<td>Geographic Distribution</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Select one distinct course in four of the five geographic regions(^2)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>United States &amp; Canada</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Europe and Australia</td>
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<td></td>
</tr>
<tr>
<td></td>
<td>Chronological Distribution</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Select 2 Pre-1800 courses(^2)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Seminars</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Select 2 Penn History Seminars at 200-Level or Above</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Research Requirement</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Research requirement fulfilled</td>
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</tr>
<tr>
<td></td>
<td>General Curriculum Requirements</td>
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</tr>
<tr>
<td></td>
<td>Select 2 Upper Level Electives at 200-Level or Above</td>
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<tr>
<td></td>
<td>Other Courses for the Major</td>
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</tr>
<tr>
<td></td>
<td>Total Course Units</td>
<td>32</td>
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</tbody>
</table>

\(^1\) You may count no more than one course toward both a Major and a Sector requirement. For Exceptions, check the Policy Statement (http://www.college.upenn.edu/sectors-policy).

\(^2\) May be taken abroad. No Major-related courses.

Honors

Required: A minimum Overall GPA of 3.0 and a GPA of 3.5 in Major related courses.

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The degree and major requirements displayed are intended as a guide for students entering in the Fall of 2017 and later. Students should consult with their academic program regarding final certifications and requirements for graduation.

History: Intellectual History, BA

The Department of History offers a variety of courses dealing with the political, social, diplomatic, intellectual, economic, and cultural history of the Americas, Europe, Asia, Africa, and the Middle East, from the early medieval period to the present. The department seeks to give undergraduates both specific mastery of particular times, places, and aspects of the human condition and the critical skills to think historically about both long-term and modern phenomena, emphasizing the dynamics of change and continuity over time. The History Department at the University of Pennsylvania has a long tradition of distinction. Beginning as one of the first programs in the United States to offer doctoral study in history, the department continues to pioneer new areas of scholarship. In the last twenty years, faculty members of the departments in American, European, and World history have assumed a leading role in introducing and promoting new varieties of historical research and writing. Today, no other institution surpasses the Penn history department’s coverage of social history or equals the distinction of its faculty in that field.

The minimum total course units (http://www.college.upenn.edu/credits-needed) for graduation in this major is 32. Double majors may entail more course units.

8 courses must be taken in History at the University of Pennsylvania.

For more information: http://www.history.upenn.edu/undergraduate/history-major

For information about the General Education requirements, please visit the College of Arts & Sciences Curriculum (https://www.college.upenn.edu/curriculum-structure) page.

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<td>20</td>
</tr>
<tr>
<td></td>
<td>Major Requirements</td>
<td>12</td>
</tr>
</tbody>
</table>
**Geographic Distribution**
Select one distinct course in four of the five geographic regions

- United States & Canada
- Europe and Australia
- Africa and the Middle East
- Latin America & The Caribbean
- East Asia and South Asia

**Chronological Distribution**
Select 2 Pre-1800 courses

**Seminars**
Select 2 Penn History Seminars at 200-Level or Above

**Research Requirement**
Research requirement fulfilled

**Intellectual History Concentration**
Select 1 Seminar
Select 2 Core courses
Select 3 Concentration electives

**Other Courses for the Major**
Select 4 Other courses

**Honors**

**Required:** A minimum Overall GPA of 3.0 and a GPA of 3.5 in Major related courses.

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The degree and major requirements displayed are intended as a guide for students entering in the Fall of 2017 and later. Students should consult with their academic program regarding final certifications and requirements for graduation.

**History: Jewish History, BA**

The Department of History offers a variety of courses dealing with the political, social, diplomatic, intellectual, economic, and cultural history of the Americas, Europe, Asia, and Africa, from the early medieval period to the present. The department seeks to give undergraduates both specific mastery of particular times, places, and aspects of the human condition and the critical skills to think historically about both long-term and modern phenomena, emphasizing the dynamics of change and continuity over time. The History Department at the University of Pennsylvania has a long tradition of distinction. Beginning as one of the first programs in the United States to offer doctoral study in history, the department continues to pioneer new areas of scholarship. In the last twenty years, faculty members of the departments in American, European, and World history have assumed a leading role in introducing and promoting new varieties of historical research and writing. Today, no other institution surpasses the Penn history department's coverage of social history or equals the distinction of its faculty in that field.

The minimum total course units (http://www.college.upenn.edu/credits-needed) for graduation in this major is 32. Double majors may entail more course units.

8 courses must be taken in History at the University of Pennsylvania.

**For more information:** http://www.history.upenn.edu/undergraduate/history-major

For information about the General Education requirements, please visit the College of Arts & Sciences Curriculum (https://www.college.upenn.edu/curriculum-structure) page.

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<td>College General Education Requirements and Free Electives</td>
<td>20</td>
</tr>
<tr>
<td></td>
<td>Foundational Approaches + Sectors + Free Electives</td>
<td>12</td>
</tr>
</tbody>
</table>

**Major Requirements**

**Geographic Distribution**
Select one distinct course in four of the five geographic regions

- United States & Canada
- Europe and Australia
- Africa and the Middle East
- Latin America & The Caribbean
- East Asia and South Asia

**Chronological Distribution**
Select 2 Pre-1800 courses

**Seminars**
Select 2 Penn History Seminars at 200-Level or Above

**Research Requirement**
Research requirement fulfilled

**Jewish History Concentration**
Select 1 Seminar
Select 2 courses at 200-Level or Above
Select 2 Jewish Civilization Survey
Select 1 Elective

**Other Courses for the Major**
Select 4 Other courses

**Honors**

**Required:** A minimum Overall GPA of 3.0 and a GPA of 3.5 in Major related courses.

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</tr>
</thead>
<tbody>
<tr>
<td>HIST 398</td>
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</tr>
</tbody>
</table>
History: World History, BA

The Department of History offers a variety of courses dealing with the political, social, diplomatic, intellectual, economic, and cultural history of the Americas, Europe, Asia, and Africa, from the early medieval period to the present. The department seeks to give undergraduates both specific mastery of particular times, places, and aspects of the human condition and the critical skills to think historically about both long-term and modern phenomena, emphasizing the dynamics of change and continuity over time. The History Department at the University of Pennsylvania has a long tradition of distinction. Beginning as one of the first programs in the United States to offer doctoral study in history, the department continues to pioneer new areas of scholarship. In the last twenty years, faculty members of the departments in American, European, and World history have assumed a leading role in introducing and promoting new varieties of historical research and writing. Today, no other institution surpasses the Penn history department's coverage of social history or equals the distinction of its faculty in that field.

The minimum total course units (http://www.college.upenn.edu/credits-needed) for graduation in this major is 32. Double majors may entail more course units.

8 courses must be taken in History at the University of Pennsylvania.

For more information: http://www.history.upenn.edu/undergraduate/history-major

Individualized Major, BA

The College recognizes that there are students who find that the standard majors do not satisfy their academic goals and interests. Thus, the individualized major offers an opportunity for exceptional, creative, self motivated students to explore innovative and multidisciplinary fields of knowledge.

The minimum total course units (http://www.college.upenn.edu/credits-needed) for graduation in this major is 34. Double majors may entail more course units.

Applicants must earn a minimum GPA of 3.5.

For more information: http://www.college.upenn.edu/node/2410
International Relations, BA

International Relations addresses the ways in which governments, private groups, and individuals relate to each other in the global political and economic systems. The program provides a solid grounding in the methodologies of political science, history, and economics. The curriculum draws on the best courses relevant to world politics, offers a well-rounded liberal arts education, and helps prepare students for law or business school, Ph.D. programs, and international careers.

The minimum total course units (http://www.college.upenn.edu/credits-needed) for graduation in this major is 34. Double majors may entail more course units.

For more information: http://www.sas.upenn.edu/irp/

For information about the General Education requirements, please visit the College of Arts & Sciences Curriculum (https://www.college.upenn.edu/curriculum-structure) page.

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<td>College General Education Requirements and Free Electives</td>
<td>Foundational Approaches + Sectors ¹ + Free Electives</td>
<td>20</td>
</tr>
<tr>
<td>Major Requirements</td>
<td>Theory and Method</td>
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<tr>
<td>Theory:</td>
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<tr>
<td>or PSCI 150</td>
<td>Introduction to International Relations</td>
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<tr>
<td>Method:</td>
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<tr>
<td>Research Methods/Practice in IR</td>
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<tr>
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<td>PSCI 152</td>
<td>1</td>
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<tr>
<td>or ECON 050</td>
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<tr>
<td>Select 1 course unit of Elective in International Political Economy</td>
<td></td>
<td></td>
</tr>
<tr>
<td>International Electives</td>
<td>Select 3 course units of Electives comprising a thematic or regional area of concentration</td>
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</tr>
<tr>
<td>Select 1 course unit of Elective in Non-Western</td>
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</tr>
<tr>
<td>Select 1 course unit of Elective in International Security/Foreign Policy</td>
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<td></td>
</tr>
<tr>
<td>Select 1 course unit of Elective</td>
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<td></td>
</tr>
<tr>
<td>Thesis Research</td>
<td>INTR 390</td>
<td>1</td>
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<tr>
<td>Senior Seminar For Thesis Research</td>
<td>INTR 391</td>
<td>1</td>
</tr>
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<td>Total Course Units</td>
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</table>

¹ You may count no more than one course toward both a Major and a Sector requirement. For Exceptions, check the Policy Statement (http://www.college.upenn.edu/sectors-policy).

Honors

Candidates must have a minimum overall GPA of 3.5 and a GPA of 3.6 in the Major. An honors thesis and completion of an upper level language course are required.

Italian Studies: Italian Culture, BA

The Italian Studies section of the Romance Languages Department offers programs in language, literature, film, linguistics, cultural studies and civilization for students with or without a background in Italian. At the core of this program is the study of the Italian language, understood both in the narrow sense of verbal communication, but also in the larger sense of textual messages: literary, cinematic, historical, art-historical, and mass-cultural.

The minimum total course units (http://www.college.upenn.edu/credits-needed) for graduation in this major is 32. Double majors may entail more course units.

For more information: http://www.sas.upenn.edu/italians/undergraduate/requirements

For information about the General Education requirements, please visit the College of Arts & Sciences Curriculum (https://www.college.upenn.edu/curriculum-structure) page.

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<td>20</td>
</tr>
<tr>
<td>Major Requirements</td>
<td>Required Courses</td>
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</tr>
<tr>
<td>ITAL 201</td>
<td>Advanced Italian I</td>
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</tr>
<tr>
<td>Select one of the following:</td>
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<td></td>
</tr>
<tr>
<td>ITAL 202</td>
<td>Advanced Italian II</td>
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</tr>
<tr>
<td>ITAL 203</td>
<td>Masterpieces-Italian Literature</td>
<td></td>
</tr>
<tr>
<td>ITAL 204</td>
<td>Italian History on Screen: How Movies Tell the Story of Italy</td>
<td></td>
</tr>
<tr>
<td>Electives</td>
<td>Select 10 course units of Electives ²</td>
<td>10</td>
</tr>
<tr>
<td>Research Requirement</td>
<td>Must be taken in the Department at Penn</td>
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</tr>
<tr>
<td>Total Course Units</td>
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<td></td>
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</tbody>
</table>
You may count no more than one course toward both a Major and a Sector requirement. For Exceptions, check the Policy Statement (http://www.college.upenn.edu/sectors-policy).

Courses should cluster around no more than 2 scholarly disciplines or periods in Italian civilization. At least 3 courses must be taken in Italian Studies in Romance Languages, including at least 2 at the 300-level in Italian. The disciplinary courses should include at least 2 in History, 1 of which may be an Art History course. No more than 6 elective courses can be taken abroad. Up to 8 courses taught in English may be chosen in Romance Languages or from courses in other departments if they have an Italian focus or an Italian cultural component.

Honors
Must have a minimum 3.5 GPA in the Major and a GPA of 3.3 overall

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Course Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>ITAL 398</td>
<td>Honors Thesis ¹</td>
<td>1</td>
</tr>
</tbody>
</table>

¹ Must be completed in the Department at Penn.

The degree and major requirements displayed are intended as a guide for students entering in the Fall of 2017 and later. Students should consult with their academic program regarding final certifications and requirements for graduation.

Italian Studies: Italian Literature, BA
The Italian Studies section of the Romance Languages Department offers programs in language, literature, film, linguistics, cultural studies and civilization for students with or without a background in Italian. At the core of this program is the study of the Italian language, understood both in the narrow sense of verbal communication, but also in the larger sense of textual messages: literary, cinematic, historical, art-historical, and mass-cultural.

The minimum total course units (http://www.college.upenn.edu/credits-needed) for graduation in this major is 32. Double majors may entail more course units.

For more information: http://www.sas.upenn.edu/italians/undergraduate/requirements

For information about the General Education requirements, please visit the College of Arts & Sciences Curriculum (https://www.college.upenn.edu/curriculum-structure) page.

<table>
<thead>
<tr>
<th>Code</th>
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</tr>
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<tbody>
<tr>
<td></td>
<td>Foundational Approaches + Sectors ³ + Free Electives</td>
<td>20</td>
</tr>
<tr>
<td></td>
<td>Major Requirements</td>
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</tr>
<tr>
<td></td>
<td>Required Courses</td>
<td></td>
</tr>
<tr>
<td>ITAL 201</td>
<td>Advanced Italian I</td>
<td>1</td>
</tr>
<tr>
<td>ITAL 202</td>
<td>Advanced Italian II</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>or ITAL 203</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Masterpieces-Italian Literature</td>
<td></td>
</tr>
</tbody>
</table>

Jewish Studies, BA
The Jewish Studies Program provides an opportunity for students to study the Jewish experience from several perspectives including: language (Hebrew, Yiddish, and Ladino), literature in the original languages and in translation, the history and culture of the Jewish people from Biblical Israel to 21st-century America and modern Israel, the exploration of Jewish law, and the roles of gender and sex in Judaism. Students may specialize in Jewish Studies through a major or a minor, or through one of the following concentrations: Jewish History within the History Department, Hebraica/Judaica within the Department of Near Eastern Languages & Civilizations, and Judaism within the Department of Religious Studies.

The minimum total course units (http://www.college.upenn.edu/credits-needed) for graduation in this major is 34. Double majors may entail more course units.

For more information: http://ccat.sas.upenn.edu/jwst/undergraduate

For information about the General Education requirements, please visit the College of Arts & Sciences Curriculum (https://www.college.upenn.edu/curriculum-structure) page.


**Latin American & Latino Studies, BA**

The Latin American and Latino Studies (LALS) Program offers an interdisciplinary major and minor to study the history, arts, languages, cultures, societies, politics, and/or regional organizations of Latin American and Caribbean countries as well as Latino communities and individuals in the United States. With courses offered across many departments in the School of Arts and Sciences, in study abroad programs taught throughout Latin American cities, and with academically based community service courses with Latino organizations in the Greater Philadelphia area, the LALS major and minor afford our students a very comprehensive approach to Latin American and Latino Studies as well as the possibility of a flexible curriculum, where students can pursue and combine their academic interests.

The minimum total course units (http://www.college.upenn.edu/credits-needed) for graduation in this major is 32. Double majors may entail more course units.

Students must satisfy the Language Requirement in Spanish or Portuguese. Language courses under 219 may not be counted.

**For more information:** https://www.sas.upenn.edu/lals/content/major-requirements

For information about the General Education requirements, please visit the College of Arts & Sciences Curriculum (https://www.college.upenn.edu/curriculum-structure) page.

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**College General Education Requirements and Free Electives**

<table>
<thead>
<tr>
<th>Code</th>
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<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Foundational Approaches + Sectors + Free Electives</td>
<td>20</td>
</tr>
</tbody>
</table>

**Major Requirements**

**Language**

Select 4 course units of courses for proficiency in Hebrew or Yiddish language.

**History**

Select 3 course units of History courses from at least two different periods:

- Select 2 course units of the following:
  - JWST 156/ HIST 139: Jews and Judaism in Antiquity: History of Jewish Civilization I
  - JWST 157/ HIST 140: Medieval and Early Modern Jewry
  - JWST 158/ HIST 141: Jews in the Modern World: History of Jewish Civilization III

**Literature**

Select 3 course units of Literature courses in original language or translation with one course from each of the following periods:

- Biblical Period
- Rabbinic or Medieval Period
- Modern Period

**Religion or Culture**

Select 3 course units of Religion or Culture courses including courses in NELC-ANTH-FOlk-RELS-HIST

**Senior Seminar**

JWST 390 Senior Research Seminar

**Total Course Units**

34

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1. You may count no more than one course toward both a Major and a Sector requirement. For Exceptions, check the Policy Statement (http://www.college.upenn.edu/sectors-policy).

2. May be taken as 4 course units of Electives only if the language requirement has been fulfilled.

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**Honors**

Minimum overall GPA must be 3.0 and in major related courses the minimum GPA must be 3.5.

**Code**

**Title**

| JWST 399 | Senior Honors Thesis | 1 |

---

The degree and major requirements displayed are intended as a guide for students entering in the Fall of 2017 and later. Students should consult with their academic program regarding final certifications and requirements for graduation.

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The degree and major requirements displayed are intended as a guide for students entering in the Fall of 2017 and later. Students should consult with their academic program regarding final certifications and requirements for graduation.
Linguistics, BA

The Linguistics Program is intended to acquaint students with the methods and findings of the scientific study of human language and its relationships to cognition, society, and history. It serves as a preparation for graduate training in linguistics or related areas, and as part of a rigorous general education. Linguistic training is relevant to work in anthropology, philosophy, psychology, and language and literature, as well as to careers in such fields as education, computer science, and law. Founded by Zellig Harris in 1947, the Penn Linguistics Department is the oldest modern linguistics department in the United States. We have outstanding programs in the core disciplines of syntax and phonology, as well as in sociolinguistics, semantics, discourse, historical linguistics, phonetics, and psycholinguistics. Penn is also the home of the Linguistic Data Consortium (LDC), a compiler and distributor of linguistic materials for language engineering research. The graduate group in Linguistics at the University of Pennsylvania is an interdisciplinary team of faculty from the Department of Linguistics and related departments. Our program has strong concentrations in several areas and a tradition of collaboration among its faculty.

The minimum total course units (http://www.college.upenn.edu/credits-needed) for graduation in this major is 34. Double majors may entail more course units.

For more information: http://www.ling.upenn.edu/

For information about the General Education requirements, please visit the College of Arts & Sciences Curriculum (https://www.college.upenn.edu/curriculum-structure) page.

### Core Requirements

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
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</tr>
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<tbody>
<tr>
<td>LING 102</td>
<td>Introduction to Sociolinguistics</td>
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</tr>
<tr>
<td>LING 230</td>
<td>Sound Structure of Language</td>
<td>1</td>
</tr>
<tr>
<td>LING 250</td>
<td>Introduction to Syntax</td>
<td>1</td>
</tr>
<tr>
<td>LING 300</td>
<td>Tutorial in Linguistics</td>
<td>1</td>
</tr>
</tbody>
</table>

### Linguistic Courses

Select 6 course units of Linguistic courses with 3 courses at 200-level or higher.

### Related Courses

Select 4 course units of Related courses 2

Total Course Units: 34

1 You may count no more than one course toward both a Major and a Sector requirement. For Exceptions, check the Policy Statement (http://www.college.upenn.edu/sectors-policy).

2 May be satisfied by any Linguistics courses or relevant courses from other departments with approval from the Undergraduate Chair.

Honors

Required: A Minimum Overall GPA of 3.0 and 3.5 in Major Related Courses.

The degree and major requirements displayed are intended as a guide for students entering in the Fall of 2017 and later. Students should consult with their academic program regarding final certifications and requirements for graduation.

---

Logic, Information, & Computation, BA

Modern mathematical logic began with work by Cantor, Frege, and other mathematicians during the last three decades of the nineteenth century who were concerned with providing a sound basis for the development of mathematical analysis. In the wake of "the crisis in the foundations of mathematics" precipitated by the discovery of various logical paradoxes at the turn of the twentieth century, mathematicians and philosophers such as Hilbert and Russell intensively pursued investigations into the logical foundations of mathematics. Connections between logic and the foundations of mathematics remained an important source for scientific developments in logic through the epochal results of Gödel in 1930 and 1931, which indicated both the scope and limits of the mechanization of mathematical reasoning. The great burst of scientific activity occasioned by Gödel's results led directly to Turing's mathematical characterization of mechanical computation in terms of simple devices, now known as Turing machines. The work of Gödel, Turing, and other logicians during the 1930s laid the scientific foundations for the revolution in computer and information technology that began in the last half of the twentieth century and continues today.

The Logic, Information, and Computation Program offers students the opportunity to engage in a systematic, integrative program of study within the School of Arts and Sciences. Logic remains one of the core disciplines in investigations of information and computation. Indeed, logic is playing a major role in advances in computer security, database technology, networking, and software engineering. Moreover, logic has expanded its role within mathematics beyond foundational studies and now enjoys rich connections with areas as diverse as algebra, analysis, and combinatorics. In light of the current importance of the investigation of computation and information from both a scientific and technological point of view, the Major and Minor in Logic, Information, and Computation will provide students with a strong background to pursue computational aspects of the natural, biological, and social sciences and prepare them for careers in information technology.

The minimum total course units (http://www.college.upenn.edu/credits-needed) for graduation in this major is 36. Double majors may entail more course units.

For more information: http://logic.sas.upenn.edu/program.html

For information about the General Education requirements, please visit the College of Arts & Sciences Curriculum (https://www.college.upenn.edu/curriculum-structure) page.

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Course Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>MATH 104</td>
<td>Calculus, Part I</td>
<td>1</td>
</tr>
</tbody>
</table>

### Mathematics Requirement

The degree and major requirements displayed are intended as a guide for students entering in the Fall of 2017 and later. Students should consult with their academic program regarding final certifications and requirements for graduation.
Mathematical Economics, BA

Economics is a social science and, as such, an important component of the liberal arts curriculum. At the core of economics are theories of how individuals, firms, and other organizations make choices and interact, taking into account constraints on their behaviors. Among the topics studied in economics are the following:

- The determination of prices and quantities in various types of markets, from perfectly competitive commodity markets to highly regulated utility markets and internet auctions.
- The effects of taxes, subsidies, and regulations.
- The determination of aggregate economic activity (e.g., GDP, unemployment).
- Inflation, monetary policy, and financial intermediation.
- Economic growth and income distribution.
- International trade and international finance (e.g., exchange rates).

The Mathematical Economics Major is intended for students with a strong intellectual interest in both mathematics and economics and, in particular, for students who may pursue a graduate degree in economics. Advanced economics makes extensive use of formal mathematical models. The major introduces undergraduate students to rigorous theoretical-quantitative and empirical-quantitative approaches to the analysis of economic problems. In comparison to the Economics Major, the Mathematical Economics Major emphasizes a more formal mathematical analysis, preparing students for academic-style research in economics.

The minimum total course units (http://www.college.upenn.edu/credits-needed) for graduation in this major is 36. Double majors may entail more course units.

For more information: http://economics.sas.upenn.edu/undergraduate-program/mathematical-economics-major

For information about the General Education requirements, please visit the College of Arts & Sciences Curriculum (https://www.college.upenn.edu/curriculum-structure) page.

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Course Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>MATH 114</td>
<td>Calculus, Part II</td>
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</tr>
<tr>
<td>MATH 240</td>
<td>Calculus, Part III</td>
<td>1</td>
</tr>
<tr>
<td>MATH 370</td>
<td>Algebra</td>
<td>1</td>
</tr>
<tr>
<td>or MATH 502</td>
<td>Abstract Algebra</td>
<td></td>
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<tr>
<td>MATH 371</td>
<td>Algebra</td>
<td>1</td>
</tr>
<tr>
<td>or MATH 503</td>
<td>Abstract Algebra</td>
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<tr>
<td><strong>Computer &amp; Info Science Requirement</strong></td>
<td></td>
<td></td>
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<tr>
<td>CIS 120</td>
<td>Programming Languages and Techniques I</td>
<td>1</td>
</tr>
<tr>
<td>CIS 121</td>
<td>Programming Languages and Techniques II</td>
<td>1</td>
</tr>
<tr>
<td>CIS 320</td>
<td>Introduction to Algorithms</td>
<td>1</td>
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<tr>
<td><strong>Physics Requirement</strong></td>
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<tr>
<td>PHYS 150</td>
<td>Principles of Physics I: Mechanics and Wave Motion</td>
<td>1.5</td>
</tr>
<tr>
<td>PHYS 151</td>
<td>Principles of Physics II: Electromagnetism and Radiation</td>
<td>1.5</td>
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<tr>
<td><strong>Logic, Info, &amp; Computation Requirement</strong></td>
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</tr>
<tr>
<td>LGIC 210/MATH 340</td>
<td>Applied Mathematics of Information and Computation I</td>
<td>1</td>
</tr>
<tr>
<td>LGIC 310/PHIL 006/MATH 570</td>
<td>Logic I</td>
<td>1</td>
</tr>
<tr>
<td>LGIC 220/MATH 341</td>
<td>Applied Mathematics of Information and Computation II</td>
<td>1</td>
</tr>
<tr>
<td>LGIC 320/PHIL 412/MATH 571</td>
<td>Logic II</td>
<td>1</td>
</tr>
<tr>
<td><strong>Elective</strong></td>
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<td>Select 1 course unit of Elective</td>
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<tr>
<td><strong>Capstone Seminar</strong></td>
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</tr>
<tr>
<td>LGIC 499</td>
<td>Topics in Logic</td>
<td>1</td>
</tr>
<tr>
<td><strong>Total Course Units</strong></td>
<td></td>
<td>36</td>
</tr>
</tbody>
</table>

1 You may count no more than one course toward both a Major and a Sector requirement. For Exceptions, check the Policy Statement (http://www.college.upenn.edu/sectors-policy).
2 Check: http://logic.sas.upenn.edu for for pre-approved courses.

Honors

Applicants must have an overall GPA of 3.0 and a GPA of 3.5 in the Major. Senior research project required.

The degree and major requirements displayed are intended as a guide for students entering in the Fall of 2017 and later. Students should consult with their academic program regarding final certifications and requirements for graduation.
Waiver Conversion Complete
Intro Micro/Macro - For WHARTON Students Only:
ECON 010 Introduction to Economics for Business
Select an additional ECON course

Intermediate Level Micro and Macro Economics
ECON 101 Intermediate Microeconomics 1
ECON 102 Intermediate Macroeconomics 1
ECON 681 Microeconomic Theory 1
ECON Electives
Select 3 course units of ECON Electives 3
Total Course Units 36-37

1 You may count no more than one course toward both a Major and a Sector requirement. For Exceptions, check the Policy Statement (http://www.college.upenn.edu/sectors-policy).
2 Students intending to major in Mathematical Economics are encouraged to take MATH 116 Honors Calculus and to consider MATH 260 Honors Calculus, Part II.
3 NOTE: These MATH and ECON courses count toward the MATH and ECON electives.
4 If ECON 103 Statistics for Economists is taken, one additional ECON or MATH course from the following: MATH 546 Probability Theory, MATH 547 Stochastic Processes, ECON 104 Econometrics, ECON 221 Econometric Forecasting, or ECON 222 Advanced Econometric Techniques and Applications.
5 LPS academic year courses require approval of Undergraduate Chair EXCEPT for ECON 001 Introduction to Micro Economics & ECON 002 Introductory Economics: Macro.
6 ECON 001 Introduction to Micro Economics and ECON 002 Introductory Economics: Macro are prerequisites for all economics courses. ECON 001 Introduction to Micro Economics is the prerequisite for ECON 002 Introductory Economics: Macro.
7 ECON Course Required if ECON 010 Introduction to Economics for Business is taken.

Honors
Applicants must have a minimum GPA of 3.5 and an A- or better in 3 graduate level courses:

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Course Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>ESE 605</td>
<td>Modern Convex Optimization</td>
<td></td>
</tr>
<tr>
<td>One 600 level Econ course</td>
<td></td>
<td></td>
</tr>
<tr>
<td>One 500 level Math course</td>
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<td></td>
</tr>
</tbody>
</table>

The degree and major requirements displayed are intended as a guide for students entering in the Fall of 2017 and later. Students should consult with their academic program regarding final certifications and requirements for graduation.

Mathematics: Biological Mathematics, BA
At the core of modern theoretical science, mathematics has historically provided an expressive language as well and theoretical framework for advances in the physical sciences. It has since become central in the life and social sciences and in computer science. Mathematics at Penn embraces traditional core areas of mathematics and developing areas (Penn is one of the world’s leading centers in the application of logic to theoretical computer science). The goals of the major program are to assist students in acquiring both an understanding of mathematics and the ability to use it. The mathematics major provides a solid foundation for graduate study in mathematics and a background for study in economics, the biological sciences, the physical sciences, and engineering, as well as many non-traditional areas.

The minimum total course units (http://www.college.upenn.edu/credits-needed) for graduation in this major is 36. Double majors may entail more course units.

Majors and prospective majors. Please email majoradvisor@math.upenn.edu. You will be assigned to one of the Math Major Advisors who will discuss your current and future plans with you. It is important that you see this advisor at least once per semester thereafter.

Below is a planning tool that is meant to help you but does not replace the web and advisor visit requirements.

For more information: https://www.math.upenn.edu/undergraduate/math-majors-and-minors/biological-mathematics-concentration-mathematics-major

For information about the General Education requirements, please visit the College of Arts & Sciences Curriculum (https://www.college.upenn.edu/curriculum-structure) page.

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Course Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>ESE 605</td>
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<td></td>
</tr>
<tr>
<td>One 600 level Econ course</td>
<td></td>
<td></td>
</tr>
<tr>
<td>One 500 level Math course</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Mathematics Requirement
Calculus Requirement:
MATH 104 Calculus, Part I 1
MATH 114 Calculus, Part II or MATH 116 Honors Calculus 1
MATH 240 Calculus, Part III or MATH 260 Honors Calculus, Part II 1
MATH 361 Advanced Calculus or MATH 509 Advanced Analysis 1
MATH 360 Advanced Calculus or MATH 508 Advanced Analysis 1

Algebra Requirement:
MATH 370 Algebra or MATH 502 Abstract Algebra 1
MATH 371 Algebra or MATH 503 Abstract Algebra 1

Statistics Requirement:
MATH 320 Computer Methods in Mathematical Science I 1

For more information:

For information about the General Education requirements, please visit the College of Arts & Sciences Curriculum (https://www.college.upenn.edu/curriculum-structure) page.

<table>
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<tr>
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<td></td>
<td></td>
</tr>
<tr>
<td>One 500 level Math course</td>
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</tbody>
</table>
### Mathematics: General Mathematics, BA

At the core of modern theoretical science, mathematics has historically provided an expressive language and a theoretical framework for advances in the physical sciences. It has since become central in the life and social sciences and in computer science. Mathematics at Penn embraces traditional core areas of mathematics as well as developing areas (Penn is one of the world’s leading centers in the application of logic to theoretical computer science). The goals of the major program are to assist students in acquiring both an understanding of mathematics and the ability to use it. The mathematics major provides a solid foundation for graduate study in mathematics and a background for study in economics, the biological sciences, the physical sciences, and engineering, as well as many non-traditional areas.

The minimum total course units (http://www.college.upenn.edu/credits-needed) for graduation in this major is 33. Double majors may entail more course units.

Majors and prospective majors. Please email majoradvisor@math.upenn.edu. You will be assigned to one of the Math Major Advisors who will discuss your current and future plans with you. It is important that you see this advisor at least once per semester thereafter.

Below is a planning tool that is meant to help you but does not replace the web and advisor visit requirements.

For more information: https://www.math.upenn.edu/undergraduate/math-majors-and-minors/mathematics-major

For information about the General Education requirements, please visit the College of Arts & Sciences Curriculum (https://www.college.upenn.edu/curriculum-structure) page.

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Course Units</th>
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</thead>
<tbody>
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<td></td>
<td>Foundational Approaches + Sectors + Free Electives</td>
<td>20</td>
</tr>
<tr>
<td></td>
<td><strong>Major Requirements</strong></td>
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</tr>
<tr>
<td></td>
<td><strong>Calculus Requirement</strong></td>
<td>2-3</td>
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<tr>
<td></td>
<td>Select one of the following Options:</td>
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</tr>
<tr>
<td></td>
<td><strong>Option 1:</strong></td>
<td></td>
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<tr>
<td>MATH 104</td>
<td>Calculus, Part I</td>
<td></td>
</tr>
<tr>
<td>MATH 114/115</td>
<td>Calculus, Part II</td>
<td></td>
</tr>
<tr>
<td>MATH 240</td>
<td>Calculus, Part III</td>
<td></td>
</tr>
</tbody>
</table>

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1. You may count no more than one course toward both a Major and a Sector requirement. For Exceptions, check the Policy Statement (http://www.college.upenn.edu/sectors-policy).
2. MATH 116 Honors Calculus is a Honors Course.
Option 2:

<table>
<thead>
<tr>
<th>Code</th>
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</thead>
<tbody>
<tr>
<td>MATH 116</td>
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<td></td>
</tr>
<tr>
<td>MATH 260</td>
<td>Honors Calculus, Part II</td>
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Complex Analysis Requirement

<table>
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<th>Title</th>
<th>Course Units</th>
</tr>
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<tbody>
<tr>
<td>MATH 410</td>
<td>Complex Analysis</td>
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Advanced Linear Algebra Requirement

<table>
<thead>
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<tbody>
<tr>
<td>MATH 314</td>
<td>Advanced Linear Algebra</td>
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Differential Equations Requirement

<table>
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<tr>
<th>Code</th>
<th>Title</th>
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<td>MATH 241</td>
<td>Calculus, Part IV</td>
<td>1</td>
</tr>
<tr>
<td>or MATH 425</td>
<td>Partial Differential Equations</td>
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</table>

Seminar Requirement

<table>
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<th>Code</th>
<th>Title</th>
<th>Course Units</th>
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<tbody>
<tr>
<td>MATH 202</td>
<td>Proving Things: Analysis</td>
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</tr>
<tr>
<td>or MATH 203</td>
<td>Proving things: Algebra</td>
<td></td>
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</table>

Algebra Requirement

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Course Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>MATH 370</td>
<td>Algebra</td>
<td>2</td>
</tr>
<tr>
<td>&amp; MATH 371</td>
<td>and Algebra</td>
<td></td>
</tr>
<tr>
<td>or MATH 502</td>
<td>Abstract Algebra</td>
<td></td>
</tr>
<tr>
<td>&amp; MATH 503</td>
<td>and Abstract Algebra</td>
<td></td>
</tr>
</tbody>
</table>

Analysis Requirement

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Course Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>MATH 360</td>
<td>Advanced Calculus</td>
<td>2</td>
</tr>
<tr>
<td>&amp; MATH 361</td>
<td>and Advanced Calculus</td>
<td></td>
</tr>
<tr>
<td>or MATH 508</td>
<td>Advanced Analysis</td>
<td></td>
</tr>
<tr>
<td>&amp; MATH 509</td>
<td>and Advanced Analysis</td>
<td></td>
</tr>
</tbody>
</table>

Mathematics Electives

Select 5 course units of Math Electives

Select 2 course units of Cognate Electives

Total Course Units 33-34

1 You may count no more than one course toward both a Major and a Sector requirement. For Exceptions, check the Policy Statement (http://www.college.upenn.edu/sectors-policy).

2 Number of elective course units will vary based on the manner in which other requirements are fulfilled. Please consult your math major adviser when choosing math electives and cognates.

The minimum total course units (http://www.college.upenn.edu/credits-needed) for graduation in this major is 32. Double majors may entail more course units.

For more information: https://www.sas.upenn.edu/mec/programs/mmes

For information about the General Education requirements, please visit the College of Arts & Sciences Curriculum (https://www.college.upenn.edu/curriculum-structure) page.

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Course Units</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>College General Education Requirements and Free Electives</td>
<td>20</td>
</tr>
<tr>
<td></td>
<td>Foundational Approaches + Sectors(^1) + Free Electives</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Course Units</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Major Requirements</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Disciplinary Distribution</td>
<td>3</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Course Units</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Language Requirement</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Select 4 course units of Middle East Language Options:</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>Arabic, Hebrew, Persian, Turkish or Other with at least 2 course units at Intermediate or above</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Course Units</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Regional Coverage</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Select 3 course units of Foundational courses with one course centered on a culture different from the language selected above</td>
<td>3</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Course Units</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Seminar/Research Requirement</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Select 2 course units of Seminars in consultation with your major adviser</td>
<td>2</td>
</tr>
</tbody>
</table>

Total Course Units 32

1 You may count no more than one course toward both a Major and a Sector requirement. For Exceptions, check the Policy Statement (http://www.college.upenn.edu/sectors-policy).

Honors

Candidates must have a minimum overall GPA of 3.3 and a GPA of 3.7 in the Major.

Music, BA

The music major is founded on a balance in the core training between the fields of music history, ethnomusicology, theory, and composition. Through a series of requirements, you will acquire a foundation that introduces you to the sheer range of musical traditions available for study and to a series of specialist skills and tools that facilitate and deepen that study.

The minimum total course units (http://www.college.upenn.edu/credits-needed) for graduation in this major is 35.5. Double majors may entail more course units.

For more information: http://www.sas.upenn.edu/music/
For information about the General Education requirements, please visit the College of Arts & Sciences Curriculum (https://www.college.upenn.edu/curriculum-structure) page.

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Course Units</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td><strong>College General Education Requirements and Free Electives</strong></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Foundational Approaches + Sectors + Free Electives</td>
<td>20</td>
</tr>
<tr>
<td></td>
<td><strong>Music History Core Courses</strong></td>
<td></td>
</tr>
<tr>
<td>MUSC 130</td>
<td>Introduction to European Art Music</td>
<td>1</td>
</tr>
<tr>
<td>MUSC 135</td>
<td>Introduction to the Music Life in America</td>
<td>1</td>
</tr>
<tr>
<td>MUSC 150</td>
<td>Introduction to Ethnomusicology</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td><strong>Music Theory Core Courses</strong></td>
<td></td>
</tr>
<tr>
<td>MUSC 170</td>
<td>Theory and Musicianship I</td>
<td>1.5</td>
</tr>
<tr>
<td>MUSC 171</td>
<td>Theory and Musicianship II</td>
<td>1.5</td>
</tr>
<tr>
<td>MUSC 270</td>
<td>Theory and Musicianship III</td>
<td>1.5</td>
</tr>
<tr>
<td></td>
<td><strong>Tier Two Courses</strong></td>
<td></td>
</tr>
<tr>
<td>Select 4 course units of Tier Two courses</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td></td>
<td><strong>Tier Three Courses</strong></td>
<td></td>
</tr>
<tr>
<td>Select 2 course units of Tier Three courses</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td></td>
<td><strong>Performance Requirement</strong></td>
<td></td>
</tr>
<tr>
<td>Select 2 course units of Performance Requirement courses</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td></td>
<td><strong>Total Course Units</strong></td>
<td>35.5</td>
</tr>
</tbody>
</table>

1 You may count no more than one course toward both a Major and a Sector requirement. For Exceptions, check the Policy Statement (http://www.college.upenn.edu/sectors-policy).

### Honors

Applicants must have completed one Guided Reading course, have a G.P.A. of 3.5 or higher, and complete a research paper.

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Course Units</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td><strong>Guided Reading Courses</strong></td>
<td></td>
</tr>
<tr>
<td>MUSC 239</td>
<td>Guided Reading in Musicology</td>
<td>1</td>
</tr>
<tr>
<td>MUSC 259</td>
<td>Guided Research Ethnomusicology</td>
<td>1</td>
</tr>
<tr>
<td>MUSC 279</td>
<td>Guided Research in Theory and Composition</td>
<td>1</td>
</tr>
</tbody>
</table>

The minimum total course units (http://www.college.upenn.edu/credits-needed) for graduation in this major is 34. Double majors may entail more course units.

For more information: http://www.sas.upenn.edu/nelc/undergrad_programs/nelc_major.html

For information about the General Education requirements, please visit the College of Arts & Sciences Curriculum (https://www.college.upenn.edu/curriculum-structure) page.

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Course Units</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td><strong>College General Education Requirements and Free Electives</strong></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Foundational Approaches + Sectors + Free Electives</td>
<td>20</td>
</tr>
<tr>
<td></td>
<td><strong>Major Requirements</strong></td>
<td></td>
</tr>
<tr>
<td></td>
<td><strong>Language Requirement</strong></td>
<td></td>
</tr>
<tr>
<td>Select 6 course units of Language Requirement courses</td>
<td>6</td>
<td></td>
</tr>
<tr>
<td></td>
<td><strong>Breadth Requirement</strong></td>
<td></td>
</tr>
<tr>
<td>NELC 101/ANCH 025/HIST 024</td>
<td>Introduction to the Ancient Near East</td>
<td>1</td>
</tr>
<tr>
<td>NELC 102</td>
<td>Intro to Middle East</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td><strong>Concentration Requirements</strong></td>
<td></td>
</tr>
<tr>
<td>Select 5 course units of Concentration Requirement courses</td>
<td>5</td>
<td></td>
</tr>
<tr>
<td>Select 1 course unit of Concentration Paper Course</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td></td>
<td><strong>Total Course Units</strong></td>
<td>34</td>
</tr>
</tbody>
</table>

1 You may count no more than one course toward both a Major and a Sector requirement. For Exceptions, check the Policy Statement (http://www.college.upenn.edu/sectors-policy).

2 This requirement may be fulfilled by taking at least 4 course units of Egyptian or Biblical Hebrew or West Semitic languages or Cuneiform (Akkadian/ Sumarian) and no more than 2 course units of appropriate literature in translation.

3 May focus on at least two ancient civilizations. To be chosen in consultation with the major adviser.

### Honors

Requirements: A minimum overall GPA of 3.0 and a GPA of 3.5 in major related courses.

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Course Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>NELC 395</td>
<td>Senior Conference</td>
<td>1</td>
</tr>
<tr>
<td>NELC 399</td>
<td>Independent Study</td>
<td>1</td>
</tr>
</tbody>
</table>

The degree and major requirements displayed are intended as a guide for students entering in the Fall of 2017 and later. Students should consult with their academic program regarding final certifications and requirements for graduation.

---

**Near Eastern Languages & Civilizations: Ancient Near East, BA**

The major in Ancient Near East examines the languages, history, cultures, and archaeology of the Ancient Near East: from Prehistory through the early complex of civilizations in Mesopotamia, Egypt, and Levant. Because of the interdependence of language and culture an emphasis of the major is gaining facility of one or more ancient languages, alongside courses in history, religion, and archaeology.
Near Eastern Languages & Civilizations: Arabic & Hebrew Studies, BA

The major in Arabic and Hebrew Studies explores the interrelationships between Arab and Hebrew cultures in the context of the modern and medieval Middle East. Emphasis includes facility in Arabic and/or Hebrew language, alongside courses in history, literature, and cultures of the medieval and modern Middle East.

The minimum total course units (http://www.college.upenn.edu/credits-needed) for graduation in this major is 34. Double majors may entail more course units.

For more information: http://www.sas.upenn.edu/nelc/undergrad_programs/nelc_major.html

For information about the General Education requirements, please visit the College of Arts & Sciences Curriculum (https://www.college.upenn.edu/curriculum-structure) page.

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<tr>
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<th>Course Units</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>College General Education Requirements and Free Electives</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Foundational Approaches + Sectors¹ + Free Electives</td>
<td>20</td>
</tr>
<tr>
<td></td>
<td><strong>Major Requirements</strong></td>
<td></td>
</tr>
<tr>
<td></td>
<td><strong>Language Requirement</strong></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Select 6 course units of Language Requirement courses</td>
<td>6</td>
</tr>
<tr>
<td></td>
<td><strong>Breadth Requirement</strong></td>
<td></td>
</tr>
<tr>
<td></td>
<td>NELC 101/ANCH 025/HIST 024</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>NELC 102 Intro to Middle East</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td><strong>Concentration Requirements</strong></td>
<td></td>
</tr>
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<td></td>
<td>Select 5 course units of Concentration Requirement courses</td>
<td>5</td>
</tr>
<tr>
<td></td>
<td>Select 1 course unit of Concentration Paper Course</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td><strong>Total Course Units</strong></td>
<td>34</td>
</tr>
</tbody>
</table>

¹ You may count no more than one course toward both a Major and a Sector requirement. For Exceptions, check the Policy Statement (http://www.college.upenn.edu/sectors-policy).
² This requirement may be split: 4 course units of one language (Arabic or Hebrew) and two years of the other.
³ May focus on either Medieval or Modern Periods, to be chosen in consultation with the major adviser. NOTE: No more than one PSCI class may be taken as an elective.

Honors

Required: A minimum overall GPA of 3.0 and a GPA of 3.5 in major related courses.

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Course Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>NELC 395</td>
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<td>1</td>
</tr>
<tr>
<td>NELC 399</td>
<td>Independent Study</td>
<td>1</td>
</tr>
</tbody>
</table>

The degree and major requirements displayed are intended as a guide for students entering in the Fall of 2017 and later. Students should consult with their academic program regarding final certifications and requirements for graduation.

Near Eastern Languages & Civilizations: Arabic & Islamic Studies, BA

Arabic and Islamic Studies focuses on languages and cultures of the wider Middle East in the context of Islamic Civilization. Because of the interdependence of language and culture, a primary emphasis is on gaining mastery of Middle Eastern languages such as Arabic, Persian, and Turkish, alongside coursework in history, religion, and culture.

The minimum total course units (http://www.college.upenn.edu/credits-needed) for graduation in this major is 34. Double majors may entail more course units.

For more information: http://www.sas.upenn.edu/nelc/undergrad_programs/nelc_major.html

For information about the General Education requirements, please visit the College of Arts & Sciences Curriculum (https://www.college.upenn.edu/curriculum-structure) page.

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Course Units</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>College General Education Requirements and Free Electives</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Foundational Approaches + Sectors¹ + Free Electives</td>
<td>20</td>
</tr>
<tr>
<td></td>
<td><strong>Major Requirements</strong></td>
<td></td>
</tr>
<tr>
<td></td>
<td><strong>Language Requirement</strong></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Select 6 course units of Language Requirement courses</td>
<td>6</td>
</tr>
<tr>
<td></td>
<td><strong>Breadth Requirement</strong></td>
<td></td>
</tr>
<tr>
<td></td>
<td>NELC 101/ANCH 025/HIST 024</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>NELC 102 Intro to Middle East</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td><strong>Concentration Requirements</strong></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Select 5 course units of Concentration Requirement courses</td>
<td>5</td>
</tr>
<tr>
<td></td>
<td>Select 1 course unit of Concentration Paper Course</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td><strong>Total Course Units</strong></td>
<td>34</td>
</tr>
</tbody>
</table>

¹ You may count no more than one course toward both a Major and a Sector requirement. For Exceptions, check the Policy Statement (http://www.college.upenn.edu/sectors-policy).
² This requirement may be fulfilled in Arabic, Persian or Turkish.
³ May focus on either Medieval or Modern Periods, to be chosen in consultation with the major adviser. Minimum of one course each in History, Literature (original language or in translation) and Religion.

Honors

Required: A minimum overall GPA of 3.0 and a GPA of 3.5 in major related courses.
Near Eastern Languages & Civilizations: Hebrew & Judaica, BA

The major concentration in Hebrew and Judaica explores the development of Hebrew culture from the Biblical through Rabbinic and Medieval Periods through modern times. Because of the interrelationship between language and culture an emphasis is placed on gaining facility in the use of Hebrew language alongside courses in history, culture, literature, and religion of Judaism.

The minimum total course units (http://www.college.upenn.edu/credits-needed) for graduation in this major is 34. Double majors may entail more course units.

For more information: http://www.sas.upenn.edu/nelc/undergrad_programs/nelc_major.html

For information about the General Education requirements, please visit the College of Arts & Sciences Curriculum (https://www.college.upenn.edu/curriculum-structure) page.

Nutrition, BA

Jointly sponsored by the College of Arts and Sciences and the School of Nursing, the second major in Nutrition Science builds on a student’s basic science skills with a deep dive into the science of nutrition. Linkages of nutritional compounds and dietary approaches with health and disease, novel approaches to the study of nutritional impact on health, and future avenues of exploration in the field are examined. Elective courses in anthropology, biology, economics, physiology, psychology, health care, and public policy provide a rounded context for the study of nutrition science.

The minimum total course units (http://www.college.upenn.edu/credits-needed) for graduation in this major is 34. Double majors may entail more course units.

For more information: https://www.nursing.upenn.edu/nutrition-major/
Major Requirements

Required Basic Science Courses

**Biology** 2

Recommended for students with A.P., I.B.:

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIOL 121</td>
<td>Introduction to Biology - The Molecular Biology of Life</td>
</tr>
<tr>
<td>BIOL 123</td>
<td>Introductory Molecular Biology Laboratory 2</td>
</tr>
<tr>
<td>BIOL 124</td>
<td>Introductory Organismal Biology Lab</td>
</tr>
</tbody>
</table>

Recommended for students with one year of high school biology 3

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIOL 101</td>
<td>Introduction to Biology A</td>
</tr>
<tr>
<td>BIOL 102</td>
<td>Introduction to Biology B</td>
</tr>
</tbody>
</table>

**Chemistry**

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>CHEM 101</td>
<td>General Chemistry I</td>
</tr>
<tr>
<td>CHEM 102</td>
<td>General Chemistry II</td>
</tr>
<tr>
<td>CHEM 241</td>
<td>Principles of Organic Chemistry</td>
</tr>
</tbody>
</table>

**Biochemistry**

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIOL 204</td>
<td>Biochemistry</td>
</tr>
</tbody>
</table>

Required Nutrition Science Courses

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>NURS 112</td>
<td>Nutrition: Science &amp; Applications</td>
</tr>
<tr>
<td>NURS 312</td>
<td>Nutritional Aspects of Disease</td>
</tr>
<tr>
<td>NURS 523</td>
<td>Advanced Nutrition: Molecular Basis of Nutrition</td>
</tr>
<tr>
<td>NURS 524</td>
<td>Advanced Human Nutrition and Micronutrient Metabolism</td>
</tr>
</tbody>
</table>

**Elective Courses**

Select 4 course units of Elective courses (See website for list of suggested courses) 4

Total Course Units 34

1 You may count no more than one course toward both a Major and a Sector requirement. For Exceptions, check the Policy Statement (http://www.college.upenn.edu/sectors-policy).

2 BIOL 123 Introductory Molecular Biology Laboratory must be concurrent with BIOL 121 Introduction to Biology - The Molecular Biology of Life.

3 3 course units count as 2 for nutrition major.

The minimum total course units (http://www.college.upenn.edu/credits-needed) for graduation in this major is 36. Double majors may entail more course units.

For more information: http://www.sas.upenn.edu/ppe/

For information about the General Education requirements, please visit the College of Arts & Sciences Curriculum (https://www.college.upenn.edu/curriculum-structure) page.

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Course Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIOL 123</td>
<td>Introductory Molecular Biology Laboratory 2</td>
<td></td>
</tr>
<tr>
<td>BIOL 124</td>
<td>Introductory Organismal Biology Lab</td>
<td></td>
</tr>
</tbody>
</table>

The degree and major requirements displayed are intended as a guide for students entering in the Fall of 2017 and later. Students should consult with their academic program regarding final certifications and requirements for graduation.

---

**Philosophy, Politics and Economics: Choice & Behavior, BA**

Philosophy, Politics and Economics allows undergraduates to study a variety of comprehensive analytical frameworks that have been developed to understand and justify political and economic structures, particularly constitutional democracy and the market system. The program prepares its graduates for careers in public policy, public services, business, and law among others.
You may count no more than one course toward both a Major and a Sector requirement. For Exceptions, check the Policy Statement (http://www.college.upenn.edu/sectors-policy).

Honors

Applicants must have a minimum GPA of 3.6 in the Major.

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Course Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>PPE 498</td>
<td>Directed Honors Research</td>
<td>1</td>
</tr>
</tbody>
</table>

The degree and major requirements displayed are intended as a guide for students entering in the Fall of 2017 and later. Students should consult with their academic program regarding final certifications and requirements for graduation.

Philosophy, Politics and Economics: Distributive Justice, BA

Philosophy, Politics and Economics allows undergraduates to study a variety of comprehensive analytical frameworks that have been developed to understand and justify political and economic structures, particularly constitutional democracy and the market system. The program prepares its graduates for careers in public policy, public services, business, and law among others.

The minimum total course units (http://www.college.upenn.edu/credits-needed) for graduation in this major is 36. Double majors may entail more course units.

For more information: http://www.sas.upenn.edu/ppe/

For information about the General Education requirements, please visit the College of Arts & Sciences Curriculum (https://www.college.upenn.edu/curriculum-structure) page.

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Course Units</th>
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</thead>
<tbody>
<tr>
<td>PPE 498</td>
<td>Directed Honors Research</td>
<td>1</td>
</tr>
</tbody>
</table>

Common Core

- PPE 311 Strategic Reasoning
- PPE 312 The Public Policy Process
- PPE 313 Behavioral Economics and Psychology
- PPE 314 Philosophy of Social Science

Distributive Justice Theme

Select 4 course units of Distributive Justice Theme courses

Capstone Seminar

Select one of the following

- PPE 470 Capstone: Social Policy
- PPE 471 Capstone: Political Economy
- PPE 472 Capstone: Networks
- PPE 473 Capstone: Modeling
- PPE 474 Capstone: Judgment and Decision Making
- PPE 476 Philosophy, Politics and Economics
- PPE 477 Capstone: Social Psychology
- PPE 478 PPE Capstone
- PPE 479 PPE Capstone
- PPE 481 Capstone: Political Science
- PPE 482 Capstone: Psychology
- PPE 483 Capstone: Economics
- PPE 484 Capstone: Philosophy
- PPE 485 PPE Capstone

Total Course Units: 36

Honors

Applicants must have a minimum GPA of 3.6 in the Major.

<table>
<thead>
<tr>
<th>Code</th>
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<th>Course Units</th>
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<tbody>
<tr>
<td>PPE 498</td>
<td>Directed Honors Research</td>
<td>1</td>
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</tbody>
</table>

Philosophy, Politics and Economics: Ethics & Professions, BA

Philosophy, Politics and Economics allows undergraduates to study a variety of comprehensive analytical frameworks that have been developed to understand and justify political and economic structures, particularly constitutional democracy and the market system. The program prepares its graduates for careers in public policy, public services, business, and law among others.
The minimum total course units (http://www.college.upenn.edu/credits-needed) for graduation in this major is 36. Double majors may entail more course units.

For more information: http://www.sas.upenn.edu/ppe/

For information about the General Education requirements, please visit the College of Arts & Sciences Curriculum (https://www.college.upenn.edu/curriculum-structure) page.

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**Honors**

Applicants must have a minimum GPA of 3.6 in the Major

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<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Course Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>PPE 498</td>
<td>Directed Honors Research</td>
<td>1</td>
</tr>
</tbody>
</table>

The degree and major requirements displayed are intended as a guide for students entering in the Fall of 2017 and later. Students should consult with their academic program regarding final certifications and requirements for graduation.

**Philosophy, Politics and Economics: Globalization, BA**

Philosophy, Politics and Economics allows undergraduates to study a variety of comprehensive analytical frameworks that have been developed to understand and justify political and economic structures, particularly constitutional democracy and the market system. The program prepares its graduates for careers in public policy, public services, business, and law among others.

The minimum total course units (http://www.college.upenn.edu/credits-needed) for graduation in this major is 36. Double majors may entail more course units.

For more information: http://www.sas.upenn.edu/ppe/

For information about the General Education requirements, please visit the College of Arts & Sciences Curriculum (https://www.college.upenn.edu/curriculum-structure) page.
Common Core

PPE 311 Strategic Reasoning 1
PPE 312 The Public Policy Process 1
PPE 313 Behavioral Economics and Psychology 1
PPE 314 Philosophy of Social Science 1

Globalization Theme

Select 4 course units of Globalization Theme courses 4

Capstone Seminar

Select one of the following 1

- PPE 470 Capstone: Social Policy
- PPE 471 Capstone: Political Economy
- PPE 472 Capstone: Networks
- PPE 473 Capstone: Modeling
- PPE 474 Capstone: Judgment and Decision Making
- PPE 476 Philosophy, Politics and Economics
- PPE 477 Capstone: Social Psychology
- PPE 478 PPE Capstone
- PPE 479 PPE Capstone
- PPE 481 Capstone: Political Science
- PPE 482 Capstone: Psychology
- PPE 483 Capstone: Economics
- PPE 484 Capstone: Philosophy
- PPE 485 PPE Capstone

Total Course Units 36

1 You may count no more than one course toward both a Major and a Sector requirement. For Exceptions, check the Policy Statement (http://www.college.upenn.edu/sectors-policy).

Honors

Applicants must have a minimum GPA of 3.6 in the Major

Code Title Course Units

PPE 498 Directed Honors Research 1

The minimum total course units (http://www.college.upenn.edu/credits-needed) for graduation in this major is 36. Double majors may entail more course units.

For more information: http://www.sas.upenn.edu/ppe/

For information about the General Education requirements, please visit the College of Arts & Sciences Curriculum (https://www.college.upenn.edu/curriculum-structure) page.

Code Title Course Units

College General Education Requirements and Free Electives

- Foundational Approaches + Sectors1 + Free Electives 20

Major Requirements

- Rigorous Reasoning (Pre Requirement)

Common Foundations

- Philosophy Foundation:
  - PPE/PHIL 008 The Social Contract 1
  - Select 1 course unit of Philosophy Foundation Elective 1

- Political Science Foundation:
  - Select 1 course unit of Political Theory Elective 1
  - Select 1 course unit of Political Science Foundation Elective 1

- Economics Foundation:
  - ECON 001 Introduction to Micro Economics 1
  - ECON 002 Introductory Economics: Macro 1

- Psychology Foundation:
  - PPE 153/PSYC 253 Judgment and Decisions 1
    - or PSYC 170 Social Psychology 1

Common Core

- PPE 311 Strategic Reasoning 1
- PPE 312 The Public Policy Process 1
- PPE 313 Behavioral Economics and Psychology 1
- PPE 314 Philosophy of Social Science 1

Public Policy & Governance Theme

Select 4 course units of Public Policy & Governance Theme courses 4

Capstone Seminar

Select one of the following 1

- PPE 470 Capstone: Social Policy
- PPE 471 Capstone: Political Economy
- PPE 472 Capstone: Networks
- PPE 473 Capstone: Modeling
- PPE 474 Capstone: Judgment and Decision Making
- PPE 476 Philosophy, Politics and Economics
- PPE 477 Capstone: Social Psychology
- PPE 478 PPE Capstone
- PPE 479 PPE Capstone
- PPE 481 Capstone: Political Science
- PPE 482 Capstone: Psychology
- PPE 483 Capstone: Economics
- PPE 484 Capstone: Philosophy
PPE 485  PPE Capstone

Total Course Units 36

1 You may count no more than one course toward both a Major and a Sector requirement. For Exceptions, check the Policy Statement (http://www.college.upenn.edu/sectors-policy).

Honors
Applicants must have a minimum GPA of 3.6 in the Major

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The degree and major requirements displayed are intended as a guide for students entering in the Fall of 2017 and later. Students should consult with their academic program regarding final certifications and requirements for graduation.

Philosophy: General Philosophy, BA

Philosophy seeks to illuminate fundamental aspects of the world, of our relation to and knowledge of the world, and of our own nature as rational, purposive, and social beings. The study of philosophy aims at an appreciation of the ways this enterprise has been, is, and might be approached. It also provides a vantage point for reflecting on the nature and achievement of other disciplines, such as science, the arts, and the humanities. Philosophical topics can be divided roughly into practical (ethics, politics, aesthetics) and theoretical (epistemology, metaphysics, mind, and logic). The four concentrations available within the major allow students to emphasize different sets of questions.

The General Philosophy Concentration requires a balanced selection of coursework from within both practical and theoretical philosophy as well as the history of these enterprises.

The minimum total course units (http://www.college.upenn.edu/credits-needed) for graduation in this major is 32. Double majors may entail more course units.

For more information: http://philosophy.sas.upenn.edu/undergraduate/philosophy-majors-and-minor/philosophy-majors-major-general-philosophy

For information about the General Education requirements, please visit the College of Arts & Sciences Curriculum (https://www.college.upenn.edu/curriculum-structure) page.

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Course Units</th>
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</thead>
<tbody>
<tr>
<td>PHIL 003</td>
<td>History of Ancient Philosophy</td>
<td>1</td>
</tr>
<tr>
<td>PHIL 004</td>
<td>History of Modern Philosophy</td>
<td>1</td>
</tr>
<tr>
<td>PHIL 005</td>
<td>Formal Logic I</td>
<td>1</td>
</tr>
<tr>
<td>Select 2 courses in Theoretical Philosophy</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Select 1 course in Ethics or Political Philosophy

Level Requirements
Select 4 course units of Philosophy with at least 2 course units above 200 and 2 course units at the 300 level

Other Courses in Philosophy
Select 5 other courses in Philosophy

Courses Outside the Philosophy Department
Select 2 courses outside the Philosophy Department by approval of the Undergraduate Chair

Total Course Units 32

1 You may count no more than one course toward both a Major and a Sector requirement. For Exceptions, check the Policy Statement (http://www.college.upenn.edu/sectors-policy).

Honors
Must be a Senior Major in Philosophy and have a minimum 3.33 GPA in the Major. Applicants must have completed the distribution requirements for the major including two courses above 200 one of which must be above 301. Please consult with the Undergraduate Chair for other specific criteria.

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Course Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>PHIL 301</td>
<td>Directed Honors Research (or a 500-level course)</td>
<td>1</td>
</tr>
</tbody>
</table>

The degree and major requirements displayed are intended as a guide for students entering in the Fall of 2017 and later. Students should consult with their academic program regarding final certifications and requirements for graduation.

Philosophy: Humanistic Philosophy, BA

Philosophy seeks to illuminate fundamental aspects of the world, of our relation to and knowledge of the world, and of our own nature as rational, purposive, and social beings. The study of philosophy aims at an appreciation of the ways this enterprise has been, is, and might be approached. It also provides a vantage point for reflecting on the nature and achievement of other disciplines, such as science, the arts, and the humanities. Philosophical topics can be divided roughly into practical (ethics, politics, aesthetics) and theoretical (epistemology, metaphysics, mind, and logic). The four concentrations available within the major allow students to emphasize different sets of questions.

The Humanistic Philosophy Concentration emphasizes practical philosophy and its history; it pairs philosophy courses with courses in one or more humanistic disciplines.

The minimum total course units (http://www.college.upenn.edu/credits-needed) for graduation in this major is 36. Double majors may entail more course units.

Required: 8 course units in PHIL and 8 course units in Humanities and/or PSCI (Non-PHIL courses need permission of the Undergraduate Chair).
For more information: http://philosophy.sas.upenn.edu/undergraduate/philosophy-majors-and-minor/philosophy-majors/major-humanistic-philosophy

For more information about the General Education requirements, please visit the College of Arts & Sciences Curriculum (https://www.college.upenn.edu/curriculum-structure) page.

### Code Title Course Units

#### College General Education Requirements and Free Electives

- Foundational Approaches + Sectors + Free Electives 20

#### Major Requirements

**Distribution Requirements**

- PHIL 003 History of Ancient Philosophy 1
- PHIL 004 History of Modern Philosophy 1
- PHIL 005 Formal Logic I 1

Select 1 course in Theoretical Philosophy
Select 2 courses in Ethics or Political Philosophy

#### Level Requirements

Select 2 course units of Philosophy at 200 level or above
Select 1 course unit of Philosophy at 300 level

**Humanities and/or PSCI Courses**

Select 8 courses of HUM or PSCI courses 8

**Other Courses in Philosophy**

Select 5 other courses in Philosophy 5

Total Course Units 36

1. You may count no more than one course toward both a Major and a Sector requirement. For Exceptions, check the Policy Statement (http://www.college.upenn.edu/sectors-policy).

2. Minimally, 4 course units must be from one department - No Introductory or Theater Performance Courses.

### Honors

Must be a Senior Major in Philosophy and have a minimum 3.33 GPA in the Major. Applicants must have completed the distribution requirements for the major including two courses above 200 one of which must be above 301. Please consult with the Undergraduate Chair for other specific criteria.

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The degree and major requirements displayed are intended as a guide for students entering in the Fall of 2017 and later. Students should consult with their academic program regarding final certifications and requirements for graduation.

### Philosophy: Philosophy and Science, BA

Philosophy seeks to illuminate fundamental aspects of the world, of our relation to and knowledge of the world, and of our own nature as rational, purposive, and social beings. The study of philosophy aims at an appreciation of the ways this enterprise has been, is, and might be approached. It also provides a vantage point for reflecting on the nature and achievement of other disciplines, such as science, the arts, and the humanities. Philosophical topics can be divided roughly into practical (ethics, politics, aesthetics) and theoretical (epistemology, metaphysics, mind, and logic). The four concentrations available within the major allow students to emphasize different sets of questions.

The Philosophy and Science Concentration emphasizes theoretical philosophy and science of philosophy; it pairs courses in philosophy with courses in one or more scientific disciplines.

The minimum total course units (http://www.college.upenn.edu/credits-needed) for graduation in this major is 36. Double majors may entail more course units.

**Required:** 8 course units in PHIL and 8 course units in either Natural or Social Science, or STSC (was HSSC).

For more information: http://philosophy.sas.upenn.edu/undergraduate/philosophy-majors-and-minor/philosophy-majors/philosophy-and-science-major

For information about the General Education requirements, please visit the College of Arts & Sciences Curriculum (https://www.college.upenn.edu/curriculum-structure) page.

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<td>1</td>
</tr>
<tr>
<td>PHIL 005</td>
<td>Formal Logic I</td>
<td>1</td>
</tr>
</tbody>
</table>

Select 1 course in Theoretical Philosophy
Select 2 courses in Philosophy of Science or Philosophy of Math

**Level Requirements**

Select 3 course units of PHIL Level Requirement courses with at least 2 course units 200 level or above and 1 course unit at the 300 level

**Natural or Social Science or HSSC Courses**

Select 8 courses in Nat. or Soc. Sci. or HSSC 8

**Other Courses in Philosophy** 2-5

Total Course Units 36

1. You may count no more than one course toward both a Major and a Sector requirement. For Exceptions, check the Policy Statement (http://www.college.upenn.edu/sectors-policy).

2. Minimally, 4 course units must be from one department - No Introductory or Laboratory courses.
Honors

Must be a Senior Major in Philosophy and have a minimum 3.33 GPA in the Major. Applicants must have completed the distribution requirement for the major including two courses above 200 one of which must be above 301. Please consult with the Undergraduate Chair for other specific criteria.

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The degree and major requirements displayed are intended as a guide for students entering in the Fall of 2017 and later. Students should consult with their academic program regarding final certifications and requirements for graduation.

Philosophy: Political and Moral Philosophy, BA

Philosophy seeks to illuminate fundamental aspects of the world, of our relation to and knowledge of the world, and of our own nature as rational, purposive, and social beings. The study of philosophy aims at an appreciation of the ways this enterprise has been, is, and might be approached. It also provides a vantage point for reflecting on the nature and achievement of other disciplines, such as science, the arts, and the humanities. Philosophical topics can be divided roughly into practical (ethics, politics, aesthetics) and theoretical (epistemology, metaphysics, mind, and logic). The four concentrations available within the major allow students to emphasize different sets of questions.

The new Political and Moral Philosophy Concentration emphasizes the philosophical treatment of normative questions. Its coursework focuses on questions about ethics, morality, politics, and law.

The minimum total course units (http://www.college.upenn.edu/credits-needed) for graduation in this major is 36. Double majors may entail more course units.

For more information: http://philosophy.sas.upenn.edu/undergraduate

For information about the General Education requirements, please visit the College of Arts & Sciences Curriculum (https://www.college.upenn.edu/curriculum-structure) page.

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</tr>
</tbody>
</table>

The degree and major requirements displayed are intended as a guide for students entering in the Fall of 2017 and later. Students should consult with their academic program regarding final certifications and requirements for graduation.

Physics: Astrophysics, BA

Physics and astronomy are fundamental sciences aimed at discovering the basic principles that govern our universe. Physicists study the interplay between space, time, matter, and energy. Complex behavior in nature is explained in terms of elementary relations between constituent elements and the forces that bind them, over distances ranging from subatomic to cosmic scale. Astronomy encompasses the entire physical universe beyond the earth: the solar system, stars, galaxies, galaxy clusters and superclusters, quasars, and the large-scale structure of the universe. The basic tools in physics and astronomy are mathematics and experimental investigation and observation of the world around us.

At Penn, the curriculum for undergraduate Physics majors, which includes extensive laboratory experience, is based on faculty strengths in Condensed Matter Physics, Elementary Particle Physics, and Astrophysics. Undergraduate teaching is linked to faculty research efforts in these areas, and participation by undergraduates in research is strongly encouraged. This concentration is particularly appropriate for students planning to attend graduate school in Astrophysics. In addition to core Physics courses, students choose from a selection of courses in Astronomy and Astrophysics.
The minimum total course units for graduation in this major is 36. Double majors may entail more course units.

For more information: http://www.physics.upenn.edu/

For information about the General Education requirements, please visit the College of Arts & Sciences Curriculum (https://www.college.upenn.edu/curriculum-structure) page.

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### Physics: Biological Science, BA

Physics and astronomy are fundamental sciences aimed at discovering the basic principles that govern our universe. Physicists study the interplay between space, time, matter, and energy. Complex behavior in nature is explained in terms of elementary relations between constituent elements and the forces that bind them, over distances ranging from subatomic to cosmic scale. Astronomy encompasses the entire physical universe beyond the earth: the solar system, stars, galaxies, galaxy clusters and superclusters, quasars, and the large-scale structure of the universe. The basic tools in physics and astronomy are mathematics and experimental investigation and observation of the world around us.

At Penn, the curriculum for undergraduate Physics majors, which includes extensive laboratory experience, is based on faculty strengths in Condensed Matter Physics, Elementary Particle Physics, and Astrophysics. Undergraduate teaching is linked to faculty research efforts in these areas, and participation by undergraduates in research is strongly encouraged. This concentration reflects increasing contributions of physicists (including members of our Faculty) to implications of Physics to Biological Sciences. Undergraduate students choosing this concentration will prepare themselves for careers in scientific research or professional Medical Physics programs that have been instituted at Penn and other Universities, among other possibilities.

The proposed concentration is distinct from the existing Biophysics Major, although the two share several required courses. The Biophysics Major requires much more chemistry, making it appropriate for students interested in protein science and other topics within the well-established field of Biophysics. The Physics major with a Concentration in Biological Science targets students with interests in the emerging field of Biological Physics, where researchers directly apply physical concepts and techniques to investigate biological systems; the emphasis is on developing new insights regarding biological systems from a perspective strongly rooted in Physics.

The minimum total course units for graduation in this major is 36. Double majors may entail more course units.

For more information: http://www.physics.upenn.edu/

For information about the General Education requirements, please visit the College of Arts & Sciences Curriculum (https://www.college.upenn.edu/curriculum-structure) page.
## MATH 241 Calculus, Part IV 1

## PHYS 230 Principles of Physics III: Thermal Physics and Waves 1

## PHYS 240 Principles of Physics IV: Modern Physics (without laboratory) 2

## PHYS 361 Electromagnetism I: Electricity and Potential Theory 1

## PHYS 362 Electromagnetism II: Magnetism, Maxwell's Equations, and Electromagnetic Waves 1

## PHYS 411 Introduction to Quantum Mechanics I 1

## PHYS 150 Principles of Physics I: Mechanics and Wave Motion 1.5

or PHYS 170 Honors Physics I: Mechanics and Wave Motion

## PHYS 151 Principles of Physics II: Electromagnetism and Radiation 1.5

or PHYS 171 Honors Physics II: Electromagnetism and Radiation

### Concentration Requirements

## BIOL 121 Introduction to Biology - The Molecular Biology of Life 1

## BIOL 123 Introductory Molecular Biology Laboratory 0.5

## BIOL 204 Biochemistry 1

or BIOL 205 Cell Biology

## BIOL 221 Molecular Biology and Genetics 1

## PHYS 280 Physical Models of Biological Systems 1

or PHYS 580 Biological Physics

## PHYS 401 Thermodynamics and the Introduction to Statistical Mechanics and Kinetic Theory 1

Select 2 courses units of Approved Electives 2

Total Course Units 36

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1. You may count no more than one course toward both a Major and a Sector requirement. For Exceptions, check the Policy Statement (http://www.college.upenn.edu/sectors-policy).

2. PHYS 250 Principles of Physics IV: Modern Physics recommended.

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## Honors

Applicants must have a minimum GPA of 3.3 in Major-related courses.

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Course Units</th>
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<tbody>
<tr>
<td>PHYS 499</td>
<td>Senior Honor Thesis (Semester 1)</td>
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</tr>
<tr>
<td>PHYS 499</td>
<td>Senior Honor Thesis (Semester 2)</td>
<td>1</td>
</tr>
</tbody>
</table>

Thesis Accepted

The degree and major requirements displayed are intended as a guide for students entering in the Fall of 2017 and later. Students should consult with their academic program regarding final certifications and requirements for graduation.

### Physics: Business & Technology, BA

Physics and astronomy are fundamental sciences aimed at discovering the basic principles that govern our universe. Physicists study the interplay between space, time, matter, and energy. Complex behavior in nature is explained in terms of elementary relations between constituent elements and the forces that bind them, over distances ranging from subatomic to cosmic scale. Astronomy encompasses the entire physical universe beyond the earth: the solar system, stars, galaxies, galaxy clusters and superclusters, quasars, and the large-scale structure of the universe. The basic tools in physics and astronomy are mathematics and experimental investigation and observation of the world around us.

At Penn, the curriculum for undergraduate Physics majors, which includes extensive laboratory experience, is based on faculty strengths in Condensed Matter Physics, Elementary Particle Physics, and Astrophysics. Undergraduate teaching is linked to faculty research efforts in these areas, and participation by undergraduates in research is strongly encouraged.

This concentration is particularly appropriate for students whose ultimate goal is a career in modern industry involving both technical and managerial components. A student choosing this concentration will have a solid background in Physics, be comfortable with electronics and computers, and have some appreciation of modern business methods and economics.

The minimum total course units (http://www.college.upenn.edu/credits-needed) for graduation in this major is 36. Double majors may entail more course units.

For more information: http://www.physics.upenn.edu/

For information about the General Education requirements, please visit the College of Arts & Sciences Curriculum (https://www.college.upenn.edu/curriculum-structure) page.

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<tbody>
<tr>
<td>MATH 104</td>
<td>Calculus, Part I</td>
<td>1</td>
</tr>
<tr>
<td>MATH 114</td>
<td>Calculus, Part II</td>
<td>1</td>
</tr>
<tr>
<td>MATH 240</td>
<td>Calculus, Part III</td>
<td>1</td>
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<tr>
<td>MATH 241</td>
<td>Calculus, Part IV</td>
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</tr>
<tr>
<td>PHYS 230</td>
<td>Principles of Physics III: Thermal Physics and Waves</td>
<td>1</td>
</tr>
<tr>
<td>PHYS 250</td>
<td>Principles of Physics IV: Modern Physics 1.5</td>
<td></td>
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<tr>
<td>PHYS 361</td>
<td>Electromagnetism I: Electricity and Potential Theory</td>
<td>1</td>
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<tr>
<td>PHYS 362</td>
<td>Electromagnetism II: Magnetism, Maxwell's Equations, and Electromagnetic Waves</td>
<td>1</td>
</tr>
<tr>
<td>PHYS 411</td>
<td>Introduction to Quantum Mechanics I 1</td>
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</tr>
<tr>
<td>PHYS 150</td>
<td>Principles of Physics I: Mechanics and Wave Motion 1.5</td>
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<tr>
<td>or PHYS 170</td>
<td>Honors Physics I: Mechanics and Wave Motion</td>
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</tr>
<tr>
<td>PHYS 151</td>
<td>Principles of Physics II: Electromagnetism and Radiation 1.5</td>
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<tr>
<td>or PHYS 171</td>
<td>Honors Physics II: Electromagnetism and Radiation</td>
<td>1</td>
</tr>
<tr>
<td>PHYS 364</td>
<td>Laboratory Electronics 1</td>
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College General Education Requirements and Free Electives

Foundational Approaches + Sectors + Free Electives 16.5

Major Requirements

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<td>1</td>
</tr>
<tr>
<td>PHYS 230</td>
<td>Principles of Physics III: Thermal Physics and Waves</td>
<td>1</td>
</tr>
<tr>
<td>PHYS 250</td>
<td>Principles of Physics IV: Modern Physics</td>
<td>1.5</td>
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<tr>
<td>PHYS 351</td>
<td>Analytical Mechanics</td>
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<td>PHYS 361</td>
<td>Electromagnetism I: Electricity and Potential Theory</td>
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<tr>
<td>PHYS 362</td>
<td>Electromagnetism II: Magnetism, Maxwell's Equations, and Electromagnetic Waves</td>
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<tr>
<td>PHYS 411</td>
<td>Introduction to Quantum Mechanics I 1</td>
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<tr>
<td>PHYS 150</td>
<td>Principles of Physics I: Mechanics and Wave Motion 1.5</td>
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<tr>
<td>or PHYS 170</td>
<td>Honors Physics I: Mechanics and Wave Motion</td>
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<tr>
<td>PHYS 151</td>
<td>Principles of Physics II: Electromagnetism and Radiation 1.5</td>
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<tr>
<td>or PHYS 171</td>
<td>Honors Physics II: Electromagnetism and Radiation</td>
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</table>

Concentration Requirements

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The degree and major requirements displayed are intended as a guide for students entering in the Fall of 2017 and later. Students should consult with their academic program regarding final certifications and requirements for graduation.
Select one course unit of Computation course
Select 4 course units of Business courses

Total Course Units 36

1 You may count no more than one course toward both a Major and a Sector requirement. For Exceptions, check the Policy Statement (http://www.college.upenn.edu/sectors-policy).

Honors
Applicants must have a minimum GPA of 3.3 in Major-related courses.

Code Title Course Units
PHYS 499 Senior Honor Thesis (Semester 1) 1
PHYS 499 Senior Honor Thesis (Semester 2) 1
Thesis Accepted

Honors
Applicants must have a minimum GPA of 3.3 in Major-related courses.

Code Title Course Units
PHYS 499 Senior Honor Thesis (Semester 1) 1
PHYS 499 Senior Honor Thesis (Semester 2) 1
Thesis Accepted

The degree and major requirements displayed are intended as a guide for students entering in the Fall of 2017 and later. Students should consult with their academic program regarding final certifications and requirements for graduation.
The degree and major requirements displayed are intended as a guide for students entering in the Fall of 2017 and later. Students should consult with their academic program regarding final certifications and requirements for graduation.

Physics: Computer Techniques, BA

Physics and astronomy are fundamental sciences aimed at discovering the basic principles that govern our universe. Physicists study the interplay between space, time, matter, and energy. Complex behavior in nature is explained in terms of elementary relations between constituent elements and the forces that bind them, over distances ranging from subatomic to cosmic scale. Astronomy encompasses the entire physical universe beyond the earth: the solar system, stars, galaxies, galaxy clusters and superclusters, quasars, and the large-scale structure of the universe. The basic tools in physics and astronomy are mathematics and experimental investigation and observation of the world around us.

At Penn, the curriculum for undergraduate Physics majors, which includes extensive laboratory experience, is based on faculty strengths in Condensed Matter Physics, Elementary Particle Physics, and Astrophysics. Undergraduate teaching is linked to faculty research efforts in these areas, and participation by undergraduates in research is strongly encouraged.

This concentration is particularly appropriate for students planning a career in the computer or electronics industries or contemplating a dual degree in Physics and either Computer Science or Electrical Engineering.

The minimum total course units (http://www.college.upenn.edu/credits-needed) for graduation in this major is 36. Double majors may entail more course units.

For more information: http://www.physics.upenn.edu/

For information about the General Education requirements, please visit the College of Arts & Sciences Curriculum (https://www.college.upenn.edu/curriculum-structure) page.

Physics: Physical Theory and Experimental Technique, BA

Physics and astronomy are fundamental sciences aimed at discovering the basic principles that govern our universe. Physicists study the interplay between space, time, matter, and energy. Complex behavior in nature is explained in terms of elementary relations between constituent elements and the forces that bind them, over distances ranging from subatomic to cosmic scale. Astronomy encompasses the entire physical universe beyond the earth: the solar system, stars, galaxies, galaxy clusters and superclusters, quasars, and the large-scale structure of the universe. The basic tools in physics and astronomy are mathematics and experimental investigation and observation of the world around us.
At Penn, the curriculum for undergraduate Physics majors, which includes extensive laboratory experience, is based on faculty strengths in Condensed Matter Physics, Elementary Particle Physics, and Astrophysics. Undergraduate teaching is linked to faculty research efforts in these areas, and participation by undergraduates in research is strongly encouraged.

This concentration is particularly appropriate for students contemplating graduate study in Physics. It provides a sound basis in Physics and Mathematics with ample opportunities to take elective or even graduate courses and participate in research.

The minimum total course units (http://www.college.upenn.edu/credits-needed) for graduation in this major is 36. Double majors may entail more course units.

For more information: http://www.physics.upenn.edu/

For information about the General Education requirements, please visit the College of Arts & Sciences Curriculum (https://www.college.upenn.edu/curriculum-structure) page.

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### Political Science: American Politics, BA

Political Science explores systematic approaches to understanding politics. Students may choose to take a general approach to the subject or pursue a concentration in the sub-fields of American politics, comparative politics, international relations or political theory. In addition, students may select a world region for an area studies concentration.

The minimum total course units (http://www.college.upenn.edu/credits-needed) for graduation in this major is 32. Double majors may entail more course units.

Minimum 9 course units in Political Science. 6 course units must be taken in the Political Science Department at the University of Pennsylvania (includes Washington, DC Semester). (See Major Program Booklet for Transfer and AP credit restrictions.)

For more information: http://www.sas.upenn.edu/polisci/content/undergraduate-program

For information about the General Education requirements, please visit the College of Arts & Sciences Curriculum (https://www.college.upenn.edu/curriculum-structure) page.

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</tr>
<tr>
<td>PHYS 499</td>
<td>Senior Honor Thesis (Semester 2)</td>
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</tbody>
</table>

Honors

Applicants must have a minimum GPA of 3.3 in Major-related courses.

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<tr>
<td>PHYS 499</td>
<td>Senior Honor Thesis (Semester 2)</td>
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</table>

Thesis Accepted

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The degree and major requirements displayed are intended as a guide for students entering in the Fall of 2017 and later. Students should consult with their academic program regarding final certifications and requirements for graduation.
PSCI 110 Introduction to Comparative Politics
PSCI 130 Introduction to American Politics
PSCI 150 Introduction to International Relations
PSCI 180 Ancient Political Thought
or PSCI 181 Modern Political Thought

Subfield Requirement
Select 1 course in three of the four subfields: 3
- American Politics
- Comparative Politics
- International Relations
- Political Theory

PSCI or Major Related Electives
Select 7 course units of PSCI or Major Related Electives 2 7

Total Course Units 32

1 You may count no more than one course toward both a Major and a Sector requirement. For Exceptions, check the Policy Statement (http://www.college.upenn.edu/sectors-policy).
2 A maximum of three non-PSCI allowed.

American Politics Concentration

Code Title Course Units
Select 5 course units of Concentration courses in consultation with the faculty advisor with three course units in PSCI 5

Total Course Units 5

Honors

Required: A minimum overall GPA of 3.3 and a 3.6 GPA in all PSCI courses taken in the major.

Code Title Course Units
PSCI 497 Political Science Honors (Fall of Senior Year) 1
PSCI 499 Independent Study - Honors (Spring of Senior Year) 1

The degree and major requirements displayed are intended as a guide for students entering in the Fall of 2017 and later. Students should consult with their academic program regarding final certifications and requirements for graduation.

Political Science: Comparative Politics, BA

Political Science explores systematic approaches to understanding politics. Students may choose to take a general approach to the subject or pursue a concentration in the sub-fields of American politics, comparative politics, international relations or political theory. In addition students may select a world region for an area studies concentration. The Political Science Department's course offerings span the discipline of political science, from American political institutions, to the politics of world regions, the emergence of a new international order, and recent and ancient political ideas. The Department's curriculum is divided into the four standard fields of American politics, comparative politics, international relations, and political theories. There are also other opportunities for study in political processes of elections and communications and public policy.

The minimum total course units (http://www.college.upenn.edu/credits-needed) for graduation in this major is 32. Double majors may entail more course units.

Minimum 9 course units in Political Science. 6 course units must be taken in the Political Science Department at the University of Pennsylvania (includes Washington, DC Semester). (See Major Program Booklet for Transfer and AP credit restrictions.)

For more information: http://www.sas.upenn.edu/polisci/content/undergraduate-program

For information about the General Education requirements, please visit the College of Arts & Sciences Curriculum (https://www.college.upenn.edu/curriculum-structure) page.

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<td>Foundational Approaches + Sectors 1 + Free Electives</td>
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<td></td>
<td>Major Requirements</td>
<td></td>
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<td>Core Requirement</td>
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<td></td>
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<td></td>
</tr>
<tr>
<td></td>
<td>PSCI 130 Introduction to American Politics</td>
<td></td>
</tr>
<tr>
<td></td>
<td>PSCI 150 Introduction to International Relations</td>
<td></td>
</tr>
<tr>
<td></td>
<td>PSCI 180 Ancient Political Thought</td>
<td></td>
</tr>
<tr>
<td></td>
<td>or PSCI 181 Modern Political Thought</td>
<td></td>
</tr>
<tr>
<td></td>
<td>PSCI or Major Related Electives</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Select 7 course units of PSCI or Major Related Electives 2</td>
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1 You may count no more than one course toward both a Major and a Sector requirement. For Exceptions, check the Policy Statement (http://www.college.upenn.edu/sectors-policy).
2 A maximum of three non-PSCI allowed.

Comparative Politics Concentration

Code Title Course Units

Concentration Requirements
Select 5 course units of Concentration courses in consultation with the faculty advisor with three course units in PSCI

| Total Course Units | 5 |

Honors

Required: A minimum overall GPA of 3.3 and a 3.6 GPA in all PSCI courses taken in the major.

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<th>Code</th>
<th>Title</th>
<th>Course Units</th>
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<td>PSCI 497</td>
<td>Political Science Honors (Fall of Senior Year)</td>
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<tr>
<td>PSCI 499</td>
<td>Independent Study - Honors (Spring of Senior Year)</td>
<td>1</td>
</tr>
</tbody>
</table>

The degree and major requirements displayed are intended as a guide for students entering in the Fall of 2017 and later. Students should consult with their academic program regarding final certifications and requirements for graduation.

Political Science: General Political Science, BA

Political Science explores systematic approaches to understanding politics. Students may choose to take a general approach to the subject or pursue a concentration in the sub-fields of American politics, comparative politics, international relations or political theory. In addition students may select a world region for an area studies concentration.

The Political Science Department's course offerings span the discipline of political science, from American political institutions, to the politics of world regions, the emergence of a new international order, and recent and ancient political ideas. The Department's curriculum is divided into the four standard fields of American politics, comparative politics, international relations, and political theories. There are also other opportunities for study in political processes of elections and communications and public policy.

The minimum total course units (http://www.college.upenn.edu/credits-needed) for graduation in this major is 32. Double majors may entail more course units.

Minimum 9 course units in Political Science. 6 course units must be taken in the Political Science Department at the University of Pennsylvania (includes Washington, DC Semester). (See Major Program Booklet for Transfer and AP credit restrictions.)

For more information: http://www.sas.upenn.edu/polisci/content/undergraduate-program

For information about the General Education requirements, please visit the College of Arts & Sciences Curriculum (https://www.college.upenn.edu/curriculum-structure) page.

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<td>PSCI 497</td>
<td>Political Science Honors (Fall of Senior Year)</td>
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<tr>
<td>PSCI 499</td>
<td>Independent Study - Honors (Spring of Senior Year)</td>
<td>1</td>
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</table>

Total Course Units 32

1 You may count no more than one course toward both a Major and a Sector requirement. For Exceptions, check the Policy Statement (http://www.college.upenn.edu/sectors-policy).

2 A maximum of three non-PSCI allowed.

Honors

Applicants must have 3.3 overall GPA and a 3.6 GPA in all PSCI courses taken in the major.

<table>
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<tr>
<th>Code</th>
<th>Title</th>
<th>Course Units</th>
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<tr>
<td>PSCI 499</td>
<td>Independent Study - Honors (Spring of Senior Year)</td>
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The degree and major requirements displayed are intended as a guide for students entering in the Fall of 2017 and later. Students should consult with their academic program regarding final certifications and requirements for graduation.

Political Science: Individualized, BA

Political Science explores systematic approaches to understanding politics. Students may choose to take a general approach to the subject or pursue a concentration in the sub-fields of American politics, comparative politics, international relations or political theory. In addition students may select a world region for an area studies concentration.

The Political Science Department's course offerings span the discipline of political science, from American political institutions, to the politics of world regions, the emergence of a new international order, and recent and ancient political ideas. The Department's curriculum is divided into the four standard fields of American politics, comparative politics, international relations, and political theories. There are also other opportunities for study in political processes of elections and communications and public policy.
The minimum total course units (http://www.college.upenn.edu/credits-needed) for graduation in this major is 32. Double majors may entail more course units.

Minimum 9 course units in Political Science. 6 course units must be taken in the Political Science Department at the University of Pennsylvania (includes Washington, DC Semester). (See Major Program Booklet for Transfer and AP credit restrictions.)

For more information: http://www.sas.upenn.edu/polisci/content/undergraduate-program

For information about the General Education requirements, please visit the College of Arts & Sciences Curriculum (https://www.college.upenn.edu/curriculum-structure) page.

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<td>PSCI 497</td>
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</tr>
<tr>
<td>PSCI 499</td>
<td>Independent Study - Honors (Spring of Senior Year)</td>
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</table>

The degree and major requirements displayed are intended as a guide for students entering in the Fall of 2017 and later. Students should consult with their academic program regarding final certifications and requirements for graduation.

**Political Science: International Relations, BA**

Political Science explores systematic approaches to understanding politics. Students may choose to take a general approach to the subject or pursue a concentration in the sub-fields of American politics, comparative politics, international relations or political theory. In addition students may select a world region for an area studies concentration. The Political Science Department's course offerings span the discipline of political science, from American political institutions, to the politics of world regions, the emergence of a new international order, and recent and ancient political ideas. The Department's curriculum is divided into the four standard fields of American politics, comparative politics, international relations, and political theories. There are also other opportunities for study in political processes of elections and communications and public policy.

The minimum total course units (http://www.college.upenn.edu/credits-needed) for graduation in this major is 32. Double majors may entail more course units.

Minimum 9 course units in Political Science. 6 course units must be taken in the Political Science Department at the University of Pennsylvania (includes Washington, DC Semester). (See Major Program Booklet for Transfer and AP credit restrictions.)

For more information: http://www.sas.upenn.edu/polisci/content/undergraduate-program

For information about the General Education requirements, please visit the College of Arts & Sciences Curriculum (https://www.college.upenn.edu/curriculum-structure) page.

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<td>PSCI 499</td>
<td>Independent Study - Honors (Spring of Senior Year)</td>
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</table>

**Individualized Major Concentration**

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<tr>
<th>Code</th>
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<tr>
<td>PSCI 110</td>
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<tr>
<td>PSCI 130</td>
<td>Introduction to American Politics</td>
<td></td>
</tr>
<tr>
<td>PSCI 150</td>
<td>Introduction to International Relations</td>
<td></td>
</tr>
<tr>
<td>PSCI 180</td>
<td>Ancient Political Thought</td>
<td></td>
</tr>
<tr>
<td>or PSCI 181 Modern Political Thought</td>
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</tr>
</tbody>
</table>

1. You may count no more than one course toward both a Major and a Sector requirement. For Exceptions, check the Policy Statement (http://www.college.upenn.edu/sectors-policy).

2. A maximum of three non-PSCI allowed.

**Honors**

**Required:** A minimum overall GPA of 3.3 and a 3.6 GPA in all PSCI courses taken in the major.
Subfield Requirement
Select 1 course in three of the four subfields: 3
- American Politics
- Comparative Politics
- International Relations
- Political Theory

PSCI or Major Related Electives
Select 7 course units of PSCI or Major Related Electives 2 7

Total Course Units 32

You may count no more than one course toward both a Major and a Sector requirement. For Exceptions, check the Policy Statement (http://www.college.upenn.edu/sectors-policy).

A maximum of three non-PSCI allowed.

International Relations Concentration

Concentration Requirements
Select 5 course units of Concentration courses in consultation with the faculty advisor with three course units in PSCI 5

Total Course Units 5

Honors

Required: A minimum overall GPA of 3.3 and a 3.6 GPA in all PSCI courses taken in the major.

Code Title Course Units
PSCI 497 Political Science Honors (Fall of Senior Year) 1
PSCI 499 Independent Study - Honors (Spring of Senior Year) 1

The degree and major requirements displayed are intended as a guide for students entering in the Fall of 2017 and later. Students should consult with their academic program regarding final certifications and requirements for graduation.

Political Science: Political Economy, BA

Political Science explores systematic approaches to understanding politics. Students may choose to take a general approach to the subject or pursue a concentration in the sub-fields of American politics, comparative politics, international relations or political theory. In addition students may select a world region for an area studies concentration. The Political Science Department's course offerings span the discipline of political science, from American political institutions, to the politics of world regions, the emergence of a new international order, and recent and ancient political ideas. The Department's curriculum is divided into the four standard fields of American politics, comparative politics, international relations, and political theories. There are also other opportunities for study in political processes of elections and communications and public policy.

The minimum total course units (http://www.college.upenn.edu/credits-needed) for graduation in this major is 32. Double majors may entail more course units.

Minimum 9 course units in Political Science. 6 course units must be taken in the Political Science Department at the University of Pennsylvania (includes Washington, DC Semester). (See Major Program Booklet for Transfer and AP credit restrictions.)

For more information: http://www.sas.upenn.edu/polisci/content/undergraduate-program

For information about the General Education requirements, please visit the College of Arts & Sciences Curriculum (https://www.college.upenn.edu/curriculum-structure) page.

Code Title Course Units
College General Education Requirements and Free Electives
- Foundational Approaches + Sectors 1 + Free Electives 20

Major Requirements

Core Requirement
Select 2 course units of the following: 2
- PSCI 110 Introduction to Comparative Politics
- PSCI 130 Introduction to American Politics
- PSCI 150 Introduction to International Relations
- PSCI 180 Ancient Political Thought
  or PSCI 181 Modern Political Thought

Subfield Requirement
Select 1 course in three of the four subfields: 3
- American Politics
- Comparative Politics
- International Relations
- Political Theory

PSCI or Major Related Electives
Select 7 course units of PSCI or Major Related Electives 2 7

Total Course Units 32

You may count no more than one course toward both a Major and a Sector requirement. For Exceptions, check the Policy Statement (http://www.college.upenn.edu/sectors-policy).

A maximum of three non-PSCI allowed.

Political Economy Concentration

Concentration Requirements
Select 5 course units of Concentration courses in consultation with the faculty advisor with three course units in PSCI 5

Total Course Units 5
Honors

**Required:** A minimum overall GPA of 3.3 and a 3.6 GPA in all PSCI courses taken in the major.

<table>
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<tr>
<th>Code</th>
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<th>Course Units</th>
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<td>PSCI 499</td>
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</tbody>
</table>

The degree and major requirements displayed are intended as a guide for students entering in the Fall of 2017 and later. Students should consult with their academic program regarding final certifications and requirements for graduation.

Political Science: Political Theory, BA

Political Science explores systematic approaches to understanding politics. Students may choose to take a general approach to the subject or pursue a concentration in the sub-fields of American politics, comparative politics, international relations or political theory. In addition students may select a world region for an area studies concentration. The Political Science Department's course offerings span the discipline of political science, from American political institutions, to the politics of world regions, the emergence of a new international order, and recent and ancient political ideas. The Department’s curriculum is divided into the four standard fields of American politics, comparative politics, international relations, and political theories. There are also other opportunities for study in political processes of elections and communications and public policy.

The minimum total course units (http://www.college.upenn.edu/credits-needed) for graduation in this major is 32. Double majors may entail more course units.

Minimum 9 course units in Political Science. 6 course units must be taken in the Political Science Department at the University of Pennsylvania (includes Washington, DC Semester). (See Major Program Booklet for Transfer and AP credit restrictions.)

For more information: http://www.sas.upenn.edu/polisci/content/undergraduate-program

For information about the General Education requirements, please visit the College of Arts & Sciences Curriculum (https://www.college.upenn.edu/curriculum-structure) page.

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<td>Introduction to American Politics</td>
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<td></td>
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<tr>
<td>PSCI 180</td>
<td>Ancient Political Thought</td>
<td></td>
</tr>
<tr>
<td>or PSCI 181</td>
<td>Modern Political Thought</td>
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</table>

Subfield Requirement
Select 1 course in three of the four subfields:

- American Politics
- Comparative Politics
- International Relations
- Political Theory

**PSCI or Major Related Electives**
Select 7 course units of PSCI or Major Related Electives

Total Course Units: 32

1. You may count no more than one course toward both a Major and a Sector requirement. For Exceptions, check the Policy Statement (http://www.college.upenn.edu/sectors-policy).
2. A maximum of three non-PSCI allowed.

Psychology, BA

Studies in psychology introduce students to contemporary understandings of how organisms perceive, learn, think and interact with one another, how they develop, how they are motivated and how, individually and as members of species, they may be compared with one another. Psychology at Penn is a diverse discipline, with topics ranging from neuroscience to psychopathology.

The minimum total course units (http://www.college.upenn.edu/credits-needed) for graduation in this major is 33. Double majors may entail more course units.
Minimum GPA of 2.0 Required.

6 course units of Psychology courses must be taken at the University of Pennsylvania.

For more information: http://psychology.sas.upenn.edu/undergraduate

For information about the General Education requirements, please visit the College of Arts & Sciences Curriculum (https://www.college.upenn.edu/curriculum-structure) page.

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<td></td>
<td>Foundational Approaches + Sectors + Free Electives</td>
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<tr>
<td></td>
<td><strong>Major Requirements</strong></td>
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<td><em>Introductory Psychology</em></td>
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<td></td>
<td><strong>Distribution</strong></td>
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<tr>
<td></td>
<td>PSYC 109 Introduction to Brain and Behavior</td>
<td></td>
</tr>
<tr>
<td></td>
<td>PSYC 127 Physiology of Motivated Behaviors</td>
<td></td>
</tr>
<tr>
<td></td>
<td>PSYC 149 Cognitive Neuroscience</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Select 1 course units of Lecture course</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Cognitive Basis of Behavior:</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Select one of the following:</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>PSYC 111 Perception</td>
<td></td>
</tr>
<tr>
<td></td>
<td>PSYC 151 Language and Thought</td>
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<tr>
<td></td>
<td>PSYC 181 Intro to Developmental Psychology</td>
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</tr>
<tr>
<td></td>
<td>Select 1 course units of Lecture course</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Individual &amp; Group Bases of Behavior:</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Select one of the following:</td>
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<tr>
<td></td>
<td>PSYC 160 Personality and Individual Differences</td>
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<tr>
<td></td>
<td>PSYC 162 Abnormal Psychology</td>
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<tr>
<td></td>
<td>PSYC 170 Social Psychology</td>
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<tr>
<td></td>
<td>Select 1 course units of Lecture course</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td><strong>Research Experience</strong></td>
<td></td>
</tr>
<tr>
<td></td>
<td>PSYC 399 Individual Empirical Research (or any 300 level seminar)</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td><strong>Statistics</strong></td>
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</tr>
<tr>
<td></td>
<td>Select one of the following approved courses:</td>
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</tr>
<tr>
<td></td>
<td>STAT 101 Introductory Business Statistics</td>
<td></td>
</tr>
<tr>
<td></td>
<td>STAT 102 Introductory Business Statistics</td>
<td></td>
</tr>
<tr>
<td></td>
<td>STAT 111 Introductory Statistics (day or summer only)</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>STAT 112 Introductory Statistics</td>
<td></td>
</tr>
<tr>
<td></td>
<td>STAT 431 Statistical Inference</td>
<td></td>
</tr>
<tr>
<td></td>
<td>BIOL 446 Statistics for Biologists</td>
<td></td>
</tr>
<tr>
<td></td>
<td>ECON 103 Statistics for Economists</td>
<td></td>
</tr>
<tr>
<td></td>
<td>SOCI 120 Social Statistics</td>
<td></td>
</tr>
<tr>
<td></td>
<td>NURS 230 Statistics for Research and Measurement</td>
<td></td>
</tr>
<tr>
<td></td>
<td>ANTH 454 Quantitative Analysis of Anthropological Data</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td><strong>Elective Psychology Courses</strong></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Select 2 course units of Psychology courses</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>Select 2 course units of Psychology or Approved Non-Psych courses</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>Approved Non-Psych Courses</td>
<td></td>
</tr>
<tr>
<td></td>
<td>ANTH 104 Sex and Human Nature</td>
<td></td>
</tr>
<tr>
<td></td>
<td>ASAM 170 Asian American Psychology</td>
<td></td>
</tr>
<tr>
<td></td>
<td>BIBB 240 Human Chronobiology and Sleep</td>
<td></td>
</tr>
<tr>
<td></td>
<td>CRIM 270 Biopsychosocial Crime</td>
<td></td>
</tr>
<tr>
<td></td>
<td>STAT 102 Introductory Business Statistics</td>
<td></td>
</tr>
<tr>
<td></td>
<td>STAT 112 Introductory Statistics</td>
<td></td>
</tr>
<tr>
<td></td>
<td><strong>Total Course Units</strong></td>
<td>33</td>
</tr>
</tbody>
</table>

1 You may count no more than one course toward both a Major and a Sector requirement. For Exceptions, check the Policy Statement (http://www.college.upenn.edu/sectors-policy).

2 Replacement PSYC course if PSYC 001 Introduction to Experimental Psychology waived by AP 5.

**Honors**

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Course Units</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Select 1 course unit of Second Statistics course</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>PSYC 400 Senior Honors Seminar in Psychology</td>
<td>0.5</td>
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<tr>
<td></td>
<td>PSYC 400 Senior Honors Seminar in Psychology</td>
<td>0.5</td>
</tr>
</tbody>
</table>

The degree and major requirements displayed are intended as a guide for students entering in the Fall of 2017 and later. Students should consult with their academic program regarding final certifications and requirements for graduation.

**Religious Studies, BA**

Religion is a complex network of ideas and actions (ethical and ritual) that express a group's sense of ultimate meaning of life. The academic study of religion examines how the beliefs and values of contemporary and historical cultures shape and are shaped by societal factors, long-standing traditions, and distinctive forms of literary and artistic expression.

Because of the multi-faceted nature of the subject matter, the University of Pennsylvania's Religious Studies major program of study is open to students looking to tailor their educational experience to fit with their own personal and academic areas of interest. Each undergraduate who wishes to major in Religious Studies will meet with the Chair of the Department prior to claiming the major to discuss their desired coursework and create a individualized plan of execution.

As our core faculty shares research foci and skills in the study of material culture (art, manuscripts, archaeology, inscriptions, and other primary historical sources), we are well-suited to lead serious students in intensive research to better prepare them for graduate study which requires research and evaluation skills.

The minimum total course units (http://www.college.upenn.edu/credits-needed) for graduation in this major is 32. Double majors may entail more course units.
For more information: https://www.sas.upenn.edu/religious_studies/undergraduate/major

For information about the General Education requirements, please visit the College of Arts & Sciences Curriculum (https://www.college.upenn.edu/curriculum-structure) page.

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Course Units</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>College General Education Requirements and Free Electives</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Foundational Approaches + Sectors(^1) + Free Electives</td>
<td>20</td>
</tr>
<tr>
<td></td>
<td><strong>Major Requirements</strong></td>
<td></td>
</tr>
<tr>
<td></td>
<td><strong>Colloquium and Culminating Experience</strong></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Select 1 course unit of Major Seminar</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Select 1 course unit of Independent Study/Culminating Experience</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td><strong>Electives</strong></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Select 4 course units of Electives</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td><strong>Total Course Units</strong></td>
<td>32</td>
</tr>
</tbody>
</table>

\(^1\) You may count no more than one course toward both a Major and a Sector requirement. For Exceptions, check the Policy Statement (http://www.college.upenn.edu/sectors-policy).

**Honors**

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Course Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>RELS 399</td>
<td>Directed Reading</td>
<td>1</td>
</tr>
<tr>
<td>RELS 309</td>
<td>Honors Thesis Seminar</td>
<td>1</td>
</tr>
</tbody>
</table>

The degree and major requirements displayed are intended as a guide for students entering in the Fall of 2017 and later. Students should consult with their academic program regarding final certifications and requirements for graduation.

**Romance Languages: French and Italian, BA**

The Dual Romance Languages Major allows students to pursue advanced course work across two Romance Languages: French, Spanish, and/or Italian. It is an 18-credit major, with nine advanced courses in each language. Interested students should contact the Undergraduate Coordinator or the appropriate undergraduate chairs for more information and guidance.

The minimum total course units (http://www.college.upenn.edu/credits-needed) for graduation in this major is 36. Double majors may entail more course units.

A combination of two languages; 9 course units in each.

Students are required to meet with the appropriate undergraduate chairs prior to beginning course work. Study Abroad courses must be pre-approved by the Undergraduate Chair to count for the major.

For more information: http://ccat.sas.upenn.edu/roml/

For information about the General Education requirements, please visit the College of Arts & Sciences Curriculum (https://www.college.upenn.edu/curriculum-structure) page.

<table>
<thead>
<tr>
<th>Code</th>
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<th>Course Units</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>College General Education Requirements and Free Electives</td>
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</tr>
<tr>
<td></td>
<td>Foundational Approaches + Sectors(^1) + Free Electives</td>
<td>18</td>
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<tr>
<td></td>
<td><strong>Major Requirements</strong></td>
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</tr>
<tr>
<td></td>
<td>French Studies</td>
<td></td>
</tr>
<tr>
<td></td>
<td><strong>Core Requirement:</strong></td>
<td></td>
</tr>
<tr>
<td></td>
<td>FREN 212</td>
<td>Advanced French Grammar and Composition</td>
</tr>
<tr>
<td></td>
<td>or FREN 214</td>
<td>Advanced French Composition and Conversation</td>
</tr>
<tr>
<td></td>
<td>FREN 231</td>
<td>Perspectives in French Literature</td>
</tr>
<tr>
<td></td>
<td>or FREN 232</td>
<td>Perspectives in French Literature: The Individual and Society</td>
</tr>
<tr>
<td></td>
<td>FREN 226</td>
<td>French History and Culture until 1789</td>
</tr>
<tr>
<td></td>
<td>FREN 227</td>
<td>French History and Culture 1789-1945</td>
</tr>
<tr>
<td></td>
<td>200 or 300 Level Courses:</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Select 2 course units of 200 or 300 Level courses</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>300 Level Courses:</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Select 3 course units of 300 Level courses with only 1 course unit in Major Related courses</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td><strong>Italian Studies</strong></td>
<td></td>
</tr>
<tr>
<td></td>
<td><strong>Core Requirement:</strong></td>
<td></td>
</tr>
<tr>
<td></td>
<td>ITAL 201</td>
<td>Advanced Italian I</td>
</tr>
<tr>
<td></td>
<td>ITAL 203</td>
<td>Masterpieces-Italian Literature</td>
</tr>
<tr>
<td></td>
<td>ITAL 202</td>
<td>Advanced Italian II</td>
</tr>
<tr>
<td></td>
<td><strong>Electives:</strong></td>
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</tr>
<tr>
<td></td>
<td>Select 6 course units of Electives with no more than two courses taught in English</td>
<td>6</td>
</tr>
<tr>
<td></td>
<td><strong>Research Requirement</strong></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Complete Research Requirement in the Department at Penn</td>
<td></td>
</tr>
<tr>
<td></td>
<td><strong>Total Course Units</strong></td>
<td>36</td>
</tr>
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</table>

\(^1\) You may count no more than one course toward both a Major and a Sector requirement. For Exceptions, check the Policy Statement (http://www.college.upenn.edu/sectors-policy).

\(^2\) Must be taken in the Department at Penn.

**Honors**

Applicant must have a minimum GPA of 3.5 in the Major and a GPA of 3.3 overall. (Only one 398 need be taken, must be taken in the Department at Penn.)

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Course Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>FREN 398</td>
<td>Honors Thesis</td>
<td></td>
</tr>
<tr>
<td>ITAL 398</td>
<td>Honors Thesis</td>
<td></td>
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</tbody>
</table>
The degree and major requirements displayed are intended as a guide for students entering in the Fall of 2017 and later. Students should consult with their academic program regarding final certifications and requirements for graduation.

### Romance Languages: French and Spanish, BA

The Dual Romance Languages Major allows students to pursue advanced course work across two Romance Languages: French, Spanish, and/or Italian. It is an 18-credit major, with nine advanced courses in each language. Interested students should contact the Undergraduate Coordinator or the appropriate undergraduate chairs for more information and guidance.

The minimum total course units (http://www.college.upenn.edu/credits-needed) for graduation in this major is 36. Double majors may entail more course units.

A combination of two languages; 9 course units in each.

Students are required to meet with the appropriate undergraduate chairs prior to beginning course work. Study Abroad courses must be pre-approved by the Undergraduate Chair to count for the major.

For more information: http://ccat.sas.upenn.edu/roml/

For information about the General Education requirements, please visit the College of Arts & Sciences Curriculum (https://www.college.upenn.edu/curriculum-structure) page.

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Units</th>
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<tbody>
<tr>
<td><strong>College General Education Requirements and Free Electives</strong></td>
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<td></td>
</tr>
<tr>
<td>Foundational Approaches + Sectors + Free Electives</td>
<td></td>
<td>18</td>
</tr>
<tr>
<td><strong>Major Requirements</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>French Studies</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Core Requirement:</td>
<td></td>
<td>2</td>
</tr>
<tr>
<td>FREN 212</td>
<td>Advanced French Grammar and Composition</td>
<td>1</td>
</tr>
<tr>
<td>or FREN 214</td>
<td>Advanced French Composition and Conversation</td>
<td></td>
</tr>
<tr>
<td>FREN 231</td>
<td>Perspectives in French Literature</td>
<td>1</td>
</tr>
<tr>
<td>or FREN 232</td>
<td>Perspectives in French Literature: The Individual and Society</td>
<td></td>
</tr>
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<td>FREN 226</td>
<td>French History and Culture until 1789</td>
<td>1</td>
</tr>
<tr>
<td>FREN 227</td>
<td>French History and Culture 1789-1945</td>
<td>1</td>
</tr>
<tr>
<td>200 or 300 Level Courses:</td>
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<td></td>
</tr>
<tr>
<td>Select 2 course units of 200 or 300 Level courses</td>
<td></td>
<td>2</td>
</tr>
<tr>
<td>300 Level Courses:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Select 3 course units of 300 Level courses with only 1 course unit in Major Related courses</td>
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<td>3</td>
</tr>
<tr>
<td><strong>Hispanic Studies</strong></td>
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<td></td>
</tr>
<tr>
<td>Core Requirement:</td>
<td></td>
<td>2</td>
</tr>
<tr>
<td>SPAN 212</td>
<td>Advanced Spanish II: Grammar and Composition</td>
<td>1</td>
</tr>
</tbody>
</table>

### Honors

Applicant must have a minimum GPA of 3.5 in the Major and a GPA of 3.3 overall. (Only one 398 need be taken, must be taken in the Department at Penn.)

For more information: http://ccat.sas.upenn.edu/roml/

### Romance Languages: Italian and Spanish, BA

The Dual Romance Languages Major allows students to pursue advanced course work across two Romance Languages: French, Spanish, and/or Italian. It is an 18-credit major, with nine advanced courses in each language. Interested students should contact the Undergraduate Coordinator or the appropriate undergraduate chairs for more information and guidance.

The minimum total course units (http://www.college.upenn.edu/credits-needed) for graduation in this major is 36. Double majors may entail more course units.

A combination of 2 languages; 9 course units in each.

Students are required to meet with the appropriate undergraduate chairs prior to beginning course work. Study Abroad courses must be pre-approved by the Undergraduate Chair to count for the major.

For more information: http://ccat.sas.upenn.edu/roml/
### Russian: Culture and History, BA

The major in Russian and East European Studies (12 c.u.) provides a program of study that enables a broad multi-disciplinary and multi-cultural understanding of the languages, literatures, cultures, histories, and societies of Russia, Central and Eastern European, and the Balkan and Baltic regions. For the language requirement, students can choose any regional language offered at Penn (i.e., Bosnian/Croatian/Serbian, Hungarian, Polish, Russian, Ukrainian) or in which they can demonstrate an equivalent proficiency. In addition to linguistic flexibility, this major allows students to pursue their specific disciplinary interests through three concentrations: Language, Literature, and Culture; History, Politics, and Society; and Cinema, Arts, and Letters. Majors are encouraged to complete a summer or semester abroad to gain first-hand understanding of the communities they study and to advance their language competency. The major also offers an honors option.

Knowledge of Russian and East European languages and cultures is a marketable and impressive skill, whether you are in academia, arts, law, medicine, governmental service, public interest, business, or politics. Russian and East European majors and minors land jobs in a variety of settings. They go on to work in business as financial and policy analysts for American and foreign companies. They work for NGOs, publishing houses, or the media. They teach abroad and consult in marketing, advertising, aerospace, or computer engineering. And, of course, some work as educators in universities and schools and as employees of the US government.

The minimum total course units (http://www.college.upenn.edu/credits-needed) for graduation in this major is 32. Double majors may entail more course units.

**For more information:** [http://ccat.sas.upenn.edu/slavic](http://ccat.sas.upenn.edu/slavic)

For information about the General Education requirements, please visit the College of Arts & Sciences Curriculum (https://www.college.upenn.edu/curriculum-structure) page.

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Course Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>RUSS 004</td>
<td>Intermediate Russian II</td>
<td>1</td>
</tr>
<tr>
<td>RUSS 361</td>
<td>Russian for Heritage Speakers II</td>
<td>1</td>
</tr>
<tr>
<td>HIST/ RUSS 048</td>
<td>The Rise and Fall of the Russian Empire, 1552-1917</td>
<td>1</td>
</tr>
<tr>
<td>HIST/ RUSS 049</td>
<td>The Soviet Century, 1917-1991</td>
<td>1</td>
</tr>
</tbody>
</table>

#### Core Courses

Select 4 course units of Core Courses

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Course Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>RUSS 136/</td>
<td>Portraits of Russian Society: Art, Fiction, Drama</td>
<td>1</td>
</tr>
<tr>
<td>HIST 047</td>
<td></td>
<td></td>
</tr>
<tr>
<td>RUSS 187/</td>
<td>Portraits of Soviet Society: Literature, Film, Drama</td>
<td>1</td>
</tr>
<tr>
<td>HIST 046</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

#### Electives

The degree and major requirements displayed are intended as a guide for students entering in the Fall of 2017 and later. Students should consult with their academic program regarding final certifications and requirements for graduation.
Select 4 course units of Electives

Total Course Units 32

You may count no more than one course toward both a Major and a Sector requirement. For Exceptions, check the Policy Statement (http://www.college.upenn.edu/sectors-policy).

Check Department website for list of suggested courses.

May include advanced language courses and any Russia related course offered by any Department.

Honors

Applicants must have a minimum overall 3.3 and a GPA of 3.5 in the Major.

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Course Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>RUSS 399</td>
<td>Supervised Work</td>
<td>1</td>
</tr>
</tbody>
</table>

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Russian: Language, Literature and Culture, BA

The major in Russian and East European Studies (12 c.u.) provides a program of study that enables a broad multi-disciplinary and multi-cultural understanding of the languages, literatures, cultures, histories, and societies of Russia, Central and Eastern European, and the Balkan and Baltic regions. For the language requirement, students can choose any regional language offered at Penn (i.e. Bosnian/Croatian/Serbian, Hungarian, Polish, Russian, Ukrainian) or in which they can demonstrate an equivalent proficiency. In addition to linguistic flexibility, the major allows students to pursue their specific disciplinary interests through three concentrations: Language, Literature, and Culture; History, Politics, and Society; and Cinema, Arts, and Letters. Majors are encouraged to complete a summer or semester abroad to gain first-hand understanding of the communities they study and to advance their language competency. The major offers an honors option.

Knowledge of Russian and East European languages and cultures is a marketable and impressive skill, whether you are in academia, arts, law, medicine, governmental service, public interest, business, or politics. Russian and East European majors and minors land jobs in a variety of settings. They go on to work in business as financial and policy analysts for American and foreign companies. They work for NGOs, publishing houses, or the media. They teach abroad and consult in marketing, advertising, aerospace, or computer engineering. And, of course, some work as educators in universities and schools and as employees of the US government.

The minimum total course units (http://www.college.upenn.edu/credits-needed) for graduation in this major is 32. Double majors may entail more course units.

For more information: http://ccat.sas.upenn.edu/slavic

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<th>Title</th>
<th>Course Units</th>
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</thead>
<tbody>
<tr>
<td>RUSS 399</td>
<td>Supervised Work</td>
<td>1</td>
</tr>
</tbody>
</table>

Honors

Applicants must have a minimum overall 3.3 and a GPA of 3.5 in the Major.

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Course Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>RUSS 399</td>
<td>Supervised Work</td>
<td>1</td>
</tr>
</tbody>
</table>

The degree and major requirements displayed are intended as a guide for students entering in the Fall of 2017 and later. Students should consult with their academic program regarding final certifications and requirements for graduation.
Science, Technology and Society: Biotechnology & Biomedicine, BA

Science, Technology & Society (STSC) examines the social contexts in which science and technology occur, the organizations of people and things that make up science and technology systems, and the social and cultural consequences of scientific and technological change over time. In a wide array of courses, STSC majors explore the relationship between scientific knowledge, technological innovations, technological systems, and society past and present.

This program equips students with sophisticated critical faculties, multidisciplinary skills and wide knowledge that enables our graduates to go into business, law, government, journalism, research, and education. STSC provides a foundation for citizenship in a globalizing, diversifying world with rapid technological and scientific change.

The minimum total course units (http://www.college.upenn.edu/credits-needed) for graduation in this major is 34. Double majors may entail more course units.

For more information: https://hss.sas.upenn.edu/undergraduate/stsc-major/science-technology-society-requirements

For information about the General Education requirements, please visit the College of Arts & Sciences Curriculum (https://www.college.upenn.edu/curriculum-structure) page.

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Course Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>STSC 001</td>
<td>Emergence of Modern Science</td>
<td>1</td>
</tr>
<tr>
<td>or STSC 003</td>
<td>Technology and Society</td>
<td></td>
</tr>
<tr>
<td>STSC 160</td>
<td>The History of the Information Age</td>
<td>1</td>
</tr>
<tr>
<td>or STSC 168</td>
<td>Environment and Society</td>
<td></td>
</tr>
<tr>
<td>or STSC 212</td>
<td>Science Technology and War</td>
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</tbody>
</table>

Honors

Applicants must have a minimum GPA of 3.5 in the Major and 3.0 Overall.

<table>
<thead>
<tr>
<th>Code</th>
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<th>Course Units</th>
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</thead>
<tbody>
<tr>
<td>STSC 400</td>
<td>Undergraduate Seminar in Science Technology and Society</td>
<td>1</td>
</tr>
<tr>
<td>STSC 498</td>
<td>Honors Thesis</td>
<td>1</td>
</tr>
</tbody>
</table>

The degree and major requirements displayed are intended as a guide for students entering in the Fall of 2017 and later. Students should consult with their academic program regarding final certifications and requirements for graduation.

Science, Technology and Society: Energy and Environment, BA

Science, Technology & Society (STSC) examines the social contexts in which science and technology occur, the organizations of people and things that make up science and technology systems, and the social and cultural consequences of scientific and technological change over time. In a wide array of courses, STSC majors explore the relationship between scientific knowledge, technological innovations, technological systems, and society past and present.

This program equips students with sophisticated critical faculties, multidisciplinary skills and wide knowledge that enables our graduates to go into business, law, government, journalism, research, and education. STSC provides a foundation for citizenship in a globalizing, diversifying world with rapid technological and scientific change.

The minimum total course units (http://www.college.upenn.edu/credits-needed) for graduation in this major is 34. Double majors may entail more course units.

For more information: https://hss.sas.upenn.edu/undergraduate/stsc-major/science-technology-society-requirements

For information about the General Education requirements, please visit the College of Arts & Sciences Curriculum (https://www.college.upenn.edu/curriculum-structure) page.

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<tbody>
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<td>or STSC 003</td>
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1 You may count no more than one course toward both a Major and a Sector requirement. For Exceptions, check the Policy Statement (http://www.college.upenn.edu/sectors-policy).
2 See list of pre-approved courses on the STSC website.
3 See the STSC website for a list of pre-approved courses.
STSC Electives
Select 7 course units of STSC Electives  
Energy, & Environment sub-major
Select 4 course units of Energy, & Environment  
Capstone Research Requirement
Select 1 course unit of 400-level STSC Research Seminar

Total Course Units 34

1 You may count no more than one course toward both a Major and a Sector requirement. For Exceptions, check the Policy Statement (http://www.college.upenn.edu/sectors-policy).
2 See list of pre-approved courses on the STSC website.
3 See the STSC website for a list of pre-approved electives.

Honors
Applicants must have a minimum GPA of 3.5 in the Major and 3.0 Overall.

Science, Technology and Society: Global Science and Technology, BA
Science, Technology & Society (STSC) examines the social contexts in which science and technology occur, the organizations of people and things that make up science and technology systems, and the social and cultural consequences of scientific and technological change over time. In a wide array of courses, STSC majors explore the relationship between scientific knowledge, technological innovations, technological systems, and society past and present.

This program equips students with sophisticated critical faculties, multidisciplinary skills and wide knowledge that enables our graduates to go into business, law, government, journalism, research, and education. STSC provides a foundation for citizenship in a globalizing, diversifying world with rapid technological and scientific change.

The minimum total course units (http://www.college.upenn.edu/credits-needed) for graduation in this major is 34. Double majors may entail more course units.

For more information: https://hss.sas.upenn.edu/undergraduate/stsc-major/science-technology-society-requirements

For information about the General Education requirements, please visit the College of Arts & Sciences Curriculum (https://www.college.upenn.edu/curriculum-structure) page.

Honors
Applicants must have a minimum GPA of 3.5 in the Major and 3.0 Overall.

Science, Technology and Society: Information and Organizations, BA
Science, Technology & Society (STSC) examines the social contexts in which science and technology occur, the organizations of people and things that make up science and technology systems, and the social and cultural consequences of scientific and technological change over time. In a wide array of courses, STSC majors explore the relationship between scientific knowledge, technological innovations, technological systems, and society past and present.

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The minimum total course units (http://www.college.upenn.edu/credits-needed) for graduation in this major is 34. Double majors may entail more course units.

For more information: https://hss.sas.upenn.edu/undergraduate/stsc-major/science-technology-society-requirements

For information about the General Education requirements, please visit the College of Arts & Sciences Curriculum (https://www.college.upenn.edu/curriculum-structure) page.

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<td></td>
<td>Foundational Approaches + Sectors + Free Electives</td>
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<td>Major Requirements</td>
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<td></td>
<td>Core Courses</td>
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<td>or STSC 003</td>
<td>Technology and Society</td>
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<td>STSC 160</td>
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<td>or STSC 168</td>
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<tr>
<td>or STSC 212</td>
<td>Science Technology and War</td>
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<tr>
<td>STSC Electives</td>
<td>Can also be satisfied by</td>
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</tr>
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<td>STSC 001</td>
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<tr>
<td>&amp; STSC 003</td>
<td>Technology and Society</td>
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</tr>
<tr>
<td>STSC 400</td>
<td>Undergraduate Seminar in Science Technology and Society</td>
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</tr>
<tr>
<td>STSC 498</td>
<td>Honors Thesis</td>
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The degree and major requirements displayed are intended as a guide for students entering in the Fall of 2017 and later. Students should consult with their academic program regarding final certifications and requirements for graduation.

### Science, Technology and Society: Science/Nature/Culture, BA

Science, Technology & Society (STSC) examines the social contexts in which science and technology occur, the organizations of people and things that make up science and technology systems, and the social and cultural consequences of scientific and technological change over time. In a wide array of courses, STSC majors explore the relationship between scientific knowledge, technological innovations, technological systems, and society past and present.

This program equips students with sophisticated critical faculties, multidisciplinary skills and wide knowledge that enables our graduates to go into business, law, government, journalism, research, and education. STSC provides a foundation for citizenship in a globalizing, diversifying world with rapid technological and scientific change.

The minimum total course units (http://www.college.upenn.edu/credits-needed) for graduation in this major is 34. Double majors may entail more course units.

For more information: https://hss.sas.upenn.edu/undergraduate/science-technology-and-society-major

For information about the General Education requirements, please visit the College of Arts & Sciences Curriculum (https://www.college.upenn.edu/curriculum-structure) page.

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<tr>
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<td></td>
<td>Foundational Approaches + Sectors + Free Electives</td>
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<td>Honors Thesis</td>
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Applicants must have a minimum GPA of 3.5 in the Major and 3.0 Overall.

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<th>Code</th>
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<tr>
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<td>Code Title Course Units</td>
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<td></td>
<td>Honors</td>
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<tr>
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<th>Course Units</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>Science/Nature/Culture Sub-major</td>
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</tr>
<tr>
<td></td>
<td>Select 4 course units of Information Technologies &amp; Organizations Concentration courses</td>
<td>4</td>
</tr>
<tr>
<td>Capstone Research Requirement</td>
<td>Select 1 course unit of 400-level STSC Research Seminar</td>
<td>1</td>
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</tbody>
</table>

Total Course Units 34

1. You may count no more than one course toward both a Major and a Sector requirement. For Exceptions, check the Policy Statement (http://www.college.upenn.edu/sectors-policy).
2. See list of pre-approved courses on the STSC website.
3. See STSC website for list of approved electives.
Honors
Applicants must have a minimum GPA of 3.5 in the Major and 3.0 Overall.

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The degree and major requirements displayed are intended as a guide for students entering in the Fall of 2017 and later. Students should consult with their academic program regarding final certifications and requirements for graduation.

Sociology: Global and International Studies, BA

The Sociology major helps students identify and explain patterns of social life and human behavior by emphasizing how large-scale social phenomena (such as class, race, and gender inequality) affect the everyday experiences of individuals and vice versa. The major prepares students for a career in a variety of fields such as law, medicine and healthcare, marketing, education, scholarly and applied social research, social work, demography, journalism and media, management in the public and private sectors, administration, and government. The program offers comprehensive advising and significant research and independent study opportunities. Our program is dedicated to nurturing a strong community of scholars, helping them grow academically and professionally under the large-scale mission of the College of Arts & Sciences.

In this concentration, students examine a variety of global and international issues such as immigration, urbanism, demographic change, world health, and the persistence of social inequality.

The minimum total course units (http://www.college.upenn.edu/credits-needed) for graduation in this major is 34. Double majors may entail more course units.

Minimum 11 course units must be in Sociology.

For more information: https://sociology.sas.upenn.edu/global_international_studies

For information about the General Education requirements, please visit the College of Arts & Sciences Curriculum (https://www.college.upenn.edu/curriculum-structure) page.

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<tr>
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<tr>
<td></td>
<td>Foundational Approaches + Sectors + Free Electives</td>
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</table>

Major Requirements

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Course Units</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>Introductory Course</td>
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<tr>
<td>SOCI 001</td>
<td>Introduction to Sociology</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Sociological Theory</td>
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<tr>
<td></td>
<td>Select 1 course units of Sociological Theory course</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Social Research Methods</td>
<td></td>
</tr>
</tbody>
</table>

Global & International Studies Concentration

Select 3 course units of Concentration courses

Additional SOCI Courses

Select 4 course units of SOCI Free courses

SOCI or Related Courses

Select 2 course units of SOCI or Related courses

Research Poster
Complete Research Poster
Total Course Units 34

You may count no more than one course toward both a Major and a Sector requirement. For Exceptions, check the Policy Statement (http://www.college.upenn.edu/sectors-policy).

Students are encouraged to take some courses outside of their concentration.

Honors

The CU requirements for honors count toward the 14 CUs needed to complete the Sociology major.

Applicants must have an overall GPA of 3.3 and a GPA of 3.5 in the Major

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Course Units</th>
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<tbody>
<tr>
<td>SOCI 300</td>
<td>Thesis Workshop</td>
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</tr>
<tr>
<td>SOCI 301</td>
<td>Thesis Workshop II</td>
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</tr>
<tr>
<td>SOCI 399</td>
<td>Independent Study (Or Approved Course)</td>
<td></td>
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<tr>
<td></td>
<td>Senior Thesis</td>
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The degree and major requirements displayed are intended as a guide for students entering in the Fall of 2017 and later. Students should consult with their academic program regarding final certifications and requirements for graduation.

Sociology: Law and Society, BA

The Sociology major helps students identify and explain patterns of social life and human behavior by emphasizing how large-scale social phenomena (such as class, race, and gender inequality) affect the everyday experiences of individuals and vice versa. The major prepares students for a career in a variety of fields such as law, medicine and healthcare, marketing, education, scholarly and applied social research, social work, demography, journalism and media, management in the public and private sectors, administration, and government. The program offers comprehensive advising and significant research and independent study opportunities. Our program is dedicated to nurturing a strong community of scholars, helping them grow academically and professionally under the large-scale mission of the College of Arts & Sciences.

Sociologists study institutions, and among the most important is the law. This concentration examines issues such as: What is deviance and how do we define it? What is the relationship between the law and other
social institutions? The concentration is suitable for students with a variety of interests, but may be especially well-suited to those interested in careers in law and criminal justice.

The minimum total course units (http://www.college.upenn.edu/credits-needed) for graduation in this major is 34. Double majors may entail more course units.

Minimum 11 course units must be in Sociology.

For more information: https://sociology.sas.upenn.edu/content/concentrations-sociology-law-and-society

For information about the General Education requirements, please visit the College of Arts & Sciences Curriculum (https://www.college.upenn.edu/curriculum-structure) page.

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<tbody>
<tr>
<td>SOCI 001</td>
<td>Introduction to Sociology</td>
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</tr>
<tr>
<td>SOCI 100</td>
<td>Introduction to Sociological Research</td>
<td>1</td>
</tr>
<tr>
<td>SOCI 535</td>
<td>Quantitative Methods in Sociology I</td>
<td></td>
</tr>
<tr>
<td>SOCI 536</td>
<td>Quantitative Methods in Sociology II</td>
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</tbody>
</table>

You may count no more than one course toward both a Major and a Sector requirement. For Exceptions, check the Policy Statement (http://www.college.upenn.edu/sectors-policy).

Students are encouraged to take some courses outside of their concentration.

The degree and major requirements displayed are intended as a guide for students entering in the Fall of 2017 and later. Students should consult with their academic program regarding final certifications and requirements for graduation.

Sociology: Quantitative Methods, BA

The Sociology major helps students identify and explain patterns of social life and human behavior by emphasizing how large-scale social phenomena (such as class, race, and gender inequality) affect the everyday experiences of individuals and vice versa. The major prepares students for a career in a variety of fields such as law, medicine and healthcare, marketing, education, scholarly and applied social research, social work, demography, journalism and media, management in the public and private sectors, administration, and government. The program offers comprehensive advising and significant research and independent study opportunities. Our program is dedicated to nurturing a strong community of scholars, helping them grow academically and professionally under the large-scale mission of the College of Arts & Sciences.

Sociologists pursue knowledge in many ways, one of which is through the examination of society through surveys, demographic data, and statistical models. In this concentration, students will become familiar with quantitative methods in sociology, both with respect to how to use them in general (e.g., Introduction to Demographic Methods) and how they are used for specific topics (e.g., Health of Populations).

The minimum total course units (http://www.college.upenn.edu/credits-needed) for graduation in this major is 34. Double majors may entail more course units.

Minimum 11 course units must be in Sociology.

For more information: https://sociology.sas.upenn.edu/quantitative_methods

For information about the General Education requirements, please visit the College of Arts & Sciences Curriculum (https://www.college.upenn.edu/curriculum-structure) page.

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<td>Introduction to Sociological Research</td>
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<tr>
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</tr>
<tr>
<td>SOCI 536</td>
<td>Quantitative Methods in Sociology II</td>
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</table>

Applicants must have an overall GPA of 3.3 and a GPA of 3.5 in the Major.

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<tr>
<td>Senior Thesis</td>
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</tbody>
</table>
Sociology: Sociology of Culture, BA

Quantitative Methods Concentration
Select 3 Concentration courses 3

Additional SOCI Courses
Select 4-6 SOCI Free courses 2 4-6

SOCI or Related Courses
Select 2 SOCI or Related courses 2

Research Poster
Complete Research Poster

Total Course Units 34-36

1 You may count no more than one course toward both a Major and a Sector requirement. For Exceptions, check the Policy Statement (http://www.college.upenn.edu/sectors-policy).

2 Students are encouraged to take some courses outside of their concentration.

Honors
Applicants must have an overall GPA of 3.3 and a GPA of 3.5 in the Major.

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The degree and major requirements displayed are intended as a guide for students entering in the Fall of 2017 and later. Students should consult with their academic program regarding final certifications and requirements for graduation.

Sociology: Sociology of Culture, BA

The Sociology major helps students identify and explain patterns of social life and human behavior by emphasizing how large-scale social phenomena (such as class, race, and gender inequality) affect the everyday experiences of individuals and vice versa. The major prepares students for a career in a variety of fields such as law, medicine and healthcare, marketing, education, scholarly and applied social research, social work, demography, journalism and media, management in the public and private sectors, administration, and government. The program comprehensive advising and significant research and independent study opportunities. Our program is dedicated to nurturing a strong community of scholars, helping them grow academically and professionally under the large-scale mission of the College of Arts & Sciences.

The sociology of culture investigates an aspect of human life that is central to its definition: the origins and development of meaning - religious, moral, normative, aesthetic, cognitive - and how they are expressed in and serve to shape human conduct. Processes of cultural innovation and cultural stability are examined in various social institutions and settings of American, Middle Eastern, European, and Asian societies.

The minimum total course units (http://www.college.upenn.edu/credits-needed) for graduation in this major is 34. Double majors may entail more course units.

Minimum 11 course units must be taken in Sociology.

For more information: https://sociology.sas.upenn.edu/sociology_of_culture

For information about the General Education requirements, please visit the College of Arts & Sciences Curriculum (https://www.college.upenn.edu/curriculum-structure) page.

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<tr>
<td>SOCI 001</td>
<td>Introduction to Sociology</td>
<td>1</td>
</tr>
<tr>
<td>SOCI 100</td>
<td>Introduction to Sociological Research</td>
<td>1</td>
</tr>
<tr>
<td>SOCI 300</td>
<td>Thesis Workshop</td>
<td></td>
</tr>
<tr>
<td>SOCI 301</td>
<td>Thesis Workshop II</td>
<td></td>
</tr>
<tr>
<td>SOCI 399</td>
<td>Independent Study (Or Approved Course)</td>
<td></td>
</tr>
<tr>
<td>Senior Thesis</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The degree and major requirements displayed are intended as a guide for students entering in the Fall of 2017 and later. Students should
consult with their academic program regarding final certifications and requirements for graduation.

Sociology: Sociology of Families and Populations, BA

The Sociology major helps students identify and explain patterns of social life and human behavior by emphasizing how large-scale social phenomena (such as class, race, and gender inequality) affect the everyday experiences of individuals and vice versa. The major prepares students for a career in a variety of fields such as law, medicine and healthcare, marketing, education, scholarly and applied social research, social work, demography, journalism and media, management in the public and private sectors, administration, and government. The program offers comprehensive advising and significant research and independent study opportunities. Our program is dedicated to nurturing a strong community of scholars, helping them grow academically and professionally under the large-scale mission of the College of Arts & Sciences.

The family is one of the most important institutions in any society, and it is critical to the socialization of each generation and the stability and functioning of the larger society. Family systems vary across cultures and have changed dramatically in the United States in recent decades. Understanding the causes and consequences of such variation is a central focus of social research. Family change is reflected in demographic patterns through its impact on fertility, marriage, divorce, migration, and mortality. Population processes also respond to technological factors, economic change and social policy. The study of population patterns provides an opportunity to investigate quantitatively the interactions between large social aggregates and the behavior of individuals.

The minimum total course units (http://www.college.upenn.edu/credits-needed) for graduation in this major is 34. Double majors may entail more course units.

Minimum 11 course units must be in Sociology.

For more information: https://sociology.sas.upenn.edu/sociology_of_families_and_populations

For information about the General Education requirements, please visit the College of Arts & Sciences Curriculum (https://www.college.upenn.edu/curriculum-structure) page.

### Sociology of Families & Populations Concentration
Select 3 course units of Concentration courses

### Additional SOCI Courses
Select 4 course units of SOCI Free courses

### SOCI or Related Courses
Select 2 course units of SOCI or Related courses

### Research Poster
Complete Research Poster

Total Course Units

1 You may count no more than one course toward both a Major and a Sector requirement. For Exceptions, check the Policy Statement (http://www.college.upenn.edu/sectors-policy).

2 Students are encouraged to take some courses outside of their concentration.

### Honors

Applicants must have an overall GPA of 3.3 and a GPA of 3.5 in the Major.

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Course Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>SOCI 300</td>
<td>Thesis Workshop</td>
<td>1</td>
</tr>
<tr>
<td>SOCI 301</td>
<td>Thesis Workshop II</td>
<td>1</td>
</tr>
<tr>
<td>SOCI 399</td>
<td>Independent Study (Or Approved Course)</td>
<td>1</td>
</tr>
</tbody>
</table>

Senior Thesis

The degree and major requirements displayed are intended as a guide for students entering in the Fall of 2017 and later. Students should consult with their academic program regarding final certifications and requirements for graduation.

Sociology: Sociology of Health and Medicine, BA

The Sociology major helps students identify and explain patterns of social life and human behavior by emphasizing how large-scale social phenomena (such as class, race, and gender inequality) affect the everyday experiences of individuals and vice versa. The major prepares students for a career in a variety of fields such as law, medicine and healthcare, marketing, education, scholarly and applied social research, social work, demography, journalism and media, management in the public and private sectors, administration, and government. The program offers comprehensive advising and significant research and independent study opportunities. Our program is dedicated to nurturing a strong community of scholars, helping them grow academically and professionally under the large-scale mission of the College of Arts & Sciences.

Conceptions of health and illness, although not uniform the world over or even in any one society, are of fundamental importance in every society. In this concentration, students focus on the following topics: How health is defined in various societies; how the ill are viewed by the well; how illness is treated; who the healers are, how they are trained, and what their position is in society; the relationships among the religion, class,
gender, and age of the ill and their healers; and when and how public health policies are inaugurated.

The minimum total course units (http://www.college.upenn.edu/credits-needed) for graduation in this major is 34. Double majors may entail more course units.

Minimum 11 course units must be in Sociology.

For more information: https://sociology.sas.upenn.edu/sociology_health_and_medicine

For information about the General Education requirements, please visit the College of Arts & Sciences Curriculum (https://www.college.upenn.edu/curriculum-structure) page.

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Course Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>College General Education Requirements and Free Electives</td>
<td>Foundational Approaches + Sectors + Free Electives</td>
<td>20</td>
</tr>
<tr>
<td>Major Requirements</td>
<td>Introductory Course</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>SOCI 001 Introduction to Sociology</td>
<td>1</td>
</tr>
<tr>
<td>Sociological Theory</td>
<td>Select 1 course units of Sociological Theory course</td>
<td>1</td>
</tr>
<tr>
<td>Social Research Methods</td>
<td>SOCI 100 Introduction to Sociological Research</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Select 1 course units of Advanced Research Methods course</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Select 1 course units of Statistics course</td>
<td>1</td>
</tr>
<tr>
<td>Sociology of Health &amp; Medicine Concentration</td>
<td>Select 3 course units of Concentration courses</td>
<td>3</td>
</tr>
<tr>
<td>Additional SOCI Courses</td>
<td>Select 4 course units of SOCI Free courses</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>SOCI or Related Courses</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Select 2 course units of SOCI or Related courses</td>
<td>2</td>
</tr>
<tr>
<td>Research Poster</td>
<td>Complete Research Poster</td>
<td></td>
</tr>
<tr>
<td>Total Course Units</td>
<td></td>
<td>34</td>
</tr>
</tbody>
</table>

1 You may count no more than one course toward both a Major and a Sector requirement. For Exceptions, check the Policy Statement (http://www.college.upenn.edu/sectors-policy).

2 Students are encouraged to take some courses outside of their concentration.

Honors

Applicants must have an overall GPA of 3.3 and a GPA of 3.5 in the Major.

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Course Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>College General Education Requirements and Free Electives</td>
<td>Foundational Approaches + Sectors + Free Electives</td>
<td>20</td>
</tr>
<tr>
<td>Major Requirements</td>
<td>Introductory Course</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>SOCI 001 Introduction to Sociology</td>
<td>1</td>
</tr>
<tr>
<td>Sociological Theory</td>
<td>Select 1 course units of Sociological Theory course</td>
<td>1</td>
</tr>
<tr>
<td>Social Research Methods</td>
<td>SOCI 100 Introduction to Sociological Research</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Select 1 course units of Advanced Research Methods course</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Select 1 course units of Statistics course</td>
<td>1</td>
</tr>
<tr>
<td>Sociology of Opportunity and Inequality Concentration</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

For more information: https://sociology.sas.upenn.edu/structures_opportunity_inequality

For information about the General Education requirements, please visit the College of Arts & Sciences Curriculum (https://www.college.upenn.edu/curriculum-structure) page.
Select 3 course units of Concentration courses 3

Additional SOCI Courses
Select 4 course units of SOCI Free courses 2

SOCI or Related Courses
Select 2 course units of SOCI or Related courses 2

Research Poster
Complete Research Poster

Total Course Units 34

1 You may count no more than one course toward both a Major and a Sector requirement. For Exceptions, check the Policy Statement (http://www.college.upenn.edu/sectors-policy).

2 Students are encouraged to take some courses outside of their concentration.

Honors
Applicants must have an overall GPA of 3.3 and a GPA of 3.5 in the Major.

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Course Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>SOCI 300</td>
<td>Thesis Workshop</td>
<td>1</td>
</tr>
<tr>
<td>SOCI 301</td>
<td>Thesis Workshop II</td>
<td>1</td>
</tr>
<tr>
<td>SOCI 399</td>
<td>Independent Study (Or Approved Course)</td>
<td>1</td>
</tr>
</tbody>
</table>

The degree and major requirements displayed are intended as a guide for students entering in the Fall of 2017 and later. Students should consult with their academic program regarding final certifications and requirements for graduation.

Sociology: Urban Sociology, BA
The Sociology major helps students identify and explain patterns of social life and human behavior by emphasizing how large-scale social phenomena (such as class, race, and gender inequality) affect the everyday experiences of individuals and vice versa. The major prepares students for a career in a variety of fields such as law, medicine and healthcare, marketing, education, scholarly and applied social research, social work, demography, journalism and media, management in the public and private sectors, administration, and government. The program offers comprehensive advising and significant research and independent study opportunities. Our program is dedicated to nurturing a strong community of scholars, helping them grow academically and professionally under the large-scale mission of the College of Arts & Sciences.

Neighborhoods, cities, and metropolitan areas are communities defined by geographic, economic, legal, political, cultural, and social boundaries. The characteristics distinguishing urban areas that affect social interactions include density of concentration of residents and firms-relative homogeneity in ethnicity, class, education, language, and income of neighbors; shared representations, such as sports teams; common meeting places and facilities, such as churches, schools, clubs, restaurants, and businesses; and facilities of communication and transportation. How does the configuration of urban areas affect opportunities for employment, education, health, and safety? What shapes the interactions within and across neighborhoods? Why are jobs suburbanizing? Why are neighborhoods and schools segregated by race, ethnicity, and income?

The minimum total course units (http://www.college.upenn.edu/credits-needed) for graduation in this major is 34. Double majors may entail more course units.

Minimum 11 course units must be in Sociology.

For more information: https://sociology.sas.upenn.edu/urban_sociology
For information about the General Education requirements, please visit the College of Arts & Sciences Curriculum (https://www.college.upenn.edu/curriculum-structure) page.

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Course Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>SOCI 300</td>
<td>Thesis Workshop</td>
<td>1</td>
</tr>
<tr>
<td>SOCI 301</td>
<td>Thesis Workshop II</td>
<td>1</td>
</tr>
<tr>
<td>SOCI 399</td>
<td>Independent Study (Or Approved Course)</td>
<td>1</td>
</tr>
</tbody>
</table>

Honors
Applicants must have an overall GPA of 3.3 and a GPA of 3.5 in the Major.

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Course Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>SOCI 300</td>
<td>Thesis Workshop</td>
<td>1</td>
</tr>
<tr>
<td>SOCI 301</td>
<td>Thesis Workshop II</td>
<td>1</td>
</tr>
<tr>
<td>SOCI 399</td>
<td>Independent Study (Or Approved Course)</td>
<td>1</td>
</tr>
</tbody>
</table>

1 You may count no more than one course toward both a Major and a Sector requirement. For Exceptions, check the Policy Statement (http://www.college.upenn.edu/sectors-policy).

2 Students are encouraged to take some courses outside of their concentration.
The degree and major requirements displayed are intended as a guide for students entering in the Fall of 2017 and later. Students should consult with their academic program regarding final certifications and requirements for graduation.

**South Asia Studies, BA**

South Asia Studies is an interdisciplinary field focusing on the history, languages, society, literature, and art from India, Pakistan, Bangladesh, Nepal, Sri Lanka, Afghanistan, and Bhutan. We are America’s oldest and arguably most distinguished South Asia regional studies program dealing with the past and contemporary life of one-fifth of the world’s population and teaching more languages than any other South Asian studies program in the US. Having a deep knowledge of the country set to outpace the US as the second largest economy in the world in an increasingly competitive global job market gives graduates a competitive edge over others with more generic skills. Make your home in a department where you get to know your Faculty and they know you as an individual, whether as a major or double major. You don’t have to know anything about India or be South Asian to find a home with us; just be curious!

The minimum total course units (http://www.college.upenn.edu/credits-needed) for graduation in this major is 32. Double majors may entail more course units.

For more information: http://www.southasia.upenn.edu/undergraduate

For information about the General Education requirements, please visit the College of Arts & Sciences Curriculum (https://www.college.upenn.edu/curriculum-structure) page.

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Course Units</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td><strong>Foundational General Education Requirements and Free Electives</strong></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Foundational Approaches + Sectors + Free Electives</td>
<td>20</td>
</tr>
<tr>
<td></td>
<td><strong>Major Requirements</strong></td>
<td></td>
</tr>
<tr>
<td></td>
<td><strong>Language Requirement</strong></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Select 2 course units of South Asian language</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td><strong>Foundational Requirements</strong></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Select 2 course units from the following:</td>
<td></td>
</tr>
<tr>
<td></td>
<td>SAST 001 Introduction to Modern India</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>SAST 002 The City in South Asia</td>
<td></td>
</tr>
<tr>
<td></td>
<td>SAST 003 History, Culture, and Religion in Early India</td>
<td></td>
</tr>
<tr>
<td></td>
<td>SAST 004 India’s Literature: Love, War, Wisdom and Humor</td>
<td></td>
</tr>
<tr>
<td></td>
<td>SAST 005 Performing Arts in South Asia</td>
<td></td>
</tr>
<tr>
<td></td>
<td>SAST 006 Hindu Mythology</td>
<td></td>
</tr>
<tr>
<td></td>
<td>SAST 007 Introduction to Modern South Asian Literatures</td>
<td></td>
</tr>
<tr>
<td></td>
<td>SAST 008 India: Culture and Society</td>
<td></td>
</tr>
<tr>
<td></td>
<td>SAST 009 Introduction to Hinduism</td>
<td></td>
</tr>
<tr>
<td></td>
<td>SAST Freshman Seminar</td>
<td></td>
</tr>
<tr>
<td></td>
<td><strong>Major Courses</strong></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Select 8 course units</td>
<td>8</td>
</tr>
<tr>
<td></td>
<td><strong>Total Course Units</strong></td>
<td>32</td>
</tr>
</tbody>
</table>

1 You may count no more than one course toward both a Major and a Sector requirement. For Exceptions, check the Policy Statement (http://www.college.upenn.edu/sectors-policy).

2 A South Asian language with a grade of “B” or higher. Students may be exempted from this requirement by passing a language proficiency test administered by the department. Students who pass the proficiency test are required to fulfill the necessary credits with a distribution of other courses. While only 2 course units in a South Asian language are required, 4 course units are encouraged.

**Honors**

Applicants must have a minimum GPA of 3.5.

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Course Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>SAST 300</td>
<td>Directed Study (or Research Paper)</td>
<td>1</td>
</tr>
</tbody>
</table>

The degree and major requirements displayed are intended as a guide for students entering in the Fall of 2017 and later. Students should consult with their academic program regarding final certifications and requirements for graduation.

**Theatre Arts, BA**

The Theatre Arts program focuses on all intellectual and creative aspects of theatre and performance studies. Our courses link academic approaches to the theatre such as the study of dramatic literature, theory, history, and criticism, to practical aspects of performance such as acting, directing, designing, devising, and playwriting. Special features of our program include faculty-directed productions, which are taught as courses for credit, and extracurricular programs such as workshops and talks with visiting artists, staged readings, and theatre outings. One special highlight of our program is the Edinburgh Project. On alternating years, majors are selected to enroll in a course that develops a performance piece that travels to the Edinburgh Festival Fringe in Scotland. The honors thesis is another special opportunity in which majors who are accomplished in both academic and production work are invited to work on honors thesis projects, which may be based on practice such as acting, directing, and design or on scholarly research.

Penn Theatre Arts graduates proceed to a wide array of successful careers, both in and out of the theatre. Our majors are well-prepared to enter professional MFA programs in acting, directing, or design, as well as doctoral programs. We also count among our alumni not only those who are successful in theatre and film as artists, producers, and business people, but also those who flourish in unrelated fields, such as medicine and law.

The minimum total course units (http://www.college.upenn.edu/credits-needed) for graduation in this major is 33. Double majors may entail more course units.

For more information: http://theatre.sas.upenn.edu

For information about the General Education requirements, please visit the College of Arts & Sciences Curriculum (https://www.college.upenn.edu/curriculum-structure) page.
The minimum total course units (http://www.college.upenn.edu/credits-needed) for graduation in this major is 34. Double majors may entail more course units.

Urban Studies is a flexible major and requires confering with an advisor to tailor a set of courses that fit your interests. This online worksheet is meant as a planning tool; before you will be accepted to the major, you are required to meet with an urban studies advisor to go over your plans and address your questions.

For more information: http://www.sas.upenn.edu/urban/students/-major

For information about the General Education requirements, please visit the College of Arts & Sciences Curriculum (https://www.college.upenn.edu/curriculum-structure) page.
Visual Studies: Architecture Practice and Technology, BA

Visual Studies at the University of Pennsylvania prepares students to forge innovative connections across the disciplines that study vision and images. Students acquire a critical awareness of seeing and the problems and possibilities for investigating, thinking, and writing about seeing in the 21st century. Fundamentally interdisciplinary, the Visual Studies Program partners with the Departments of Philosophy, Psychology, History of Art, Fine Arts, and Architecture. Students may also find interest in Penn Programs such as Cinema Studies and Gender, Sexuality, and Women’s Studies or outside of the School of Arts and Sciences in the Annenberg School of Communications, and the School of Engineering and Applied Sciences.

Sector C enables students to develop skills in the making of art ranging from the two- and three-dimensional to the digital and time-based media, and includes both fine arts and architecture tracks.

The minimum total course units (http://www.college.upenn.edu/credits-needed) for graduation in this major is 36. Double majors may entail more course units.

For more information: https://www.sas.upenn.edu/visual-studies

For information about the General Education requirements, please visit the College of Arts & Sciences Curriculum (https://www.college.upenn.edu/curriculum-structure) page.

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Course Units</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td><strong>College General Education Requirements and Free Electives</strong></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Foundational Approaches + Sectors + Free Electives</td>
<td>20</td>
</tr>
<tr>
<td></td>
<td><strong>Major Requirements</strong></td>
<td></td>
</tr>
<tr>
<td></td>
<td><strong>Stage 1 - Core Courses</strong></td>
<td></td>
</tr>
<tr>
<td>VLST 101</td>
<td>Eye, Mind, and Image</td>
<td>1</td>
</tr>
<tr>
<td>VLST 102</td>
<td>Form and Meaning</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td><strong>Stage 2 - Core Courses</strong></td>
<td></td>
</tr>
<tr>
<td>VLST 301</td>
<td>What is Visual Studies?</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Select 2 courses from each Sector.</td>
<td></td>
</tr>
<tr>
<td>A. Philosophy and Science of Seeing:</td>
<td></td>
<td>2</td>
</tr>
<tr>
<td>PSYC 111/ VLST 211</td>
<td>Perception</td>
<td></td>
</tr>
<tr>
<td></td>
<td>or BIBB/PSYC/VLST 217</td>
<td>Visual Neuroscience</td>
</tr>
<tr>
<td>PSYC 311/ VLST 212</td>
<td>Research Experience in Perception;</td>
<td></td>
</tr>
<tr>
<td></td>
<td>or VLST 305 What is an Image?</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Select one of the following:</td>
<td></td>
</tr>
<tr>
<td>PHIL/PPE 244/VLST 221</td>
<td>Introduction to Philosophy of Mind</td>
<td></td>
</tr>
<tr>
<td>PHIL 423/VLST 223</td>
<td>Philosophy and Visual Perception</td>
<td></td>
</tr>
<tr>
<td>PHIL 330/VLST 222</td>
<td>Philosophy of Perception</td>
<td></td>
</tr>
<tr>
<td>B. Art and the Culture of Seeing:</td>
<td></td>
<td>2</td>
</tr>
<tr>
<td>ARTH 102/ VLST 232</td>
<td>Renaissance to Contemporary: Introduction</td>
<td></td>
</tr>
<tr>
<td>or ARTH 278/Modern Art: Picasso to Pollock</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ARTH 294/ VLST 235</td>
<td>Art Now</td>
<td></td>
</tr>
<tr>
<td>or VLST 303 The Rise of Image Culture: History and Theories</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Select one of the following:</td>
<td></td>
</tr>
<tr>
<td>ARTH 103/ EALC 013/ VLST 233</td>
<td>Arts and Civilizations of East Asia</td>
<td></td>
</tr>
<tr>
<td>ARTH 104/ SAST 200/ VLST 234</td>
<td>Introduction to Art in South Asia</td>
<td></td>
</tr>
<tr>
<td>ARTH/VLST 235</td>
<td>Introduction to Visual Culture of the Islamic World</td>
<td></td>
</tr>
<tr>
<td>C. Architecture Practice and Technology:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ARCH 102</td>
<td>Introduction to Design</td>
<td>1</td>
</tr>
<tr>
<td>ARCH 201</td>
<td>Design Fundamentals I</td>
<td>1.5</td>
</tr>
<tr>
<td></td>
<td><strong>Stage 3 - Concentration Requirements</strong></td>
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</tr>
<tr>
<td>ARCH Practice and Technology:</td>
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<tr>
<td>ARCH 202</td>
<td>Design Fundamentals II (required)</td>
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</tr>
<tr>
<td></td>
<td>Select 3 course units of ARCH Practice/Technology</td>
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</tr>
<tr>
<td></td>
<td>Select 1 course unit of Philos/Science or Art/Culture of Seeing</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td><strong>Stage 4 - Capstone Course</strong></td>
<td></td>
</tr>
<tr>
<td>VLST 395</td>
<td>Senior Project (Year-Long Course)</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td><strong>Total Course Units</strong></td>
<td>36</td>
</tr>
</tbody>
</table>

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• Senior Project Completed (Grade of A)

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In Sector B, students explore the status of images as representations or models of visual experience and as bearers of information, and they develop skills in interpreting artifacts visually.

The minimum total course units (http://www.college.upenn.edu/credits-needed) for graduation in this major is 35. Double majors may entail more course units.

For more information: https://www.sas.upenn.edu/visual-studies

For information about the General Education requirements, please visit the College of Arts & Sciences Curriculum (https://www.college.upenn.edu/curriculum-structure) page.

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Sector C enables students to develop skills in the making of art ranging from the two- and three-dimensional to the digital and time-based media, and includes both fine arts and architecture tracks.

The minimum total course units (http://www.college.upenn.edu/credits-needed) for graduation in this major is 35. Double majors may entail more course units.

For more information: https://www.sas.upenn.edu/visual-studies

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In Sector A, students learn about the physiology and psychology of seeing; perception of color, movement, space, objects, and events; and issues in philosophy of vision from ancient to contemporary.

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- or VLST 305 What is an Image?

Select one of the following:
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- VLST 235 Introduction to Visual Culture of the Islamic World
- VLST 102 Form and Meaning (course not used in Stage 1)
- or VLST 103 3 Dimensions: Time and Space

Select one of the following:
- FNAR 061/ VLST 261 Video I
- FNAR 123/ VLST 253 Drawing I
- FNAR/VLST 264 Art, Design and Digital Culture
- or one approved alternate course (See Website)

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### Minors

- Actuarial Mathematics, Minor (p. 134)
- Africana Studies, Minor (p. 135)
- American Public Policy, Minor (p. 135)
- American Sign Language and Deaf Studies, Minor (p. 135)
Actuarial Mathematics, Minor

Actuarial Science stands at the intersection of risk and money. Actuaries use their knowledge of mathematics and probability theory to define, analyze and solve complex business, financial and social problems. Actuaries evaluate individual and corporate risks, and design financially sound insurance and pension plans. Graduates from the University of Pennsylvania with an Actuarial Mathematics Minor are expected to be in great demand by the insurance and banking industry.

For more information: https://www.math.upenn.edu/undergraduate/math-majors-and-minors/minor-actuarial-mathematics

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<td></td>
</tr>
<tr>
<td>STAT 430</td>
<td>Probability</td>
<td>1</td>
</tr>
<tr>
<td>STAT 431</td>
<td>Statistical Inference</td>
<td>1</td>
</tr>
<tr>
<td>STAT/BEPP 451</td>
<td>Fundamentals of Actuarial Science I</td>
<td>1</td>
</tr>
<tr>
<td>STAT/BEPP 452</td>
<td>Fundamentals of Actuarial Science II</td>
<td></td>
</tr>
<tr>
<td>STAT/BEPP 454</td>
<td>Applied Statistical Methods for Actuaries</td>
<td>1</td>
</tr>
<tr>
<td>Select an additional INSR course (see list on web)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total Course Units</td>
<td></td>
<td>8</td>
</tr>
</tbody>
</table>

The degree and major requirements displayed are intended as a guide for students entering in the Fall of 2017 and later. Students should consult with their academic program regarding final certifications and requirements for graduation.

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**Africana Studies, Minor**

Africana Studies is an interdisciplinary field of study devoted to the critical and systematic examination of the cultural, political, social, economic, and historical experiences of African Americans, Africans, and peoples of African descent around the world. Our course of study is designed to provide students with an integrated understanding and appreciation for a new global black studies. An undergraduate degree in Africana Studies prepares students for graduate work in the humanities, social sciences, and professional schools, as well as a range of careers in teaching, business, public service, and the arts, among others.

For more information: https://africana.sas.upenn.edu/department/undergraduate

African Language courses do not count toward the Minor Requirements.

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Course Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>AFRC 001</td>
<td>Introduction to Africana Studies</td>
<td>1</td>
</tr>
<tr>
<td>Electives</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Select 5 course units of African American or Caribbean or Latin American centered courses with 3 course units intermediate or upper level and no more than 2 African Caribbean or Latin American centered courses</td>
<td>5</td>
<td></td>
</tr>
<tr>
<td>Total Course Units</td>
<td></td>
<td>6</td>
</tr>
</tbody>
</table>

The degree and major requirements displayed are intended as a guide for students entering in the Fall of 2017 and later. Students should consult with their academic program regarding final certifications and requirements for graduation.

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**American Public Policy, Minor**

The minor in American Public Policy enables undergraduates interested in American Public Policy to construct an integrated program across the University. The minor — for students who do not major or concentrate in PSCI or BEPP — requires six courses, three from each department, in addition to the course work required for their major or concentration.

For more information: https://www.sas.upenn.edu/polisci/node/867

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Course Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>PSCI 130</td>
<td>Introduction to American Politics</td>
<td>1</td>
</tr>
<tr>
<td>BEPP 201</td>
<td>Introduction to Business Economics and Public Policy.</td>
<td>1</td>
</tr>
<tr>
<td>Elective Requirements</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Select 2 course units of PSCI courses</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>Select 2 course units of BEPP courses</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>Total Course Units</td>
<td></td>
<td>6</td>
</tr>
</tbody>
</table>

The degree and major requirements displayed are intended as a guide for students entering in the Fall of 2017 and later. Students should consult with their academic program regarding final certifications and requirements for graduation.

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**American Sign Language and Deaf Studies, Minor**

The ASL/Deaf Studies Program at Penn offers ASL instruction grounded in Deaf cultural experiences and perspectives for the purpose of attaining ASL proficiency for real-world applications in both coursework and future professional endeavors. The course of study for the minor in ASL and Deaf Studies is interdisciplinary, with foundations in language, content, and theory-based courses. Furthermore, as our program has long-standing and steadfast commitment to working in and with local Deaf community organizations for meaningful, mutually beneficial outcomes, we partner with local Deaf community organizations to integrate academic rigor and Deaf cultural values into our coursework. We do so with two organizations primarily, the Deaf-Hearing Communication Centre in Swarthmore, PA and Pennsylvania School for the Deaf in the Germantown section of Philadelphia. Ultimately, these collaborative relationships manifest in a research-based capstone course, Academically Based Community Service in ASL and Deaf Studies, providing opportunities for merging research with practice in a Deaf community setting.

For more information: http://www.ling.upenn.edu/undergraduate/minor-asl

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Course Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>LING 075</td>
<td>American Sign Language V</td>
<td>1</td>
</tr>
<tr>
<td>or LING 076</td>
<td>Deaf Literature, Performance, Art, and Film</td>
<td></td>
</tr>
</tbody>
</table>

The degree and major requirements displayed are intended as a guide for students entering in the Fall of 2017 and later. Students should consult with their academic program regarding final certifications and requirements for graduation.
**Ancient History, Minor**

Classical Studies encompasses the civilization of the ancient Greeks and Romans from prehistory to the Middle Ages, with emphasis on the literature, philosophy and history of the classical Greek and Roman periods. It includes economic, political and social and intellectual history as well as philosophy, archaeology, religion and myth. Students may choose a track that emphasizes the study of texts in Greek and/or Latin, or they may opt for a program of courses that do not require any knowledge of the ancient languages.

**For more information:** [http://www.classics.upenn.edu/](http://www.classics.upenn.edu/)

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Course Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>ANCH</td>
<td>Ancient History and Civilization</td>
<td>1</td>
</tr>
<tr>
<td>ANCH 025</td>
<td>Ancient Middle Eastern History and Civilization</td>
<td>1</td>
</tr>
<tr>
<td>ANCH 026</td>
<td>Ancient Greece</td>
<td></td>
</tr>
<tr>
<td>ANCH 027</td>
<td>Ancient Rome</td>
<td></td>
</tr>
</tbody>
</table>

**Electives**

Select 5 course units of electives in consultation with the Undergrad Chair from the following Area Groupings:

- Graeco-Roman Culture in the Broader Context
- Languages of the Ancient Mediterranean World
- Comparative Studies of Premodern Cultures

**Total Course Units**

6

The degree and major requirements displayed are intended as a guide for students entering in the Fall of 2017 and later. Students should consult with their academic program regarding final certifications and requirements for graduation.

**Anthropology, Minor**

Anthropology is the global social science. It is the study of the human condition everywhere; its cultural, linguistic, and biological diversity; and how it evolved and developed from the prehistoric past into the globalizing present. The Anthropology minor is a 6 credit minor, in which students are encouraged to draw from all sub-fields of the discipline.

**For more information:** [https://www.sas.upenn.edu/anthropology/](https://www.sas.upenn.edu/anthropology/)

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Course Units</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Minor Requirements</td>
<td></td>
</tr>
<tr>
<td>Select 6 course units of Anthropology courses</td>
<td>6</td>
<td></td>
</tr>
</tbody>
</table>

**Total Course Units**

6

1. No more than 4 courses from any one field (Cultural/Linguistic, Archaeology, Human Biology) can be applied to the minor.

The degree and major requirements displayed are intended as a guide for students entering in the Fall of 2017 and later. Students should consult with their academic program regarding final certifications and requirements for graduation.

**Archaeological Science, Minor**

The Minor in Archaeological Science consists of six course units. Of these six, four will be CAAM classes from introductory, intermediate and advanced levels; one must be an advanced class with an archaeological science research component (the capstone class); and one must be a class in the archaeology or culture of a relevant area.

**To Declare:**

Students interested in declaring a Minor in Archaeological Science should contact Dr. Marie-Claude Boileau at mboileau@upenn.edu.

**For more information:** [https://www.penn.museum/teachers-and-students/for-penn-students/caam/minor-in-archaeological-science](https://www.penn.museum/teachers-and-students/for-penn-students/caam/minor-in-archaeological-science)

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Course Units</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Minor Requirements</td>
<td></td>
</tr>
<tr>
<td>Select 1 course unit of Capstone course</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Archaeology/Culture Course</td>
<td>1</td>
<td></td>
</tr>
</tbody>
</table>

**Total Course Units**

6

The degree and major requirements displayed are intended as a guide for students entering in the Fall of 2017 and later. Students should consult with their academic program regarding final certifications and requirements for graduation.
Architectural History, Minor

The Architectural History Minor aims to deepen students’ knowledge of artistic production and practice over the scope of human history. A Minor program in architectural history may complement the student’s Major in a cognate field, or it may be unrelated to the student’s primary field instruction.

For more information: [http://www.sas.upenn.edu/arthistory/undergraduate/minor](http://www.sas.upenn.edu/arthistory/undergraduate/minor)

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Course Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>ARTH 106</td>
<td>Architect and History</td>
<td>1</td>
</tr>
<tr>
<td>ARTH 102</td>
<td>Renaissance to Contemporary: Introduction to Western Art, 1400 to the Present</td>
<td>1</td>
</tr>
</tbody>
</table>

Architectural History Electives

Select 1 course unit of any 200, 400, or 500 Level course
Select 3 course units of any 200 or 400 Level course

Total Course Units 6

See department for list of approved courses.

Asian American Studies, Minor

Asian American Studies explores the historical and contemporary experiences of Asian immigrants and of persons of Asian ancestry in North America, and the relevance of those experiences for understanding race and ethnicity in national and global contexts. The program introduces students to the methods and concerns of a wide spectrum of disciplines: anthropology and ethnography, economics, history, law, literature, sociology and demography, political science, and urban studies, as well as creative and expository writing.

For more information: [http://asam.sas.upenn.edu/](http://asam.sas.upenn.edu/)

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Course Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>ASAM 001</td>
<td>Asian Americans in Contemporary Society</td>
<td>2</td>
</tr>
<tr>
<td>ASAM 002</td>
<td>Asian American Literature</td>
<td>1</td>
</tr>
<tr>
<td>ASAM 003</td>
<td>Introduction to Asian American History</td>
<td>1</td>
</tr>
</tbody>
</table>

Other ASAM Courses

Select 3 course units of other ASAM courses

Total Course Units 6

The degree and major requirements displayed are intended as a guide for students entering in the Fall of 2017 and later. Students should consult with their academic program regarding final certifications and requirements for graduation.

Architecture, Minor

The minor in Architecture is for students with another major who seek to gain a basic knowledge of architecture and acquire basic skills in architectural design.

For more information: [www.architecture.sas.upenn.edu](http://www.architecture.sas.upenn.edu)

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Course Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>ARCH 102</td>
<td>Introduction to Design</td>
<td>1</td>
</tr>
<tr>
<td>ARCH 201</td>
<td>Design Fundamentals I</td>
<td>1.5</td>
</tr>
<tr>
<td>ARCH 202</td>
<td>Design Fundamentals II</td>
<td>1.5</td>
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</table>

Art History Courses

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Course Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>ARTH 102</td>
<td>Renaissance to Contemporary: Introduction to Western Art, 1400 to the Present</td>
<td>1</td>
</tr>
<tr>
<td>ARTH 106</td>
<td>Architect and History</td>
<td>1</td>
</tr>
</tbody>
</table>

Total Course Units 6

The degree and major requirements displayed are intended as a guide for students entering in the Fall of 2017 and later. Students should consult with their academic program regarding final certifications and requirements for graduation.

Bioethics, Minor

The Penn Bioethics minor is designed to give students a broad overview of the methods, core content areas and central ethical questions in the field of bioethics. The Bioethics minor is a interdisciplinary program created through a collaboration of the Departments of Anthropology, History and Sociology of Science, Philosophy, Political Science, and Sociology in the College of Arts and Sciences, and Medical Ethics & Health Policy in the Perelman Medical School.

For more information: [http://www.sas.upenn.edu/bioethics/](http://www.sas.upenn.edu/bioethics/)

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Course Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>ASAM 001</td>
<td>Asian Americans in Contemporary Society</td>
<td>2</td>
</tr>
<tr>
<td>ASAM 002</td>
<td>Asian American Literature</td>
<td>1</td>
</tr>
</tbody>
</table>

Other ASAM Courses

Select 3 course units of other ASAM courses

Total Course Units 6

The degree and major requirements displayed are intended as a guide for students entering in the Fall of 2017 and later. Students should consult with their academic program regarding final certifications and requirements for graduation.
Select 3 course units of Elective 3
Total Course Units 6

Content Areas & Course Type Requirements
- Research Ethics
- Clinical Ethics
- Allocation
- Seminar Course
- Comparative Course

The degree and major requirements displayed are intended as a guide for students entering in the Fall of 2017 and later. Students should consult with their academic program regarding final certifications and requirements for graduation.

Biological Basis of Behavior, Minor

Biological Basis of Behavior is an interdisciplinary program in which students explore the relationship between behavior (both human and animal) and its organic bases. The Program offers courses in virtually all areas of neuroscience ranging from cellular neurobiology to cognitive neuropsychology and integrates these basic interdisciplinary courses with basic science requirements in biology, chemistry and psychology. Students also engaged in supervised research in areas as diverse as molecular neurobiology, chemical neuroanatomy, visual sciences and behavioral ecology.

For more information: http://www.sas.upenn.edu/bbb/requirements/minor

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Course Units</th>
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</thead>
<tbody>
<tr>
<td>Minor Requirements Required BIBB Courses</td>
<td></td>
<td></td>
</tr>
<tr>
<td>BIBB 109</td>
<td>Introduction to Brain and Behavior</td>
<td>1</td>
</tr>
<tr>
<td>Select 3 course units of BIBB courses</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Additional Courses from Areas of Interest</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Select 4 course units of additional courses from Areas of Interest</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>Total Course Units</td>
<td>8</td>
<td></td>
</tr>
</tbody>
</table>

See web site for approved courses in areas of specialized study.

For more information: https://www.bio.upenn.edu/undergraduate/current-students/minor-requirements

Biology, Minor

The Biology minor introduces students to fundamental topics in the areas of cell and molecular biology, genetics, physiology, and ecology and evolution. This broad range of coursework is designed to provide students with a sufficient background to understand the basics underlying many of the current advances in the field.

Biophysics, Minor

Bridging the biological sciences and the physical sciences, Biophysics is concerned with physical and chemical explanations of living processes, especially at the cellular and molecular levels. Detailed molecular descriptions are emerging for genetic elements and for the mechanisms that control their propagation and expression. Biophysical studies include the investigation of protein structure, nucleic acid structure, enzyme
mechanisms, the phenomena underlying cellular behavior, excitable phenomena in nerve, muscle and visual cells, and integrative neural phenomena.

For more information: http://www.physics.upenn.edu/biophysics/biophpages/Minor.html

### Chemistry, Minor

Chemistry is concerned with the study of matter and the changes matter can undergo. The chemistry program provides a basic foundation for career opportunities in chemical research and teaching, in scientific communication and information transfer, and in the health professions. The chemistry minor provides an introduction to several areas of chemistry, providing exposure to both lecture and laboratory courses.

For more information: http://www.chem.upenn.edu/node/9

Note: Other departments’ courses may not be substituted.

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Course Units</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td><strong>Chemistry</strong></td>
<td></td>
</tr>
<tr>
<td>CHEM 101</td>
<td>General Chemistry I</td>
<td>1</td>
</tr>
<tr>
<td>or CHEM 115</td>
<td>Honors Chemistry I: Theoretical Perspectives</td>
<td></td>
</tr>
<tr>
<td>CHEM 102</td>
<td>General Chemistry II</td>
<td>1</td>
</tr>
<tr>
<td>or CHEM 116</td>
<td>Honors Chemistry II</td>
<td></td>
</tr>
<tr>
<td>CHEM 053</td>
<td>General Chemistry Laboratory I</td>
<td>1</td>
</tr>
<tr>
<td>&amp; CHEM 054</td>
<td>General Chemistry Laboratory II</td>
<td></td>
</tr>
<tr>
<td>or CHEM 245</td>
<td>Experimental Organic Chemistry</td>
<td></td>
</tr>
<tr>
<td>MATH 104</td>
<td>Calculus, Part I</td>
<td>1</td>
</tr>
<tr>
<td>Select one of the following:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>MATH 114</td>
<td>Calculus, Part II</td>
<td></td>
</tr>
<tr>
<td>MATH 115</td>
<td>Calculus, Part II with Probability and Matrices</td>
<td></td>
</tr>
<tr>
<td>MATH 116</td>
<td>Honors Calculus</td>
<td></td>
</tr>
<tr>
<td>MATH 240</td>
<td>Calculus, Part III</td>
<td>1</td>
</tr>
<tr>
<td>or MATH 260</td>
<td>Honors Calculus, Part II</td>
<td></td>
</tr>
<tr>
<td>PHYS 150</td>
<td>Principles of Physics I: Mechanics and Wave Motion</td>
<td></td>
</tr>
<tr>
<td>or PHYS 170</td>
<td>Honors Physics I: Mechanics and Wave Motion</td>
<td></td>
</tr>
<tr>
<td>PHYS 151</td>
<td>Principles of Physics II: Electromagnetism and Radiation</td>
<td></td>
</tr>
<tr>
<td>or PHYS 171</td>
<td>Honors Physics II: Electromagnetism and Radiation</td>
<td></td>
</tr>
<tr>
<td>PHYS 093</td>
<td>AP Credit for Principles I (PHYS 150)</td>
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<tr>
<td>PHYS 094</td>
<td>AP Credit for Principles II (PHYS 151)</td>
<td></td>
</tr>
<tr>
<td>PHYS 364</td>
<td>Laboratory Electronics</td>
<td></td>
</tr>
<tr>
<td>Total Course Units</td>
<td></td>
<td>7</td>
</tr>
</tbody>
</table>

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### Cinema and Media Studies, Minor

The Penn Cinema and Media Studies major and minor are traditional humanities programs involving the critical study of film and media history, theory, and aesthetics. Reflecting the hybrid nature of the field of Cinema and Media Studies, our faculty members are housed in departments across SAS and the university, and we cross-list courses with various departments and schools, including Africana Studies, Anthropology, Communications, East Asian Language and Civilizations, English, Fine Arts, German, History, History of Art, Near Eastern Languages and Civilizations, Romance Languages, Slavic Languages and Literatures, and Women’s Studies. This truly interdisciplinary program will introduce students to the wide range of methodologies used to study film
and media, and this intersection with other disciplines makes Cinema and Media Studies an ideal component of a double major.

For more information: http://cinemastudies.sas.upenn.edu/undergraduate/minor

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Course Units</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td><strong>Minor Requirements</strong></td>
<td></td>
</tr>
<tr>
<td></td>
<td><strong>Core Requirements</strong></td>
<td></td>
</tr>
<tr>
<td>CIMS 101</td>
<td>World Film History to 1945</td>
<td>1</td>
</tr>
<tr>
<td>CIMS 102</td>
<td>World Film History, 1945-present</td>
<td>1</td>
</tr>
<tr>
<td>CIMS 103</td>
<td>Television and New Media</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td><strong>Electives</strong></td>
<td></td>
</tr>
<tr>
<td>Select 1 course unit of Non-American Cinema</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Select 3 course units of Elective (Production &amp; Craft of Cinema maximum 2 course units)</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td></td>
<td><strong>Total Course Units</strong></td>
<td>7</td>
</tr>
</tbody>
</table>

The degree and major requirements displayed are intended as a guide for students entering in the Fall of 2017 and later. Students should consult with their academic program regarding final certifications and requirements for graduation.

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**Classical Studies, Minor**

Classical Studies encompasses the civilization of the ancient Greeks and Romans from prehistory to the Middle Ages, with emphasis on the literature, philosophy and history of the classical Greek and Roman periods. It includes economic, political and social and intellectual history as well as philosophy, archaeology, religion and myth. Students may choose a track that emphasizes the study of texts in Greek and/or Latin, or they may opt for a program of courses that do not require any knowledge of the ancient languages. The Classical Studies Department provides extensive training at the Undergraduate level as well as graduate training in both Classical Studies and Ancient History.

For more information: http://www.classics.upenn.edu/

Please see Undergraduate Chair for for details on course approval.

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Course Units</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td><strong>Minor Requirenements</strong></td>
<td></td>
</tr>
<tr>
<td>ANCH 026</td>
<td>Ancient Greece</td>
<td>1</td>
</tr>
<tr>
<td>or ANCH 027</td>
<td>Ancient Rome</td>
<td></td>
</tr>
<tr>
<td>Select 5 course units of CLST or Other courses</td>
<td>5</td>
<td></td>
</tr>
<tr>
<td></td>
<td><strong>Total Course Units</strong></td>
<td>6</td>
</tr>
</tbody>
</table>

The degree and major requirements displayed are intended as a guide for students entering in the Fall of 2017 and later. Students should consult with their academic program regarding final certifications and requirements for graduation.

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**Cognitive Science, Minor**

Cognitive science is the empirical study of intelligent systems, including the human mind. An interdisciplinary science, it combines results from biology, computer science, linguistics, mathematics, neuroscience, philosophy and psychology to the study of language processing, perception, action, learning, concept formation, inference and other activities of the mind, with applications for information technology and the study of artificial intelligence.

For more information: https://web.sas.upenn.edu/cogsci/program/minor/

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Course Units</th>
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</thead>
<tbody>
<tr>
<td></td>
<td><strong>Minor Requirements</strong></td>
<td></td>
</tr>
<tr>
<td></td>
<td><strong>Core Course</strong></td>
<td></td>
</tr>
<tr>
<td>COGS 001/</td>
<td>Introduction to Cognitive Science</td>
<td>1</td>
</tr>
<tr>
<td>CIS 140/</td>
<td></td>
<td></td>
</tr>
<tr>
<td>LING 105/</td>
<td></td>
<td></td>
</tr>
<tr>
<td>PHIL 044/</td>
<td></td>
<td></td>
</tr>
<tr>
<td>PPE 140/</td>
<td></td>
<td></td>
</tr>
<tr>
<td>PSYC 207</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td><strong>Breadth Requirement</strong></td>
<td></td>
</tr>
<tr>
<td>Select one course each from three of the following areas:</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Psychology:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>PSYC 001</td>
<td>Introduction to Experimental Psychology</td>
<td></td>
</tr>
<tr>
<td>PSYC 151</td>
<td>Language and Thought</td>
<td></td>
</tr>
<tr>
<td>Computation:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CIS 110</td>
<td>Introduction to Computer Programming</td>
<td></td>
</tr>
<tr>
<td>CIS 120</td>
<td>Programming Languages and Techniques I</td>
<td></td>
</tr>
<tr>
<td>PHIL 005/</td>
<td>Formal Logic I</td>
<td></td>
</tr>
<tr>
<td>LGIC 010</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Language:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>LING 001</td>
<td>Introduction to Linguistics</td>
<td></td>
</tr>
<tr>
<td>LING 106</td>
<td>Introduction to Formal Linguistics</td>
<td></td>
</tr>
<tr>
<td>Philosophy:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>PHIL 004</td>
<td>History of Modern Philosophy</td>
<td></td>
</tr>
<tr>
<td>PHIL 244</td>
<td>Introduction to Philosophy of Mind</td>
<td></td>
</tr>
<tr>
<td>PHIL 405</td>
<td>Philosophy of Language</td>
<td></td>
</tr>
<tr>
<td>PHIL 426</td>
<td>Philosophy of Psychology</td>
<td></td>
</tr>
<tr>
<td>Neuroscience:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>BIBB 249/</td>
<td>Cognitive Neuroscience</td>
<td></td>
</tr>
<tr>
<td>PSYC 149</td>
<td></td>
<td></td>
</tr>
<tr>
<td>BIBB/BIOL/</td>
<td>Introduction to Brain and Behavior</td>
<td></td>
</tr>
<tr>
<td>PSYC 109</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td><strong>Concentration Requirement</strong></td>
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<tr>
<td>Select two courses from a single concentration:</td>
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<tr>
<td>Cognitive Neuroscience</td>
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<td></td>
</tr>
<tr>
<td>Computation and Cognition</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Language and Mind</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td><strong>Total Course Units</strong></td>
<td>6</td>
</tr>
</tbody>
</table>

1 Consult with Undergraduate Chair.
Comparative Literature, Minor

The undergraduate program in Comparative Literature welcomes students interested in the study of literature from theoretical, interdisciplinary, cross-cultural, and global perspectives. The core courses train students to appreciate the variety of meanings that texts acquire in different institutional and philosophical contexts and different socio-political frameworks. There are three concentrations within the major: National and Transnational Literatures (four courses in each of two languages), Theory, and Globalization.

Comparative Literature is a flexible program, allowing students to take courses in a variety of departments in the College. Students with interests in more than one national literature and in fields such as philosophy and political theory, art and aesthetics, and film and music will find the requirements congenial. The program provides students with a cosmopolitan intellectual background that is increasingly in demand in an era of globalization.

The minor in Comparative Literature requires students to take an introductory course and a course in theory, along with an open selection of four literature and film courses.

For more information: http://ccat.sas.upenn.edu/Complit/undergraduate.htm

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Course Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>Minor Requirements</td>
<td></td>
<td></td>
</tr>
<tr>
<td>COML 100</td>
<td>Introduction to Literary Study</td>
<td>1</td>
</tr>
<tr>
<td>or COML 125</td>
<td>Narrative Across Cultures</td>
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</tr>
<tr>
<td>Select one of the following:</td>
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<tr>
<td>COML 350</td>
<td>Introduction to Criticism</td>
<td>1</td>
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<tr>
<td>COML 360</td>
<td>Introduction to Literary Theory</td>
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</tr>
<tr>
<td>COML 094</td>
<td>Introduction to Literary Theory</td>
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</tr>
<tr>
<td>Select 1 course unit of COML Elective</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Select 3 course units of courses in any national or comparative literature</td>
<td>3</td>
<td></td>
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<tr>
<td>Total Course Units</td>
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For more information: http://www.sas.upenn.edu/bbb/content/computational-neuroscience-minor

<table>
<thead>
<tr>
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<th>Title</th>
<th>Course Units</th>
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</thead>
<tbody>
<tr>
<td>Core Requirements</td>
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<td></td>
</tr>
<tr>
<td>BIBB/BIO/L/PSYC 109</td>
<td>Introduction to Brain and Behavior</td>
<td>1</td>
</tr>
<tr>
<td>BIBB/BIO 251</td>
<td>Molecular and Cellular Neurobiology</td>
<td>1.5</td>
</tr>
<tr>
<td>BIBB/PHYS 585/PSYC 539</td>
<td>Theoretical and Computational Neuroscience</td>
<td>1</td>
</tr>
<tr>
<td>BIBB 399</td>
<td>Independent Research</td>
<td>1</td>
</tr>
<tr>
<td>Electives</td>
<td></td>
<td></td>
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<tr>
<td>Select 4 course units of Electives</td>
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<td>Total Course Units</td>
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For more information: https://psychology.sas.upenn.edu/more-information-minors

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<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Course Units</th>
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<td></td>
</tr>
<tr>
<td>STAT 101</td>
<td>Introductory Business Statistics</td>
<td>1</td>
</tr>
<tr>
<td>STAT 102</td>
<td>Introductory Business Statistics</td>
<td></td>
</tr>
<tr>
<td>STAT 111</td>
<td>Introductory Statistics (day or summer only)</td>
<td>1</td>
</tr>
<tr>
<td>STAT 430</td>
<td>Probability</td>
<td></td>
</tr>
<tr>
<td>Biol 446</td>
<td>Statistics for Biologists</td>
<td></td>
</tr>
<tr>
<td>SOCI 120</td>
<td>Social Statistics</td>
<td></td>
</tr>
<tr>
<td>ANTH 454</td>
<td>Quantitative Analysis of Anthropological Data</td>
<td>1</td>
</tr>
<tr>
<td>NURS 230</td>
<td>Statistics for Research and Measurement</td>
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</table>


**Psychology Requirement**

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>PSYC 001</td>
<td>Introduction to Experimental Psychology</td>
<td>1</td>
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Select one of the following:

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Units</th>
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</thead>
<tbody>
<tr>
<td>PSYC 170</td>
<td>Social Psychology</td>
<td>1</td>
</tr>
<tr>
<td>PSYC 266</td>
<td>Introduction to Positive Psychology</td>
<td>1</td>
</tr>
<tr>
<td>PSYC 272</td>
<td>Evolutionary Psychology</td>
<td>1</td>
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Select one of the following:

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Units</th>
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</thead>
<tbody>
<tr>
<td>PSYC 151</td>
<td>Language and Thought</td>
<td>1</td>
</tr>
<tr>
<td>PSYC 253</td>
<td>Judgment and Decisions</td>
<td>1</td>
</tr>
<tr>
<td>PSYC 265</td>
<td>Behavioral Economics and Psychology</td>
<td>1</td>
</tr>
</tbody>
</table>

Select 1 course unit of any of the courses not used or a 300 or 400-level course in Social Psychology or Decision Making

**Marketing Requirement**

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>MKTG 101</td>
<td>Introduction to Marketing</td>
<td>1</td>
</tr>
<tr>
<td>MKTG 211</td>
<td>Consumer Behavior</td>
<td>1</td>
</tr>
<tr>
<td>MKTG 212</td>
<td>Data and Analysis for Marketing Decisions</td>
<td>1</td>
</tr>
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</table>

Select one of the following:

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>Two 0.5 course units of Electives</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>One 1 course unit of Elective</td>
<td>1</td>
<td></td>
</tr>
</tbody>
</table>

Total Course Units: 6

**Creative Writing, Minor**

Creative Writing is the study of writing and literature with an emphasis on cultivating students' own approach to craft. Students can choose from a range of workshops in fiction, creative nonfiction, poetry, screenwriting, playwriting, or journalism, all of which expose them to a range of writing in the field and give them opportunities to craft their own original work. Students can minor in Creative Writing by completing four workshop courses and two courses in the study of literature.

Journalistic Writing is the study of nonfiction writing and literature with an emphasis on cultivating students' own skills in reporting, editing, interviewing, investigative journalism, media scholarship, and writing for a range of platforms. Students can minor in Journalistic Writing by completing six workshop courses in journalism and creative nonfiction, including one required course in long-form journalism.

For more information: http://writing.upenn.edu/cw/

**Design, Minor**

Minor in Design, established in 2010, is for those students with another major who seek to gain a basic knowledge of the creative process of design and to acquire the basic skills necessary to link design with other disciplines in the arts and sciences.

**Digital Humanities, Minor**

The Undergraduate Minor in Digital Humanities is offered by the School of Arts and Sciences at the University of Pennsylvania. It has been designed for students who want to augment their disciplinary studies in the humanities or humanistic social sciences with advanced digital research techniques and in-depth engagement with theoretical and
practical questions raised by digital humanities. Students who are not majoring in humanities fields are also welcome to complete the minor.

For more information: https://pricelab.sas.upenn.edu/education/digital-humanities-minor

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Course Units</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Minor Requirements</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Core Requirements</td>
<td>3-5</td>
</tr>
<tr>
<td>ENGL 009</td>
<td>Introduction to Digital Humanities</td>
<td></td>
</tr>
<tr>
<td>CIS 105</td>
<td>Computational Data Exploration</td>
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</tr>
<tr>
<td>CIS 110</td>
<td>Introduction to Computer Programming</td>
<td></td>
</tr>
<tr>
<td>ENGL 209</td>
<td>Topics in Digital Humanities</td>
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</tr>
<tr>
<td>CLST 127</td>
<td>The Material Past in a Digital World</td>
<td></td>
</tr>
<tr>
<td>FNAR 061</td>
<td>Video I</td>
<td></td>
</tr>
<tr>
<td>SOCI 120</td>
<td>Social Statistics</td>
<td></td>
</tr>
<tr>
<td>COMM 210</td>
<td>Quantitative Research Methods in Communication</td>
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</tr>
<tr>
<td>COMM 321</td>
<td>Big Data and Social Research</td>
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</tr>
<tr>
<td>STSC 364</td>
<td>Technologies of Research: Digital Methods in Action</td>
<td></td>
</tr>
<tr>
<td>PSCI 107</td>
<td>Introduction to Data Science</td>
<td></td>
</tr>
<tr>
<td>CIS 106</td>
<td>Visualizing the Past.</td>
<td></td>
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<tr>
<td></td>
<td>Electives</td>
<td>1-3</td>
</tr>
<tr>
<td></td>
<td>Select at least one, but no more than three additional courses designated as Digital Humanities electives</td>
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</tr>
<tr>
<td></td>
<td>Total Course Units</td>
<td>6</td>
</tr>
</tbody>
</table>

The degree and major requirements displayed are intended as a guide for students entering in the Fall of 2017 and later. Students should consult with their academic program regarding final certifications and requirements for graduation.

Dutch (Netherlandic), Minor

The Dutch-speaking Low Countries (the Netherlands and part of Belgium) are a unique cultural community of about 22 million speakers in Northwestern Europe. The names of famous Dutch artists readily come to mind: Rembrandt, Rubens, Breughel, Van Eyck, Mondriaan, as do some of the cities where they lived: Amsterdam, Brussels, Leyden, Maastricht. But artists do not flourish in a vacuum. Each of these artists assumes a cultural, political, economic, and historical context that is worthy of study in its own right. The resources in Dutch Studies at Penn offer students and faculty the ability to learn more about:

- The Dutch Economy
- The Dutch Language
- The Netherlands and Belgium During the Nazi Occupation
- The Literature and Culture of the Dutch Colonial Period

For more information: https://www.sas.upenn.edu/germanic/languages/dutch

Intensive Summer study in Zeist or Gent can also count toward Minor requirements.

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Course Units</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Minor Requirements</td>
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</tr>
<tr>
<td></td>
<td>Language Requirement</td>
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<tr>
<td>DTCH 101</td>
<td>Elementary Dutch I</td>
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<tr>
<td>DTCH 102</td>
<td>Elementary Dutch II</td>
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</tr>
<tr>
<td>DTCH 103</td>
<td>Intermediate Dutch I</td>
<td>1</td>
</tr>
<tr>
<td>DTCH 104</td>
<td>Intermediate Dutch II</td>
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</tr>
<tr>
<td></td>
<td>Literature, Culture, or History Requirements</td>
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<tr>
<td></td>
<td>Select 2 course units of Literature, Culture, or History Requirement courses</td>
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</tr>
<tr>
<td></td>
<td>Total Course Units</td>
<td>6</td>
</tr>
</tbody>
</table>

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East Asian Area Studies, Minor

East Asian Area Studies focuses on East Asia as a region of the world and human experience, and provides an integrated curriculum drawing on the approaches of the social sciences and the humanities. The program requires relevant courses in areas including history, international relations, political science, sociology, legal studies, and East Asian arts and cultures, while maintaining high standards in language study.

For more information: https://ceas.sas.upenn.edu/undergraduate/secondary-undergraduate-page

With intensive language courses (4 course units) the Minor will require 8 course units.

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Course Units</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Minor Requirements</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Language Requirement</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Select a minimum of 2 course units in one language: Chinese, Japanese, or Korean</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>Gateway Course</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Select 1 course unit in Introduction to China, Japan or Korea</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Electives</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Select a minimum of 3 course units of Electives in consultation with the Major Adviser</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Select up to 2 course units of Electives in place of Language Requirement courses (Consult with Major Advisor)</td>
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</tr>
<tr>
<td></td>
<td>Total Course Units</td>
<td>6</td>
</tr>
</tbody>
</table>

The degree and major requirements displayed are intended as a guide for students entering in the Fall of 2017 and later. Students should
consult with their academic program regarding final certifications and requirements for graduation.

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**East Central European Studies, Minor**

The Minor program in East Central European Studies offers students the opportunity for the interdisciplinary study of the language, history, politics, literature, and culture of Eastern and Central Europe. The minor requires a total of six courses (6 c.u.) beyond the language requirement (two semesters), which students can satisfy by choosing any regional language currently offered at Penn (i.e., Bosnian/Croatian/Serbian, Hungarian, Polish, Ukrainian, Yiddish), by completing language coursework through a study abroad program, or by demonstrating equivalent proficiency.

For more information: [http://ccat.sas.upenn.edu.slavic/](http://ccat.sas.upenn.edu.slavic/)

### Minor Requirements

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Course Units</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Required</strong></td>
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<td></td>
</tr>
<tr>
<td>ECON 001</td>
<td>Introduction to Micro Economics</td>
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</tr>
<tr>
<td>ECON 002</td>
<td>Introductory Economics: Macro</td>
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<tr>
<td><strong>Electives</strong></td>
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<tr>
<td>Select four of the following:</td>
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<tr>
<td>ECON 024</td>
<td>Development Economics</td>
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<tr>
<td>ECON 030</td>
<td>Public Policy Analysis</td>
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<tr>
<td>ECON 033</td>
<td>Labor Economics</td>
<td></td>
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<tr>
<td>ECON 032</td>
<td>Political Economy</td>
<td></td>
</tr>
<tr>
<td>ECON 035</td>
<td>Industrial Organization</td>
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<tr>
<td>ECON 036</td>
<td>Law and Economics</td>
<td></td>
</tr>
<tr>
<td>ECON 039</td>
<td>Economics and Financing of Health Care Delivery</td>
<td></td>
</tr>
<tr>
<td>ECON 050</td>
<td>International Economics</td>
<td></td>
</tr>
<tr>
<td>ECON 103</td>
<td>Statistics for Economists</td>
<td></td>
</tr>
</tbody>
</table>

Total Course Units 6

1. It is highly recommended that students take ECON 030 Public Policy Analysis as one of the electives.
2. Students may substitute a 0-level for a 200-level in the same subject area provided they fulfill the prerequisites.

The degree and major requirements displayed are intended as a guide for students entering in the Fall of 2017 and later. Students should consult with their academic program regarding final certifications and requirements for graduation.

---

**Economic Policy, Minor**

Economics is a social science and as such an important component of the liberal arts curriculum. At the core of economics are theories of how individuals, firms, and other organizations make choices and interact, taking into account constraints on their behaviors. Among the topics studied in economics are: the determination of prices and quantities in various types of markets (from perfectly competitive commodity markets to highly regulated utility markets and internet auctions); the effects of taxes, subsidies, and regulations; the determination of aggregate economic activity (e.g., GDP, unemployment); inflation, monetary policy, and financial intermediation; economic growth and income distribution; international trade and international finance (e.g., exchange rates).

Economic policy questions stand at the center of public policy debates in the U.S. and countries all around the world. The goal of the Economic Policy Minor is to provide students who are not majoring in economics with the analytical tools that are necessary to participate in and shape public policy debates. The foundation for the minor is provided by the microeconomics and macroeconomics principles courses. After having completed the principles courses, the student can choose a minimum of four elective courses, which apply the basic tools of economic analysis to specific policy questions. The completion of the Economic Policy Minor does not require university-level calculus courses.

For more information: [http://economics.sas.upenn.edu/undergraduate-program/economic-policy-minor](http://economics.sas.upenn.edu/undergraduate-program/economic-policy-minor)

### Minor Requirements

<table>
<thead>
<tr>
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<th>Title</th>
<th>Course Units</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Required</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ECON 002</td>
<td>Introductory Economics: Macro</td>
<td>1</td>
</tr>
<tr>
<td><strong>Electives</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Select four of the following:</td>
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<td></td>
</tr>
<tr>
<td>ECON 024</td>
<td>Development Economics</td>
<td>4</td>
</tr>
<tr>
<td>ECON 030</td>
<td>Public Policy Analysis</td>
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<tr>
<td>ECON 033</td>
<td>Labor Economics</td>
<td></td>
</tr>
<tr>
<td>ECON 032</td>
<td>Political Economy</td>
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<td>ECON 035</td>
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<td>ECON 036</td>
<td>Law and Economics</td>
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<tr>
<td>ECON 039</td>
<td>Economics and Financing of Health Care Delivery</td>
<td></td>
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<tr>
<td>ECON 050</td>
<td>International Economics</td>
<td></td>
</tr>
<tr>
<td>ECON 103</td>
<td>Statistics for Economists</td>
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</tbody>
</table>

Total Course Units 6

The degree and major requirements displayed are intended as a guide for students entering in the Fall of 2017 and later. Students should consult with their academic program regarding final certifications and requirements for graduation.

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**Economics, Minor**

Economics is a social science and as such an important component of the liberal arts curriculum. At the core of economics are theories of how individuals, firms, and other organizations make choices and interact, taking into account constraints on their behaviors. Among the topics studied in economics are: the determination of prices and quantities in various types of markets (from perfectly competitive commodity markets to highly regulated utility markets and internet auctions); the effects of taxes, subsidies, and regulations; the determination of aggregate economic activity (e.g., GDP, unemployment); inflation, monetary policy, and financial intermediation; economic growth and income distribution; international trade and international finance (e.g., exchange rates).

The Economics Minor is intended for students with a strong interest in rigorous economics who are majoring in related fields. For instance, this minor should be attractive for students who are majoring in political science or sociology, who are interested in quantitative data analysis, or students looking for an applied field that accompanies a major in mathematics.
For more information: http://economics.sas.upenn.edu/undergraduate-program/economics-minor

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Course Units</th>
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</thead>
<tbody>
<tr>
<td>Minor Requirements</td>
<td></td>
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</tr>
<tr>
<td>ECON 001</td>
<td>Introduction to Micro Economics</td>
<td>1</td>
</tr>
<tr>
<td>ECON 002</td>
<td>Introductory Economics: Macro</td>
<td>1</td>
</tr>
<tr>
<td>ECON 101</td>
<td>Intermediate Microeconomics</td>
<td>1</td>
</tr>
<tr>
<td>Select 1 course unit at 200 level</td>
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<td></td>
</tr>
<tr>
<td>Select 2 course units of ECON Electives</td>
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<tr>
<td>Total Course Units</td>
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</tr>
</tbody>
</table>

The degree and major requirements displayed are intended as a guide for students entering in the Fall of 2017 and later. Students should consult with their academic program regarding final certifications and requirements for graduation.

English, Minor

Students deciding to pursue English at Penn study language, literature, literary history and theories of literary production in a thirteen-course major of flexible design. While completing the language and literature requirement and the five required courses in the literary historical “core,” majors also pursue their own special literary interests in six-course concentrations of their own choosing. English offers more than twenty distinct concentrations, including several options for creative writers.

For more information: http://www.english.upenn.edu/undergraduate/minor

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<tr>
<th>Code</th>
<th>Title</th>
<th>Course Units</th>
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<tr>
<td>Minor Requirements</td>
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</tr>
<tr>
<td>ENGL 020</td>
<td>Literature Before 1660</td>
<td>1</td>
</tr>
<tr>
<td>or ENGL 040</td>
<td>British Poetry 1660 - 1914</td>
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</tr>
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<td>Select 1 course unit of 200 Level Research Seminar</td>
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<tr>
<td>Select 3 course units of ENGL courses</td>
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<tr>
<td>Select 1 course unit of ENGL or Related course (with permission)</td>
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</tbody>
</table>

The degree and major requirements displayed are intended as a guide for students entering in the Fall of 2017 and later. Students should consult with their academic program regarding final certifications and requirements for graduation.

Environmental Studies, Minor

The Environmental Studies minor is designed to achieve an understanding of the breadth of contemporary environmental issues through a series of courses in environmental studies, while ensuring that each student pursue a purposeful course of study in some traditionally defined area of scholarship. Graduates of the program are trained for professions directly or indirectly involved with problems of environmental quality.

For more information: http://www.sas.upenn.edu/earth/minors/environmental-studies-minor

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<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Course Units</th>
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</thead>
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<tr>
<td>Minor Requirements</td>
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</tr>
<tr>
<td>ENVS 100</td>
<td>Introduction to Environmental Science</td>
<td>1</td>
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<tr>
<td>Select one of the following:</td>
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<tr>
<td>GEOL 204</td>
<td>Global Climate Change</td>
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</tr>
<tr>
<td>GEOL 100</td>
<td>Introduction to Geology</td>
<td></td>
</tr>
<tr>
<td>GEOL 103</td>
<td>Natural Disturbances and Human Disasters</td>
<td></td>
</tr>
<tr>
<td>GEOL 125</td>
<td>Earth and Life Through Time</td>
<td></td>
</tr>
<tr>
<td>GEOL 130</td>
<td>Oceanography</td>
<td></td>
</tr>
<tr>
<td>ENVS 301</td>
<td>Environmental Case Studies</td>
<td></td>
</tr>
<tr>
<td>Select 1 course unit in Data Analysis &amp; Statistics</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Select 1 course unit in Economics &amp; Policy</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Electives</td>
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<tr>
<td>Select 2 course units of 400 or 500-level Electives</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>Total Course Units</td>
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<td></td>
</tr>
</tbody>
</table>

1 Please consult with your Minor advisor.

The degree and major requirements displayed are intended as a guide for students entering in the Fall of 2017 and later. Students should consult with their academic program regarding final certifications and requirements for graduation.

European Studies, Minor

European Studies at Penn is an interdisciplinary minor and an ideal addition to the study of many disciplines in the humanities and social sciences. It supplements majors in history, political science, sociology and art history as well as in French, German, English, Spanish, Italian and Slavic languages. It is designed to give students access to:

- An understanding of Europe as a historical and cultural entity and its world leadership in business, politics and culture.
- A great variety of countries, cultures and languages whose interaction with each other and with the United States is an essential part of transatlantic culture.
- The institutions of a new Europe—European Union, Council of Europe, European Court of Human Rights—reflecting the largest experiment in building a global system of governance in human history.

For more information: http://www.college.upenn.edu/node/2339

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<tr>
<th>Code</th>
<th>Title</th>
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<tr>
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<tr>
<td>European History:</td>
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<tr>
<td>Select one of the following:</td>
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</tbody>
</table>
### Fine Arts, Minor

The Undergraduate Fine Arts Program combines studio practices, seminar courses, and interactions with visiting artists and professionals in order to provide an open intellectual framework to foster critical awareness and independent methods of artistic research and learning. The Fine Arts Department offers a diverse range of studio courses in the areas of animation and 3D modeling, ceramics, design, drawing and painting, photography, printmaking, sculpture and video. The dynamic curriculum also provides students with the opportunity to thoroughly examine contemporary art, creative research, interactive design and public art through seminar-based instruction.

The Undergraduate Fine Arts Program offers a Fine Arts Major for students in the College of Arts and Sciences and School of Engineering, and a Fine Arts Minor for undergraduate students across the university. The Fine Arts program works in conjunction with three interdisciplinary degree programs in Cinema Studies, Digital Media Design and Visual Studies. Fine Arts courses are available to all students at the university to take as electives in order to enhance multidisciplinary learning.

A goal of the Undergraduate Fine Arts program is to facilitate an environment where the potentialities of art are considered in relation to the real life conditions of our students. Encouraged to test themselves against the rigors of divergent artistic approaches and their histories, our students develop a more complex set of skills to creatively and critically negotiate the turbulent shifts taking place globally in terms of human experiences.

### French and Francophone Studies, Minor

French andFrancophone Studies introduces students to the full span of historical and cultural traditions from France and the French-speaking world. Languages courses - from introductory to advanced - promote linguistic fluency, building on the skills students have acquired in high school or at Penn. Upper-level seminars explore a range of topics pertaining to literature, history, visual arts, and/or the media, and they offer majors and minors the opportunity to engage in research on French and global Francophone cultures across periods into contemporary times.

For more information: https://www.sas.upenn.edu/french/undergraduate/requirements-majors-and-minors/minor-french-francophone-studies

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<tr>
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<tr>
<td>ARTH</td>
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Minor Requirements

For more information: http://www.design.upenn.edu/fine-arts/undergraduate/program

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<tr>
<td>FNAR: Drawing Studio</td>
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<tr>
<td>FNAR: Sculpture Studio or Ceramic Studio</td>
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<tr>
<td>FNAR: Design, Animation, or Video Studio</td>
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<td></td>
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<tr>
<td>FNAR: Photography Studio</td>
<td></td>
<td></td>
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<tr>
<td>FNAR: Painting Studio</td>
<td></td>
<td></td>
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<tr>
<td>FNAR: Art, Design and Digital Culture</td>
<td></td>
<td></td>
</tr>
<tr>
<td>FNAR: Design, Animation, or Video Studio</td>
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</table>

The degree and major requirements displayed are intended as a guide for students entering in the Fall of 2017 and later. Students should consult with their academic program regarding final certifications and requirements for graduation.
Core Requirements ²

FREN 212 Advanced French Grammar and Composition 1
or FREN 214 Advanced French Composition and Conversation

Select one of the following: 1

FREN 226 French History and Culture until 1789
FREN 227 French History and Culture 1789-1945
FREN 228 Contemporary France
FREN 229 French in the World
FREN 231 Perspectives in French Literature
FREN 232 Perspectives in French Literature: The Individual and Society

Electives

Select 4 course units of Electives at 200 and 300 level courses ³ 4

Total Course Units 6

¹ At least 3 courses must be taken in the department at Penn. ALL courses must be taken in French.
² Must be taken in the Department at Penn.
³ At least one must be taken in the Department at Penn.

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Geology, Minor

The Geology minor is designed to provide the graduates with skills to determine the environmental and/or geologic events that have led to the structures and features of a location and to analyze a field site or geologic region. Areas of interest include mineralogy, petrology, volcanology, stratigraphy, economic geology and paleontology. Geology also includes subjects as varied as environmental geology, evolutionary biology, solid-state chemistry, oceanography, mineral economics and geochronology.

For more information: http://www.sas.upenn.edu/earth/minors/earth-science-minor

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<tr>
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<tr>
<td>Core Course</td>
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<tr>
<td>GEOL 100 Introduction to Geology 1</td>
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<tr>
<td>Advanced Level Courses</td>
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<tr>
<td>Select 5 course units of Advanced Level courses 5</td>
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<td></td>
</tr>
<tr>
<td>Total Course Units 6</td>
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</tbody>
</table>

¹ See web site for list of approved courses.

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German, Minor

The major and minor programs in the Department of Germanic Languages and Literatures provide deep understandings of language and cultures. Building from basic language competency to synthesizing significant literary works, historical context and current media and politics, the program offers a comprehensive education through engaged, active learning in a combination of core courses with a wide range of electives. Your learning experiences can be broadened and applied in study abroad as well as internship programs.

For more information: https://www.sas.upenn.edu/germanic/

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<tr>
<th>Code</th>
<th>Title</th>
<th>Course Units</th>
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<tbody>
<tr>
<td>Minor Requirements</td>
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<tr>
<td>Required Course</td>
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<tr>
<td>GRMN 203 TEXTS AND CONTEXTS. 1</td>
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<td></td>
</tr>
<tr>
<td>Electives</td>
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</tbody>
</table>

¹ Electives should be selected in consultation with the undergraduate chair of Gender, Sexuality, and Women's Studies.

Gender, Sexuality, and Women's Studies, Minor

The Gender, Sexuality and Women’s Studies Program is an interdisciplinary program that provides exciting intellectual opportunities to explore the role of gender in human affairs. The Gender, Sexuality and Women's Studies Program offers over 50 courses each year, many cross-listed with other departments. GSWS offers a major, a minor, and a graduate certificate.

For more information: http://www.sas.upenn.edu/gsws/

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<tr>
<th>Code</th>
<th>Title</th>
<th>Course Units</th>
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<tbody>
<tr>
<td>Minor Requirements ¹</td>
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<tr>
<td>Core Requirements</td>
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<td></td>
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<tr>
<td>GSWS 002 Gender and Society 1</td>
<td></td>
<td></td>
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<tr>
<td>GSWS 003 Introduction to Sexuality Studies and Queer Theory 1</td>
<td></td>
<td></td>
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<tr>
<td>Electives</td>
<td></td>
<td></td>
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<tr>
<td>Select 4 course units of Electives ¹ 4</td>
<td></td>
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<tr>
<td>Total Course Units 6</td>
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</tbody>
</table>

¹ Electives should be selected in consultation with the undergraduate chair of Gender, Sexuality, and Women’s Studies.
Global Medieval Studies, Minor

Eleven Penn departments contribute to the interdisciplinary program in Global Medieval Studies, which allows students to discover the pre-modern world together, as the root and necessary precondition to the modern. The program is broad geographically and temporally; it includes Europe, the Middle East, Asia, and Africa, and in the latter part of our period even the New World, from Late Antiquity to 1700. This was a formative historical and cultural period in a variety of civilizations, from the north-western corner of Europe, across the Mediterranean and the Middle East, and on to southern and eastern Asia, south to Africa and over the Atlantic Ocean to the New World. The program encourages students to view the world through the lens of various disciplinary and geographic perspectives and discover the interaction of diverse civilizations and religions. As the era that gave birth to contemporary nations and a time before the formation of modern geopolitical concepts, this period provides a critical space for thinking about the composite nature of contemporary identities.

The minor program in Global Medieval Studies can easily be combined with a major in a language and literature tradition, philosophy, science, international relations, or even natural sciences, to name a few. As broadly educated historians and humanists, students of Global Medieval Studies can go on to a variety of occupations or continue their education in a range of graduate programs or professional schools.

For more information: http://web.sas.upenn.edu/global-medieval-studies/

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<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Course Units</th>
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<tr>
<td>Minor Requirements</td>
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<td></td>
<td>Field Distribution (Choose any three fields)</td>
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<tr>
<td></td>
<td>History</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Art, Architecture, Music</td>
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</tr>
<tr>
<td></td>
<td>Literature or Written Culture</td>
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<td>Religion, Philosophy, or Science</td>
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<td></td>
<td>Geographical Distribution</td>
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<td></td>
<td>Europe</td>
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</table>

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in Europe, Spain is assuming an ever-more significant role in the affairs of the European Union. The Spanish transition to democracy in the 1970s fostered an environment of cultural, linguistic and political diversity that for half a century has served as a fascinating model for the rest of Europe, both east and west.

Hence, the knowledge of Spanish culture gives students much more than the ability to communicate in the third-most-spoken language of the world. It prepares them to account for an entirely different national, continental and global reality in all its complexity. Since culture is the controlling category in this field of studies, the major in Hispanic Studies orients itself to the types of knowledge generated by new disciplines such as cultural studies, new historicism, ethics, and postcolonial studies.

Majors in Hispanic Studies are overwhelmingly double majors. This means that they bring to their classes a dialogic perspective that engages in the study of Hispanic cultures informed by interest in other fields such as history, government, sociology, economics, medicine, and law. The richness and depth of these interests make for lively and intellectually rewarding classroom discussions.

For more information: https://www.sas.upenn.edu/hispanic-portuguese-studies/undergraduate/hispanic-studies/requirements-majors-minors/minor-hispanic-studies

<table>
<thead>
<tr>
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<th>Title</th>
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<tbody>
<tr>
<td>Minor Requirements</td>
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<tr>
<td>Core Requirements</td>
<td>SPAN 212 Advanced Spanish II: Grammar and Composition</td>
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<tr>
<td></td>
<td>SPAN 219 Hispanic Texts and Contexts or SPAN 223 Introduction to Literary Analysis</td>
<td>1</td>
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<tr>
<td>200 or 300 Level Course</td>
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<tr>
<td>Select one 200 or 300 Level SPAN course</td>
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<td>300 Level Courses</td>
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<td>Select three 300 SPAN Level courses</td>
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</table>

1 Must be taken in the Department at Penn.
2 At least 2 course units must be taken in the Department at Penn.

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History and Legal Studies, Minor

The University of Pennsylvania’s Wharton School and the College of Arts and Sciences are pleased to offer a unique program of study for undergraduate students that enables them to explore multiple perspectives on law as an inter-school supplement to their major field of study.

For more information: https://lgst.wharton.upenn.edu/minor-in-legal-studies-and-history/
History, Minor

A Minor in History consists of six courses, four of which must be taken in the Penn Department of History. Students may count a maximum of two courses from either study abroad, credit away or transfer credit. History Minors may not count any major-related courses - these are courses from other Penn departments that are not cross-listed with History. Courses for a Minor may not be taken pass/fail.

For more information: http://www.history.upenn.edu/undergraduate/history-minor

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<tr>
<th>Code</th>
<th>Title</th>
<th>Course Units</th>
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<tbody>
<tr>
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<tr>
<td></td>
<td>Geographic Distribution</td>
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<td>Select one distinct course in three of the five geographic regions</td>
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</tr>
<tr>
<td></td>
<td>United States &amp; Canada</td>
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<td></td>
<td>Europe and Australia</td>
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<td></td>
<td>Africa and the Middle East</td>
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<td></td>
<td>Latin America &amp; The Caribbean</td>
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<td></td>
<td>East Asia and South Asia</td>
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<td>Chronological Distribution</td>
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<td>Select 1 Pre-1800 course</td>
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<td>Select 1 Post-1800 course</td>
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<td></td>
<td>Penn History Seminar</td>
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<td>Select 1 Penn History Seminar at 200-Level or Above</td>
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<td>Other Courses for the Minor</td>
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<td>Select 3 courses</td>
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International Relations, Minor

International Relations addresses the ways in which governments, private groups and individuals relate to each other in the global political and economic systems. The program provides a solid grounding in the methodologies of political science, history and economics. The curriculum draws on the best courses relevant to world politics, offers a well-rounded liberal arts education and helps prepare students for law or business school, Ph.D. programs and international careers.

For more information: http://www.sas.upenn.edu/irp/

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<tr>
<th>Code</th>
<th>Title</th>
<th>Course Units</th>
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<tbody>
<tr>
<td></td>
<td>Minor Requirements</td>
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<tr>
<td></td>
<td>Pre-Requisites</td>
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<td></td>
<td>ECON 001 Introduction to Micro Economics</td>
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<tr>
<td></td>
<td>ECON 002 Introductory Economics: Macro</td>
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<tr>
<td></td>
<td>Core Courses 1</td>
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<tr>
<td></td>
<td>International Relations in Theory &amp; Practice:</td>
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<tr>
<td></td>
<td>INTR 200 or PSCI 150 Introduction to International Relations</td>
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<td>Select one of the following Options:</td>
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<tr>
<td></td>
<td>Option 1: International Economics</td>
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<td>ECON 050 International Economics</td>
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<td></td>
<td>Option 2: International Trade and International Monetary Economics</td>
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<tr>
<td></td>
<td>ECON 251 International Trade or ECON 252: International Finance</td>
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</table>

International Development, Minor

The International Development minor is intended for students who wish to complement their primary area of study with an interdisciplinary focus on complex social problems associated with international development. The minor is intended to expand a student's chosen major by focusing on critical development issues from several different academic perspectives. Approved courses emphasize problems of development in poor countries and poorer regions of wealthier countries. The interdisciplinary nature of the minor allows students to embrace a global perspective on the processes of change and development, critically assess internal and external influences on the development process, and gain a deeper perspective on the interconnectedness of complex problems.

For more information: http://www.sas.upenn.edu/polisci/node/867

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<td>PSCI Requirement</td>
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<tr>
<td></td>
<td>Select 3 course units of PSCI courses</td>
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<tr>
<td></td>
<td>Other (or PSCI) Requirement</td>
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<tr>
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<td>Select 3 course units of Other or PSCI courses</td>
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</tr>
<tr>
<td></td>
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<td>6</td>
</tr>
</tbody>
</table>

1 Minimum 3 course units in PSCI and no more than 3 course units in non-PSCI subjects (see pre-approved list (http://www.sas.upenn.edu/polisci/node/867))
Jewish Studies, Minor

The Jewish Studies Program provides an opportunity for students to study the Jewish experience from several perspectives including: language (Hebrew, Yiddish, and Ladino), literature in the original languages and in translation, the history and culture of the Jewish people from Biblical Israel to 21st-century America and modern Israel, the exploration of Jewish law, and the roles of gender and sex in Judaism. Students may specialize in Jewish Studies through a major or a minor, or though one of the following concentrations: Jewish History within the History Department, Hebraica/Judaica within the Department of Near Eastern Languages & Civilizations, and Judaism within the Department of Religious Studies.

For more information: http://ccat.sas.upenn.edu/jwst/undergraduate

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Course Units</th>
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<tr>
<td></td>
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</tr>
<tr>
<td></td>
<td>Jewish History</td>
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<tr>
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<td>Select 2 course units of Jewish History courses</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Jewish Literature</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>Select 2 course units of Jewish Literature courses from at least two different historical periods</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Jewish Religion or Culture</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>Select 2 course units of Jewish Religion or Culture courses</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Elective</td>
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<tr>
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<td>Select 1 course unit of Elective</td>
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<tr>
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<td>Total Course Units</td>
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</tr>
</tbody>
</table>

The degree and major requirements displayed are intended as a guide for students entering in the Fall of 2017 and later. Students should consult with their academic program regarding final certifications and requirements for graduation.

Italian Studies: Italian Literature, Minor

The Italian Studies section of the Romance Languages Department offers programs in language, literature, film, linguistics, cultural studies and civilization for students with or without a background in Italian. At the core of this program is the study of the Italian language, understood both in the narrow sense of verbal communication, but also in the larger sense of textual messages: literary, cinematic, historical, art-historical, and mass-cultural.

For more information: http://www.sas.upenn.edu/italians/

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Course Units</th>
</tr>
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<tbody>
<tr>
<td></td>
<td>Minor Requirements</td>
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<tr>
<td></td>
<td>Required Courses</td>
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<tr>
<td></td>
<td>ITAL 201 Advanced Italian I</td>
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<tr>
<td></td>
<td>ITAL 202 Advanced Italian II</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>or ITAL 203 Masterpieces-Italian Literature</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Electives</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Select 4 course units of Electives</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>Total Course Units</td>
<td>6</td>
</tr>
</tbody>
</table>

1 At least 2 of the 4 electives must be taught in Italian. At least 1 of these 2 must be at the 300-level. No more that 2 extra-departmental Italian Studies courses taught in English may be counted towards the minor. No more than 3 courses may be taken abroad.

The degree and major requirements displayed are intended as a guide for students entering in the Fall of 2017 and later. Students should consult with their academic program regarding final certifications and requirements for graduation.

Journalistic Writing, Minor

Creative Writing is the study of writing and literature with an emphasis on cultivating students’ own approach to craft. Students can choose from a range of workshops in fiction, creative nonfiction, poetry, screenwriting, playwriting, or journalism, all of which expose them to a range of writing in the field and give them opportunities to craft their own original work. Students can minor in Creative Writing by completing four workshop courses and two courses in the study of literature.

Journalistic Writing is the study of nonfiction writing and literature with an emphasis on cultivating students’ own skills in reporting, editing, interviewing, investigative journalism, media scholarship, and writing for a range of platforms. Students can minor in Journalistic Writing by completing six workshop courses in journalism and creative nonfiction, including one required course in long-form journalism.

For more information: http://writing.upenn.edu/cw/
Landscape Studies, Minor

The Landscape Studies Minor focuses on the role of the landscape in the cultural imagination, on its legibility as a representation of political, social, artistic, and environmental values; and on its potential to reflect and change our ideas about relationships between the natural world and society.

For more information: http://www.design.upenn.edu/landscape-architecture/undergraduate-minor

Law and Society, Minor

The Law and Society Minor program gives students the opportunity to study and understand the law within a sociological framework, by examining both the factors that affect variations in the law, as well as how those variations affect individuals and populations differently. In addition to a theoretical foundation in Sociology, students in the minor will study issues involving the state, its relationship to other institutions such as religions, corporations, civil liberties, the organization of courts, punishment and detention, legislatures, international bodies and trade agreements (such as NAFTA and the EU), race, class and gender and discrimination, reproductive rights, LGBT rights and the legal profession in general. Although the focus of this minor will be on U.S. laws and the U.S. society, laws and societies of other countries as well as international law and the international society will be used for comparative analysis.

The minor prepares students interested in the broad aspects of legal regulations and social organization. It is for students who are interested in graduate studies in law, applied community organizations, or business.

For more information: https://sociology.sas.upenn.edu/lawandsociety

Latin American and Latino Studies, Minor

The Latin American and Latino Studies (LALS) Program offers an interdisciplinary major and minor to study the history, arts, languages, cultures, societies, politics, and/or regional organizations of Latin American and Caribbean countries as well as Latino communities and individuals in the United States. With courses offered across many departments in the School of Arts and Sciences, in study abroad programs taught throughout Latin American cities, and with academically based community service courses with Latino organizations in the Greater Philadelphia area, the LALS major and minor afford our students a very comprehensive approach to Latin American and Latino Studies as well as the possibility of a flexible curriculum, where students can pursue and combine their academic interests.

For more information: https://www.sas.upenn.edu/lals/content/major-minor

Requirements: Language competence equal to two semesters of college study in Spanish or Portuguese.

Latin American and Latino Studies, Minor

Requirements:
- Language competence equal to two semesters of college study in Spanish or Portuguese.
- Select 6 course units of courses with Latin American content

Total Course Units: 6

1 Only two courses counted toward a major may be double-counted toward the LALS Minor. Study Abroad courses may count. Consult with your Minor Advisor.

The degree and major requirements displayed are intended as a guide for students entering in the Fall of 2017 and later. Students should consult with their academic program regarding final certifications and requirements for graduation.

Law and Society, Minor

Requirements:
- Core Requirements
  - SOC 001 Introduction to Sociology
  - SOC 100 Introduction to Sociological Research
  - SOC 135 Law and Society
- Additional Electives
  - Select 2 course units of Additional Electives

Total Course Units: 6

The degree and major requirements displayed are intended as a guide for students entering in the Fall of 2017 and later. Students should consult with their academic program regarding final certifications and requirements for graduation.

Latin American and Latino Studies, Minor

Requirements:
- Core Requirements
  - Select 6 course units of courses with Latin American content

Total Course Units: 6

The degree and major requirements displayed are intended as a guide for students entering in the Fall of 2017 and later. Students should consult with their academic program regarding final certifications and requirements for graduation.
The degree and major requirements displayed are intended as a guide for students entering in the Fall of 2017 and later. Students should consult with their academic program regarding final certifications and requirements for graduation.

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**Linguistics, Minor**

The Linguistics Program is intended to acquaint students with the methods and findings of the scientific study of human language and its relationships to cognition, society, and history. It serves as a preparation for graduate training in linguistics or related areas, and as part of a rigorous general education. Linguistic training is relevant to work in anthropology, philosophy, psychology, and language and literature, as well as to careers in such fields as education, computer science and law. Founded by Zellig Harris in 1947, the Penn Linguistics Department is the oldest modern linguistics department in the United States. We have outstanding programs in the core disciplines of syntax and phonology, as well as in sociolinguistics, semantics, discourse, historical linguistics, phonetics, and psycholinguistics. Penn is also the home of the Linguistic Data Consortium (LDC), a compiler and distributor of linguistic materials for language engineering research. The graduate group in Linguistics at the University of Pennsylvania is an interdisciplinary team of faculty from the Department of Linguistics and related departments. Our program has strong concentrations in several areas and a tradition of collaboration among its faculty.

For more information: http://www.ling.upenn.edu/undergraduate/minor-linguistics

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**Logic, Information, and Computation, Minor**

Modern mathematical logic began with work by Cantor, Frege, and other mathematicians during the last three decades of the nineteenth century who were concerned with providing a sound basis for the development of mathematical analysis. In the wake of "the crisis in the foundations of mathematics" precipitated by the discovery of various logical paradoxes at the turn of the twentieth century, mathematicians and philosophers such as Hilbert and Russell intensively pursued investigations into the logical foundations of mathematics. Connections between logic and the foundations of mathematics remained an important source for scientific developments in logic through the epochal results of Gödel in 1930 and 1931, which indicated both the scope and limits of the mechanization of mathematical reasoning. The great burst of scientific activity occasioned by Gödel’s results led directly to Turing’s mathematical characterization of mechanical computation in terms of simple devices, now known as Turing machines. The work of Gödel, Turing, and other logicians during the 1930s laid the scientific foundations for the revolution in computer and information technology that began in the last half of the twentieth century and continues today.

The Logic, Information, and Computation Program offers students the opportunity to engage in a systematic, integrative program of study within the School of Arts and Sciences. Logic remains one of the core disciplines in investigations of information and computation. Indeed, logic is playing a major role in advances in computer security, database technology, networking, and software engineering. Moreover, logic has expanded its role within mathematics beyond foundational studies and now enjoys rich connections with areas as diverse as algebra, analysis, and combinatorics. In light of the current importance of the investigation of computation and information from both a scientific and technological point of view, the Major and Minor in Logic, Information, and Computation will provide students with a strong background to pursue computational aspects of the natural, biological, and social sciences and prepare them for careers in information technology.

For more information: http://logic.sas.upenn.edu/program.html

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### Minor Requirements

**Mathematics Requirement**

- MATH 104 Calculus, Part I
- MATH 115 Calculus, Part II with Probability and Matrices
- or MATH 114 Calculus, Part II

**Logic, Info, & Computation Requirement**

- LGIC 010 Ideas in Logic and Computation
- or PHIL 005 Formal Logic I
- LGIC 210 Applied Mathematics of Information and Computation I
- or MATH 340 Discrete Mathematics I

Select one of the following:

- LGIC 310 Logic I
- PHIL 006 Formal Logic II
- MATH 570 Introduction to Logic and Computability

**Electives**

- Select 3 course units of Electives \(^1\)  

Total Course Units: 8

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\(^1\) Check: http://logic.sas.upenn.edu for pre-approved courses.

The degree and major requirements displayed are intended as a guide for students entering in the Fall of 2017 and later. Students should consult with their academic program regarding final certifications and requirements for graduation.
Mathematics, Minor

At the core of modern theoretical science, mathematics has historically provided an expressive language as well and theoretical framework for advances in the physical sciences. It has since become central in the life and social sciences and computer science. Mathematics at Penn embraces traditional core areas of mathematics as well as developing areas (Penn is one of the world’s leading centers in the application of logic to theoretical computer science). The goals of the major program are to assist students in acquiring both an understanding of mathematics and an ability to use it. The mathematics major provides a solid foundation for graduate study in mathematics as well as background for study in economics, the biological sciences, the physical sciences and engineering, as well as many non-traditional areas.

For more information: https://www.math.upenn.edu/undergraduate/math-majors-and-minors/mathematics-minor

Review the math minor first by visiting, http://www.math.upenn.edu/ugrad/minor.html. Below is a planning tool that is meant to help you but does not replace the web and adviser visit requirements.

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Course Units</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Minor Requirements</strong></td>
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<tr>
<td><strong>Calculus Requirement</strong></td>
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<td>MATH 104</td>
<td>Calculus, Part I</td>
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<tr>
<td>MATH 114</td>
<td>Calculus, Part II</td>
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</tr>
<tr>
<td>or MATH 115</td>
<td>Calculus, Part II with Probability and Matrices</td>
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<tr>
<td>MATH 240</td>
<td>Calculus, Part III</td>
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<tr>
<td>MATH 312</td>
<td>Linear Algebra</td>
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<tr>
<td>MATH 313</td>
<td>Computational Linear Algebra</td>
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</tr>
<tr>
<td>MATH 412</td>
<td>Linear Algebra</td>
<td></td>
</tr>
<tr>
<td>MATH 350</td>
<td>Number Theory</td>
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<tr>
<td>MATH 370</td>
<td>Algebra</td>
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<tr>
<td>MATH 502</td>
<td>Abstract Algebra</td>
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<td></td>
<td>1</td>
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<td>The following courses may be eligible for the Minor but carry certain restrictions:</td>
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<tr>
<td>STAT 430</td>
<td>Probability</td>
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<tr>
<td>STAT 431</td>
<td>Statistical Inference</td>
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</tr>
<tr>
<td>STAT 510</td>
<td>Probability</td>
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</tr>
<tr>
<td>ECON 103</td>
<td>Statistics for Economists</td>
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</tr>
<tr>
<td>ECON 104</td>
<td>Econometrics</td>
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<tr>
<td>ECON 222</td>
<td>Advanced Econometric Techniques and Applications</td>
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<tr>
<td>ESE 301</td>
<td>Engineering Probability</td>
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<tr>
<td>ESE 302</td>
<td>Engineering Applications of Statistics</td>
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</tr>
<tr>
<td>ESE 530</td>
<td>Elements of Probability Theory</td>
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</tr>
<tr>
<td>ESE 632</td>
<td>Random Processes and Optimum Filtering</td>
<td></td>
</tr>
<tr>
<td>ESE 674</td>
<td>Information Theory</td>
<td></td>
</tr>
<tr>
<td>ENM 503</td>
<td>Introduction to Probability and Statistics</td>
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</tr>
</tbody>
</table>

CIS 262: Automata, Computability, and Complexity

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Course Units</th>
</tr>
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<tr>
<td><strong>Core Requirements</strong></td>
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</tr>
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<td><strong>Advanced Methods Course</strong></td>
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<td><strong>Substantive Course</strong></td>
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<tr>
<td><strong>Sociology or Related Course</strong></td>
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<td></td>
</tr>
<tr>
<td>Select 1 course unit of Sociology or related course</td>
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</tbody>
</table>

Total Course Units: 6

Medical Sociology, Minor

The Medical Sociology minor gives students the opportunity to engage in the sociological study of medicine and the health of populations. A sociological perspective on medicine allows students to critically engage with the social and cultural framing of what is defined as “illness”; the structural factors that may contribute to those illnesses; and the interactive dynamics between healthcare providers and patients.

Students will be able to critically connect the organization of social groups with the profession of medicine, the practice of medical care, and the social factors that contribute to sickness and well-being. Students who complete this minor will have a theoretical foundation in Sociology, and a dynamic perspective on health and healthcare in the world today.

For more information: https://sociology.sas.upenn.edu/medicalsociologyminor

• Bioethics and Medical Sociology minors cannot double count more than 1 course unit.
• HSOC majors and Medical Sociology minors cannot double count more than 1 course unit.

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Course Units</th>
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</thead>
<tbody>
<tr>
<td><strong>Minor Requirements</strong></td>
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<td></td>
</tr>
<tr>
<td><strong>Core Requirements</strong></td>
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<td></td>
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<tr>
<td>SOCI 001</td>
<td>Introduction to Sociology</td>
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<tr>
<td>SOCI 100</td>
<td>Introduction to Sociological Research</td>
<td>1</td>
</tr>
<tr>
<td>SOCI 175</td>
<td>Medical Sociology</td>
<td>1</td>
</tr>
<tr>
<td><strong>Advanced Methods Course</strong></td>
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<tr>
<td>Select 1 course unit of Advanced Methods course</td>
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<tr>
<td><strong>Substantive Course</strong></td>
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<td>Select 1 course unit of Substantive course</td>
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<td><strong>Sociology or Related Course</strong></td>
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<tr>
<td>Select 1 course unit of Sociology or related course</td>
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</tbody>
</table>

Total Course Units: 6

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Modern Middle Eastern Studies, Minor

The interdisciplinary Modern Middle Eastern Studies degree is designed to allow students to specialize in the Middle East as a region of the world and human experience by combining course work using both social scientific and humanistic approaches, underpinned by relevant language skills. Students will work with faculty committed to supporting interdisciplinary, applied, research-oriented advanced study. The minor gives students opportunities to work on problems of politics, policy, history, ideology, social thought, economic development, and international relations.

For more information: https://www.sas.upenn.edu/mec/programs/mmes

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Course Units</th>
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<tbody>
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<td></td>
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</tr>
<tr>
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<td>Humanities</td>
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<tr>
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<td>Select 2 course units of Humanities courses</td>
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<tr>
<td></td>
<td>Social Sciences</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>Select 2 course units of Social Sciences courses</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>Electives</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>Select 2 course units of Electives</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>Total Course Units</td>
<td>6</td>
</tr>
</tbody>
</table>

1 May include two language courses - in a single language.

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Music: Music, Minor

There are two paths of study for the Music minor. One flexible path allows students to draw together five courses on a wide array of topics in History, Theory, and Ethnomusicology. The other path is the Interdisciplinary minor in Jazz and Popular Music studies, which is intended for students who wish to integrate their interest in music in the contemporary world and in academically-based community service as a form of learning. This minor is also for music majors who wish to include knowledge of jazz and popular music performance into their degrees.

For more information: https://www.sas.upenn.edu/music/undergraduate

<table>
<thead>
<tr>
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<tbody>
<tr>
<td></td>
<td>Minor Requirements</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Core Requirements</td>
<td></td>
</tr>
<tr>
<td></td>
<td>MUSC 035/AFRC 077 Jazz Style and History</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>ENGL 080/AFRC 079/MUSC 080 Literatures of Jazz</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Electives</td>
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</tr>
<tr>
<td></td>
<td>Select 4 course units of Electives suitable for study of performance, history &amp; culture, or the music industry</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>Total Course Units</td>
<td>6</td>
</tr>
</tbody>
</table>

1 Only 1 course unit of performance coursework may be used toward minor electives. Consult with the Minor advisor.
2 If MUSC 007 Ensemble Performance (0.5 course unit) is chosen as an elective, additional semesters are required.

The degree and major requirements displayed are intended as a guide for students entering in the Fall of 2017 and later. Students should consult with their academic program regarding final certifications and requirements for graduation.

Music: Jazz and Popular Music, Minor

There are two paths of study for the Music minor. One flexible path allows students to draw together five courses on a wide array of topics in History, Theory, and Ethnomusicology. The other path is the Interdisciplinary minor in Jazz and Popular Music studies, which is intended for students who wish to integrate their interest in music in the contemporary world and in academically-based community service as a form of learning. This minor is also for music majors who wish to include knowledge of jazz and popular music performance into their degrees.

For more information: https://www.sas.upenn.edu/music/undergraduate

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The degree and major requirements displayed are intended as a guide for students entering in the Fall of 2017 and later. Students should consult with their academic program regarding final certifications and requirements for graduation.

Native American and Indigenous Studies, Minor

The Native American and Indigenous Studies (NAIS) Initiative at Penn features an inter-disciplinary Minor that focuses on the cultures and histories of Native Americans, First Nations, and other Indigenous peoples. Students can explore a diverse range of topics, including cross-cultural historical encounters, heritage landscapes, language recovery, cultural performance, law and sovereignty, museum anthropology, archaeology, decolonizing methods, and more. Many NAIS courses are cross-listed in more than one department (e.g., Anthropology, History, Religion). NAIS Faculty often use comparative case studies of Indigenous
Near Eastern Languages & Civilizations: Ancient Near East, Minor

This minor explores the cultures of the ancient Near East, including Mesopotamian, Egyptian, Israelite, Hittite and Persian civilizations. Along with gaining familiarity with an ancient Near Eastern language, coursework includes history, religion and archaeology of the ancient Near East.

For more information: http://www.sas.upenn.edu/nelc/undergrad_programs/nelc_minor.html

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Course Units</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Minor Requirements</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Language Requirement</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Select 4 course units of Language Requirement courses</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>Concentration Requirement</td>
<td></td>
</tr>
<tr>
<td></td>
<td>NELC 101/ANCH 025/HIST 024</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Introduction to the Ancient Near East</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Select 3 course units of Concentration Requirement courses</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Total Course Units</td>
<td>8</td>
</tr>
</tbody>
</table>

The degree and major requirements displayed are intended as a guide for students entering in the Fall of 2017 and later. Students should consult with their academic program regarding final certifications and requirements for graduation.

Near Eastern Languages & Civilizations: Arabic & Islamic Studies, Minor

This minor concentration explores Arabic, Persian and/or Turkish cultures in the context of Islamic civilization. Students take Arabic, Persian or Turkish language, alongside courses in history, religion, culture, literature and society.

For more information: http://www.sas.upenn.edu/nelc/undergrad_programs/nelc_minor.html

<table>
<thead>
<tr>
<th>Code</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>Minor Requirements</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Language Requirement</td>
<td></td>
</tr>
<tr>
<td></td>
<td>May be fulfilled in Arabic, Persian or Turkish. Arabic, Persian or Turkish culture courses to be chosen in consultation with the advisor.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Concentration Requirement</td>
<td></td>
</tr>
<tr>
<td></td>
<td>May be fulfilled in Arabic, Persian or Turkish. Arabic, Persian or Turkish culture courses to be chosen in consultation with the advisor.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Total Course Units</td>
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</tbody>
</table>

1. May be fulfilled in Arabic, Persian or Turkish.
2. May be fulfilled in Arabic, Persian or Turkish. Arabic, Persian or Turkish culture courses to be chosen in consultation with the advisor.

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Nutrition, Minor

Jointly sponsored by the Schools of Nursing and Arts and Sciences, the Nutrition Minor presents a broad view of the field, and illustrates the pervasiveness of nutrition-related issues in such diverse fields as anthropology, economics, folklore, history, physiology, psychology, health care and public policy.

For more information: https://www.nursing.upenn.edu/nutrition-minor/

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Course Units</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Minor Requirements</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Core Courses</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Select 1 course unit from each Core A, B and C</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Core A - Basic Nutrition</td>
<td></td>
</tr>
<tr>
<td></td>
<td>NURS 065 Fundamentals of Nutrition</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>or NURS 112 Nutrition: Science &amp; Applications</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Core B - Scientific Basis of Nutrition</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Select one of the following Options:</td>
<td></td>
</tr>
</tbody>
</table>

1. Please check the online description of the minor for the possible combinations of ancient language courses that can fulfill this requirement.
Option 1:
- NURS 068 Integrated Cell Biology and Microbiology
Option 2:
- BIOL 017 The Biology of Food
- BIOL 091 AP/Transfer Credit: Introductory Biology for the Major
- BIOL 101 Introduction to Biology A
- BIOL 121 Introduction to Biology - The Molecular Biology of Life

**Core C - Advanced Nutrition:**
- NURS 524 Advanced Human Nutrition and Micronutrient Metabolism

**Electives**
Select 3 course units of Electives

Total Course Units 6

1. It is strongly recommended that Core A & B courses be taken prior to the Elective courses.
2. See website (http://www.nursing.upenn.edu/nutrition-minor/plans-of-study) for list of approved elective courses.

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**Philosophy, Minor**

Philosophy seeks to illuminate fundamental aspects of the world, of our relation to and knowledge of the world, and of our own nature as rational, purposive, and social beings. The study of philosophy aims at an appreciation of the ways this enterprise has been, is, and might be approached. It also provides a vantage point for reflecting on the nature and achievement of other disciplines, such as science, the arts, and the humanities. Philosophical topics can be divided roughly into practical (ethics, politics, aesthetics) and theoretical (epistemology, metaphysics, mind, and logic). The Philosophy Minor requires a Philosophy balanced selection of courses in the various fields of philosophy and its history.

For more information: http://philosophy.sas.upenn.edu/undergraduate/philosophy-majors-and-minor/philosophy-minor

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<tr>
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<tbody>
<tr>
<td>Minor Requirements</td>
<td></td>
<td></td>
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<tr>
<td>Distribution Requirements</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Select 1 course unit each from three of the following categories:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>- History of Philosophy</td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Logic/Philosophy of Science</td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Epistemology/Metaphysics</td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Ethics/Political Philosophy</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

| Level Requirements |
| Select 2 course units of Level Requirements at 200 or above |

| Electives |
| Select up to 3 course units of Electives |

Total Course Units 6

The degree and major requirements displayed are intended as a guide for students entering in the Fall of 2017 and later. Students should consult with their academic program regarding final certifications and requirements for graduation.

**Physics, Minor**

The aim of physicists is to discover the most fundamental principles of nature. Their tools are mathematics and experiment. The physical world as we perceive it is very complex, yet the principles of physics are inherently simple. A physicist’s forte is the ability to analyze a problem, reduce its complexity, and arrive at an understanding of the underlying patterns of nature in terms of simple relationships among constituent elements. Learning to do this gives Physics minors an intellectual versatility that can serve them well in a variety of future activities ranging from research and teaching in Physics or related sciences to careers in law, the health professions, and high-technology companies.

For more information: http://www.physics.upenn.edu/undergraduate/physics-astronomy-major#minor

Total 6 courses (not course units but courses). No more than two (2) courses can be at the 100 (introductory) level.

<table>
<thead>
<tr>
<th>Code</th>
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</thead>
<tbody>
<tr>
<td>Minor Requirements</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Select one of the following Options:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Option I - Recommended Minor 0-6</td>
<td></td>
<td></td>
</tr>
<tr>
<td>- PHYS 150 Principles of Physics I: Mechanics and Wave Motion</td>
<td></td>
<td></td>
</tr>
<tr>
<td>- PHYS 151 Principles of Physics II: Electromagnetism and Radiation</td>
<td></td>
<td></td>
</tr>
<tr>
<td>- PHYS 230 Principles of Physics III: Thermal Physics and Waves</td>
<td></td>
<td></td>
</tr>
<tr>
<td>- PHYS 250 Principles of Physics IV: Modern Physics</td>
<td></td>
<td></td>
</tr>
<tr>
<td>- PHYS 280 Physical Models of Biological Systems</td>
<td></td>
<td></td>
</tr>
<tr>
<td>One course 300 level or above</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

| Option II - Individualized Minor 0-6 |
| Select 6 courses |

Total Course Units 6

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**Political Science, Minor**

The Political Science Department’s course offerings span the discipline of political science, from American political institutions, to the politics of world regions, the emergence of a new international order, and
recent and ancient political ideas. The Department’s curriculum is
divided into the four standard fields of American politics, comparative
politics, international relations, and political theories. There are also
other opportunities for study in political processes of elections and
communications and public policy. A minor involves one introductory
political science course and five political science electives.

For more information: http://www.sas.upenn.edu/polisci/node/867

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Course Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>PSCI 110</td>
<td>Introduction to Comparative Politics</td>
<td>1</td>
</tr>
<tr>
<td>PSCI 130</td>
<td>Introduction to American Politics</td>
<td></td>
</tr>
<tr>
<td>PSCI 150</td>
<td>Introduction to International Relations</td>
<td></td>
</tr>
<tr>
<td>PSCI 180</td>
<td>Ancient Political Thought</td>
<td></td>
</tr>
<tr>
<td>or PSCI 181 Modern Political Thought</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Other Requirements

Select 5 course units of PSCI courses | 5 |

Total Course Units | 6 |

1 4 course units must be taken in PSCI Dept at U of P.

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for students entering in the Fall of 2017 and later. Students should
consult with their academic program regarding final certifications and
requirements for graduation.

Psychoanalytic Studies, Minor

Psychoanalytic ideas provide a coherent basis for understanding how
people feel and think, and how they function as individuals and in groups.
These ideas, centered on unconscious emotional processes and human
relationships, continue to evolve and develop. They form a bridge across
many disciplines throughout the humanities, social sciences, and some
of the natural sciences. Penn is now one of very few schools in the
country (and the world) to offer the exciting opportunity of a minor in
Psychoanalytic Studies.

As it provides a unifying body of ideas, Psychoanalytic Studies comprises
courses in many departments. The minor is designed in partnership
with the Psychoanalytic Center of Philadelphia, and students who sign
up for the minor also have the opportunity to meet monthly with a
practicing psychoanalyst to learn about contemporary psychoanalytic
theories and therapies. Students who complete six courses that count
toward the minor as well as a series of meetings with a psychoanalytic
mentor will receive both the minor on their transcript and a Certificate of
Accomplishment from the Psychoanalytic Center of Philadelphia.

For more information: http://web.sas.upenn.edu/psys/

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Course Units</th>
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</thead>
<tbody>
<tr>
<td>PSYC 001</td>
<td>Introduction to Experimental Psychology</td>
<td>1</td>
</tr>
</tbody>
</table>

Distribution

Select 1 course in each category:

I. Biological Basis of Behavior: | 1 |
| PSYC 109 | Introduction to Brain and Behavior | |
| or PSYC 127 Physiology of Motivated Behaviors | |
| or PSYC 149 Cognitive Neuroscience | |

II. Cognitive Basis of Behavior: | 1 |
| PSYC 111 | Perception | |
| or PSYC 151 Language and Thought | |
| or PSYC 181 Intro to Developmental Psychology | |

III. Individual & Group Bases of Behavior | 1 |
| PSYC 160 | Personality and Individual Differences | |
| or PSYC 162 Abnormal Psychology | |
| or PSYC 170 Social Psychology | |

Additional Psychology Course | 1 |

Statistics Requirement

Select one of the following approved courses: | 1 |
| STAT 101 | Introductory Business Statistics | |
| STAT 111 | Introductory Statistics (day or summer only) | |
| BIOL 446 | Statistics for Biologists | |

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for students entering in the Fall of 2017 and later. Students should
consult with their academic program regarding final certifications and
requirements for graduation.

Psychology, Minor

Studies in psychology introduce students to contemporary
understandings of how organisms perceive, learn, think and interact
with one another, how they develop, how they are motivated and how,
individually and as members of species, they may be compared with one
another. Psychology at Penn is a diverse discipline, with topics ranging
from neuroscience to psychopathology.

The Minor in Psychology consists of six courses. It is intended to give
the student a broad base in Psychology without the commitment to the
full course load of the major. The requirements are therefore comparable
to those of the major in type but reduced in number. At least three of the
six required course units must be taken at Penn. In addition, students
minoring in psychology must have a minimum of 3 PSYC courses that
they count only towards the minor and not towards any other major or
minor.

For more information: http://psychology.sas.upenn.edu/undergraduate

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<th>Course Units</th>
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</thead>
<tbody>
<tr>
<td>PSYC 001</td>
<td>Introduction to Experimental Psychology</td>
<td>1</td>
</tr>
</tbody>
</table>

Distribution

Select 1 course in each category:

I. Biological Basis of Behavior: | 1 |
| PSYC 109 | Introduction to Brain and Behavior | |
| or PSYC 127 Physiology of Motivated Behaviors | |
| or PSYC 149 Cognitive Neuroscience | |

II. Cognitive Basis of Behavior: | 1 |
| PSYC 111 | Perception | |
| or PSYC 151 Language and Thought | |
| or PSYC 181 Intro to Developmental Psychology | |

III. Individual & Group Bases of Behavior | 1 |
| PSYC 160 | Personality and Individual Differences | |
| or PSYC 162 Abnormal Psychology | |
| or PSYC 170 Social Psychology | |

Additional Psychology Course | 1 |

Statistics Requirement

Select one of the following approved courses: | 1 |
| STAT 101 | Introductory Business Statistics | |
| STAT 111 | Introductory Statistics (day or summer only) | |
| BIOL 446 | Statistics for Biologists | |
Russian Culture and History, Minor

The Department of Slavic Languages and Literatures offers programs in Russian and, with the support of the Penn Language Center, courses in the Czech and Polish languages. The department also offers a series of courses for students who have spoken Russian at home and wish to gain literacy and/or improve their language skills or to pursue the study of Russian literature and culture in Russian. Students of Russian at Penn are invited to reside in the Russian House (which brings together students interested in daily use of the language) and encouraged to spend a semester of study abroad.

For more information: http://ccat.sas.upenn.edu/slavic/

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<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Course Units</th>
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</thead>
<tbody>
<tr>
<td>RUSS 004</td>
<td>Intermediate Russian II (or literacy courses for Russian speakers or Equivalents)</td>
<td></td>
</tr>
</tbody>
</table>

History and Culture

Select one of the following Options: 2

Option 1:
- RUSS/HIST 048 The Rise and Fall of the Russian Empire, 1552-1917

Option 2:
- RUSS 136/HIST 047 Portraits of Russian Society: Art, Fiction, Drama
- RUSS 187/HIST 046 Portraits of Soviet Society: Literature, Film, Drama

Core Requirement

Select 2 course units of Core Requirement courses 2

Russian Related Courses

Select 2 course units of Russian Related courses (History, Politics, Economics, etc.) 2

Total Course Units 6

Religious Studies, Minor

The Religious Studies minor is a great way to gain background in the scholarly study of religion in order to supplement or enhance major studies in other fields like Jewish Studies, History, Anthropology, Art History, Psychology, Political Science, or even Nursing, Engineering, Pre-Med, Pre-Law, and Business. Students in Wharton or the College of Nursing have taken a Religious Studies minor to gain some fluency in matters of business ethics, bio-ethics, cross-cultural analysis, inter-religious affairs, and the like.

Every minor program must include six courses in at least two different religious traditions. At least two of the six courses must be taken with core Department faculty. Students wishing to focus on an individualized topic may work out a program with the Undergraduate Chair. RELS also offers many course options which can count towards College Sector requirements, which makes it easier to incorporate the RELS minor into a typical undergraduate course-load.

For more information: https://www.sas.upenn.edu/religious_studies/undergraduate/minor

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Course Units</th>
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</thead>
<tbody>
<tr>
<td>RELS 003</td>
<td>Religion and Literature</td>
<td>1</td>
</tr>
<tr>
<td>or RELS 004</td>
<td>Art and Religion</td>
<td></td>
</tr>
<tr>
<td>Select 1 course unit of any RELS Arts/Letters Elective</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Select 1 course unit of RELS Arts/Letters Elective at 200 or Above</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Select 1 course unit of Hist/Trad OR Society Elective course</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Select 2 course units of Elective, RELS or Other courses</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>Total Course Units</td>
<td>6</td>
<td></td>
</tr>
</tbody>
</table>

Science, Technology and Society, Minor

Science, Technology & Society (STSC) examines the social contexts in which science and technology occur, the organizations of people and things that make up science and technology systems, and the social and cultural consequences of scientific and technological change over time. In a wide array of courses, STSC majors explore the relationship between
scientific knowledge, technological innovations, technological systems, and society past and present.

For more information: https://hss.sas.upenn.edu/undergraduate/stsc-major/stsc-minor

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Course Units</th>
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</thead>
<tbody>
<tr>
<td>STSC 001</td>
<td>Emergence of Modern Science</td>
<td>1</td>
</tr>
<tr>
<td>STSC 003</td>
<td>Technology and Society</td>
<td>1</td>
</tr>
<tr>
<td>Select 4 course units of STSC Elective</td>
<td></td>
<td>4</td>
</tr>
<tr>
<td>Total Course Units</td>
<td></td>
<td>6</td>
</tr>
</tbody>
</table>

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**Sociology, Minor**

The Sociology Minor program allows students to get an introduction to major sociological concepts and theories, along with methods for sociological research, and a broad foundation of substantive, empirical, and theoretical knowledge rooted in the discipline.

For more information: https://sociology.sas.upenn.edu/sociologyminor

<table>
<thead>
<tr>
<th>Code</th>
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</thead>
<tbody>
<tr>
<td>Code</td>
<td>Title</td>
<td>Course Units</td>
</tr>
<tr>
<td>Core Courses</td>
<td></td>
<td></td>
</tr>
<tr>
<td>SOCI 001</td>
<td>Introduction to Sociology</td>
<td>1</td>
</tr>
<tr>
<td>Select 1 course unit of Sociological Theory</td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>SOCI 100</td>
<td>Introduction to Sociological Research</td>
<td></td>
</tr>
<tr>
<td>Electives</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Select 3 course units of Electives</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>Total Course Units</td>
<td></td>
<td>6</td>
</tr>
</tbody>
</table>

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**Statistics, Minor**

The Statistics Minor consists of 3 prerequisites, 1 core course, and 3 electives. Students interested in the minor must have the prior approval of the Statistics Undergraduate Program Director in order to develop a curriculum for the minor that is appropriate for their interests. Wharton students are not eligible for the minor.

For more information: https://statistics.wharton.upenn.edu/programs/undergraduate/statistics-minor/

For College Students ONLY. Dual and Joint degree (COL/WH) students are ineligible for this minor.

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<tr>
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</thead>
<tbody>
<tr>
<td>Minor Requirements</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pre-Requisites</td>
<td></td>
<td></td>
</tr>
<tr>
<td>MATH 114</td>
<td>Calculus, Part II</td>
<td>1</td>
</tr>
<tr>
<td>Select one of the following:</td>
<td></td>
<td>2</td>
</tr>
<tr>
<td>STAT 101 &amp; STAT 102</td>
<td>Introductory Business Statistics &amp; Introductory Business Statistics</td>
<td></td>
</tr>
<tr>
<td>STAT 111 &amp; STAT 112</td>
<td>Introductory Statistics &amp; Introductory Statistics</td>
<td></td>
</tr>
<tr>
<td>STAT 430 &amp; STAT 431</td>
<td>Probability &amp; Statistical Inference</td>
<td></td>
</tr>
<tr>
<td>Core Course</td>
<td></td>
<td></td>
</tr>
<tr>
<td>STAT 430</td>
<td>Probability or STAT 471 Modern Data Mining</td>
<td>1</td>
</tr>
<tr>
<td>Electives</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Select 2 course units of STAT courses</td>
<td></td>
<td>2</td>
</tr>
</tbody>
</table>
Select 1 course unit of STAT or other approved course  

Additional Elective
Select an additional elective if needed  

Total Course Units

1

The statistics prerequisite may also be satisfied with 2 course units of Economic Statistics.

2

Select an additional elective if the statistics prerequisite was satisfied by Economic Statistics or STAT 430 Probability satisfied both prerequisite and core.

Survey Research and Data Analytics, Minor

The Survey Research and Data Analytics minor is intended for students who wish to complement their primary area of study with an interdisciplinary focus on using data and survey methods for conducting research and evaluating programs, policies, and outcomes in the social sciences.

For more information: http://pores.upenn.edu/students/survey-research-data-analytics-minor

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Course Units</th>
</tr>
</thead>
</table>
| Minor Requirements
| Core Requirements
| Select one of the following:                             | 1            |
| PSCI 130 | Introduction to American Politics                        |              |
| PSCI 236/ PPE 312 | The Public Policy Process                  |              |
| Select one of the following:                             | 1            |
| PSCI 338 | Statistical Methods                                    |              |
| ECON 103 | Statistics for Economists                              |              |
| ECON 104 | Econometrics                                            |              |
| PSCI/COMM 332 | Survey Research & Design               | 1            |
| Electives
| Select 3 course units of Electives                     | 3            |
| Total Course Units                                     | 6            |

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Sustainability and Environmental Management, Minor

The Sustainability and Environmental Management minor is focused on sustainability and it is designed to help students understand the nature of environmental constraints which face organizations and individuals in the modern world, and to understand how these constraints can be effectively considered as part of the decision-making process in for-profit and non-profit organizations.

For more information: https://www.sas.upenn.edu/earth/minors/sustainability-and-environmental-management-minor

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Course Units</th>
</tr>
</thead>
</table>
| Minor Requirements
| Core Requirement
| ENVS 100 | Introduction to Environmental Science                  | 1            |
| EAS 401 | Energy and Its Impacts: Technology, Environment, Economics, Sustainability | 1            |
| or EAS 402 | Renewable Energy and Its Impacts: Technology, Environment, Economics, Sustainability | |
| or EAS 403 | Energy Systems and Policy                        | 2            |
| Electives
| Select 2 course units of Electives from Pre-approved courses | 2            |
| Total Course Units                                     | 6            |

The degree and major requirements displayed are intended as a guide for students entering in the Fall of 2017 and later. Students should consult with their academic program regarding final certifications and requirements for graduation.

Theatre Arts, Minor

The Theatre Arts Program offers a six-course minor, with three courses that focus on academic approaches to the theatre, such as the study of dramatic literature, theory, history and criticism, and three that focus practical aspects of performance, such as acting, directing, designing, devising, and playwriting. English majors concentrating on drama will find courses that cross-list; a diverse group of students with a wide array of major fields of study find it possible to pursue their interest in Theatre Arts with a minor.

For more information: http://theatre.sas.upenn.edu

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Course Units</th>
</tr>
</thead>
</table>
| Minor Requirements
| Dramatic Literature, Theory or History                  |              |

The degree and major requirements displayed are intended as a guide for students entering in the Fall of 2017 and later. Students should consult with their academic program regarding final certifications and requirements for graduation.
Urban Real Estate and Development, Minor

This minor, co-sponsored by Real Estate (Wharton) and Urban Studies (Arts and Sciences), is designed to enable students to combine an interest in Urban Studies and Real Estate Development. Students take a total of seven Urban Studies and Real Estate courses, in consultation with the minor advisor.

For more information: http://www.sas.upenn.edu/urban/students/real-estate-development-minor

Prequisite to taking any Wharton courses: ECON 001 Introduction to Micro Economics and ECON 002 Introductory Economics: Macro. Also, check prerequisites for Wharton courses and fulfill.)

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Course Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>URBS 104</td>
<td>Transformation of Urban America</td>
<td>2</td>
</tr>
<tr>
<td>URBS 204</td>
<td>Urban Law</td>
<td>1</td>
</tr>
<tr>
<td>URBS 210</td>
<td>The City</td>
<td>1</td>
</tr>
<tr>
<td>HIST 153</td>
<td>Transformation of Urban America: From the Mid-Twentieth Century to the Present</td>
<td>1</td>
</tr>
<tr>
<td>Select two of the following REAL Core courses:</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>REAL 204</td>
<td>Real Estate Law</td>
<td>1</td>
</tr>
<tr>
<td>REAL 206</td>
<td>Urban Public Policy &amp; Private Economic Development</td>
<td>1</td>
</tr>
<tr>
<td>REAL 215</td>
<td>Urban Real Estate Economics</td>
<td>1</td>
</tr>
<tr>
<td>REAL 230</td>
<td>Urban Fiscal Policy</td>
<td>1</td>
</tr>
</tbody>
</table>

Total Course Units: 7

1 Take either URBS 204 Urban Law or REAL 204 Real Estate Law, not both.
2 See lists of approved electives on website.

Urban Education: Secondary Education, Minor

The minor is open to undergraduates in all disciplines. Students choose from among three concentrations depending on interest in pursuing teaching certification or deepening one's background in urban education policy: Elementary Education; Secondary Education; Urban Education Policy, Research, and Practice. Students in all three concentrations take three core courses. The additional four requirements vary depending on the concentration.

For more information: http://www.sas.upenn.edu/urban/students/urban-education-minor

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Course Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>URBS/EDUC 202</td>
<td>Urban Education</td>
<td>1</td>
</tr>
<tr>
<td>Child or Adolescent Development course</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>URED Capstone (taken as a Senior Thesis course or an Independent Study)</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Select two of the following REAL Core courses:</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>Pedagogy &amp; Curriculum (ABCS course)</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Content Area (ABCS course)</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>EDUC 627</td>
<td>Teaching in the Middle and Secondary Schools (requires Fall field placement)</td>
<td>1</td>
</tr>
<tr>
<td>EDUC 629</td>
<td>Teaching English/Language and Literacy in Middle and Secondary Schools</td>
<td>1</td>
</tr>
<tr>
<td>EDUC 657</td>
<td>Advanced Methods in Middle &amp; Secondary Education (requires Spring field placement)</td>
<td>1</td>
</tr>
</tbody>
</table>

Total Course Units: 7

Teaching Certification- 9th Semester EDUC 515 Field Seminar (Elementary & Secondary Education) or EDUC 555 Advanced Field Seminar (Elementary & Secondary Education)

Urban Studies, Minor

The Urban Studies minor offers students an opportunity to think and learn about cities in an informed, disciplined and integrated way. The program introduces a variety of perspectives on the origins, development, and nature of cities, stressing the application of theory to practice. Students take four Urban Studies courses, and complete an internship for an additional two CUs in this six CU minor. The internship component allows students the opportunity to work closely with a community group, public agency, non-profit or private organization in the city.

The degree and major requirements displayed are intended as a guide for students entering in the Fall of 2017 and later. Students should consult with their academic program regarding final certifications and requirements for graduation.
For more information: http://www.sas.upenn.edu/urban/students/urban-studies-minor

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Course Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>Minor Requirements</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Theme Choice</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Select 1 course unit from History of Cities or Comparative &amp; Theoretical Dimension</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td><strong>Theme Choice</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Select 2 course units of Public Policy, Built Environment, or Urban Economics &amp; Finance</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td><strong>Related Elective</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Select 1 course unit of Related Elective ¹</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td><strong>Field Work</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>URBS 300 Fieldwork Seminar (or Approved Alternative Work)</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>Total Course Units</td>
<td>6</td>
<td></td>
</tr>
</tbody>
</table>

¹ Can be an Urban Studies course or an approved Urban related course.

The degree and major requirements displayed are intended as a guide for students entering in the Fall of 2017 and later. Students should consult with their academic program regarding final certifications and requirements for graduation.

**History of Art, Minor**

The Minor in the History of Art, like the Major, aims to deepen students’ knowledge of artistic production and practice over the scope of human history. A Minor program in art history may complement the student’s Major in a cognate field, or it may be unrelated to the student’s primary field instruction.

For more information: http://www.sas.upenn.edu/arthistory/undergraduate/minor

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Course Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>Minor Requirements</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Survey Course Requirements</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Take 2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ARTH 101 Prehistory to Renaissance: Introduction to Western Art from its Beginning to 1400</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>or ARTH 102 Renaissance to Contemporary: Introduction to Western Art, 1400 to the Present</td>
<td></td>
<td></td>
</tr>
<tr>
<td>or ARTH 103 Arts and Civilizations of East Asia</td>
<td></td>
<td></td>
</tr>
<tr>
<td>or ARTH 104 Introduction to Art in South Asia</td>
<td></td>
<td></td>
</tr>
<tr>
<td>or ARTH 106 Architect and History</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Special Study Areas</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Any 200, or 400 level course or 300 Seminar</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>ARTH 200 or 400 level course ¹</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

¹ Courses 2-3 is ARTH 200 or a 400 level course. Course 4 is ARTH 200 or a 400 level course or a related course.

**Near Eastern Languages & Civilizations: Arabic & Hebrew Studies, Minor**

This minor explores the inter-relationships between Arabic and Hebrew cultures within the modern and/or medieval periods. Emphasis is paced on language facility in Arabic and/or Hebrew, alongside courses in history, religion, literature and culture.

For more information: http://www.sas.upenn.edu/nelc/undergrad_programs/nelc_minor.html

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Course Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>Minor Requirements</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Language Requirement</strong> ¹</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td><strong>Concentration Requirement</strong> ²</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>Total Course Units</td>
<td>8</td>
<td></td>
</tr>
</tbody>
</table>

¹ Normally fulfilled by 2nd-year level of Arabic and Hebrew. If already proficient in one language, you must choose the other language.

² Must include courses on Arabic and Hebrew cultures: modern and/or medieval in history, literature and religion. NOTE: No more than one PSCI course may be taken as an elective.

The degree and major requirements displayed are intended as a guide for students entering in the Fall of 2017 and later. Students should consult with their academic program regarding final certifications and requirements for graduation.

**Near Eastern Languages & Civilizations: Hebrew & Judaica, Minor**

This concentration explores Hebrew culture from the Biblical through the Rabbinic and Medieval periods, and into modern times. Emphasis is on gaining facility in use of Hebrew language alongside courses in history, religion, literature and culture.

For more information: http://www.sas.upenn.edu/nelc/undergrad_programs/nelc_minor.html

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Course Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>Minor Requirements</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Language Requirement</strong> ¹</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td><strong>Concentration Requirement</strong> ²</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>Total Course Units</td>
<td>8</td>
<td></td>
</tr>
</tbody>
</table>

¹ Normally fulfilled by 2nd-year level of Hebrew. If already proficient in Hebrew, you must choose the other language.

² Must include courses on Hebrew and Jewish cultures: modern and/or medieval in history, literature and religion. NOTE: No more than one PSCI course may be taken as an elective.
With proficiency in Hebrew before entering Penn, the minor may be fulfilled with 6 course units.

At least 2 course units must be in the study of Hebrew texts from any two areas: Biblical, Rabbinic or Medieval, and Modern Hebrew literature.

The degree and major requirements displayed are intended as a guide for students entering in the Fall of 2017 and later. Students should consult with their academic program regarding final certifications and requirements for graduation.

Italian Studies: Italian Culture, Minor

The Italian Studies section of the Romance Languages Department offers programs in language, literature, film, linguistics, cultural studies and civilization for students with or without a background in Italian. At the core of this program is the study of the Italian language, understood both in the narrow sense of verbal communication, but also in the larger sense of textual messages: literary, cinematic, historical, art-historical, and mass-cultural.

For more information: http://www.sas.upenn.edu/italians/

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Course Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>ITAL 201</td>
<td>Advanced Italian I</td>
<td>1</td>
</tr>
<tr>
<td>ITAL 202</td>
<td>Advanced Italian II</td>
<td>1</td>
</tr>
<tr>
<td>or ITAL 203</td>
<td>Masterpieces-Italian Literature</td>
<td>1</td>
</tr>
<tr>
<td>or ITAL 204</td>
<td>Italian History on Screen: How Movies Tell the Story of Italy</td>
<td>1</td>
</tr>
</tbody>
</table>

Electives

Select 4 course units of Electives 1

Total Course Units 6

1 No more than 3 courses may be taken in English. No more than 3 courses may be taken abroad. At least 1 of the 4 electives must be taught in Italian at the 300-level. The remaining 3 courses should be chosen in related fields sponsored through Comparative Literature, Cinema Studies, departments affiliated with the Center for Italian Studies, or other offerings in humanities and social sciences as appropriate.

East Asian Languages and Civilizations: Chinese, Minor

All students minoring in the Department of East Asian Languages and Civilizations must fulfill a set of Basic Requirements. These requirements are to be met within one of three linguistic and cultural concentrations:

- Chinese Studies
- Japanese Studies
- Korean Studies

In addition to the Basic Requirements, there are further requirements specific to each concentration.

For more information: http://www.sas.upenn.edu/ealc/undergraduate/minor

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Course Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>CHIN 021</td>
<td>Intensive Beginning Modern Chinese I &amp; II</td>
<td>2</td>
</tr>
<tr>
<td>CHIN 022</td>
<td>Intensive Beginning Modern Chinese III &amp; IV</td>
<td>2</td>
</tr>
</tbody>
</table>

Or with prior language knowledge, two courses at CHIN 211 or above

Survey Requirement

EALC 001 Introduction to Chinese Civilization 1

Electives

Select 3 course units of Electives 3

Total Course Units 8

The degree and major requirements displayed are intended as a guide for students entering in the Fall of 2017 and later. Students should consult with their academic program regarding final certifications and requirements for graduation.

East Asian Languages and Civilizations: Japanese, Minor

All students minoring in the Department of East Asian Languages and Civilizations must fulfill a set of Basic Requirements. These requirements are to be met within one of three linguistic and cultural concentrations:

- Chinese Studies
- Japanese Studies
- Korean Studies

In addition to the Basic Requirements, there are further requirements specific to each concentration.

For more information: http://www.sas.upenn.edu/ealc/undergraduate/minor
The degree and major requirements displayed are intended as a guide for students entering in the Fall of 2017 and later. Students should consult with their academic program regarding final certifications and requirements for graduation.
East Asian Languages and Civilizations: Korean, Minor

All students minoring in the Department of East Asian Languages and Civilizations must fulfill a set of Basic Requirements. These requirements are to be met within one of three linguistic and cultural concentrations:

• Chinese Studies
• Japanese Studies
• Korean Studies

In addition to the Basic Requirements, there are further requirements specific to each concentration.

For more information: http://www.sas.upenn.edu/ealc/undergraduate/minor

Minimum 8 course units or 6 course units if the beginning language requirement has been fulfilled.

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Course Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>Minor Requirements</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Language Requirement</td>
<td></td>
<td></td>
</tr>
<tr>
<td>KORN 011</td>
<td>Elementary Korean I</td>
<td>1</td>
</tr>
<tr>
<td>KORN 012</td>
<td>Elementary Korean II</td>
<td>1</td>
</tr>
<tr>
<td>KORN 111</td>
<td>Intermediate Korean I</td>
<td>1</td>
</tr>
<tr>
<td>KORN 112</td>
<td>Intermediate Korean II</td>
<td>1</td>
</tr>
<tr>
<td>Core Requirement</td>
<td></td>
<td></td>
</tr>
<tr>
<td>EALC 003</td>
<td>Introduction to Korean Civilization</td>
<td>1</td>
</tr>
<tr>
<td>Electives</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Select 3 course units of Electives</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Total Course Units</td>
<td>8</td>
<td></td>
</tr>
</tbody>
</table>

The degree and major requirements displayed are intended as a guide for students entering in the Fall of 2017 and later. Students should consult with their academic program regarding final certifications and requirements for graduation.
SCHOOL OF ENGINEERING AND APPLIED SCIENCE

Penn School of Engineering is unlike any other. Traditionally untraditional. Pioneers in interdisciplinary education and research. Theory linked with real-world practice. The path for students who want to shape the future.

With the pace of innovation and technological advancement accelerating ever faster, engineers hold the keys to the next generation's routine wonders.

As an Ivy League institution — and the first university in the nation — Penn delivers a transformative experience in the classroom and laboratory, while ensuring its engineering and applied science students receive a fully rounded liberal arts education.

Penn Engineering is a pioneer in interdisciplinary education, allowing students the flexibility to craft a program that suits their individual interests, career, or graduate education plans. Both Bachelor of Science in Engineering (BSE) and Bachelor of Applied Science (BAS) degrees are offered, along with specialized dual-degree programs, an array of majors and minors, special programs, and study-abroad opportunities.

Penn Engineering students get valuable and extensive hands-on experience, conducting research and pursuing creative designs and new products alongside faculty renowned in their fields. The working relationship with faculty pervades Penn Engineering, where full-time faculty teach all core undergraduate courses, and each student has a faculty advisor.

As the global marketplace for technology grows, graduates go on to leadership roles in business, medicine, law, and academia. They leave armed with the technical knowledge, imagination, communication skills, and understanding of the social and human context of their work, all engendered with a fervor for the future nurtured at Penn Engineering.

Learn more about our history: http://www.seas.upenn.edu/about-seas/history.php.

Learn more about our school leadership: http://www.seas.upenn.edu/about-seas/dean-staff.php.

Two key elements distinguish the Penn Engineering experience from that provided by many other institutions: Exceptional academic programs, and practical design and research experience.

Our undergraduate programs emphasize both theory and practice while forming intellectual linkages across a breadth of disciplines. The opportunity for hands-on research, over the four years, allows undergraduates the chance to learn about the creation of knowledge, further explore their chosen field, and thereby become collaborators in the search for knowledge. The design experience over the four years, culminating in the senior design project, challenges students to utilize their academic training and problem-solving skills in practical ways, and provides them with direct experience with real-world problems that they will encounter as practicing engineers.

Technology is transforming our times and our lives, no longer on a scale of decades but of years and even months. A successful career through such changing times requires engineering graduates endowed with skills that are applicable to widely different technologies, skills that transcend the details of any one job. Such is the result of an education that pays much more attention to the fundamental than to the trendy, to the creative more than to the routine. Engineers must also be firmly educated as responsible citizens, concerned with the impact of their work on society.

Penn Engineering is an integral partner in Penn's initiatives to prepare students for leadership in a high-tech world. Our goal is to prepare students for leadership roles in engineering and applied science as well as in other fields, such as medicine, business, and law, for which creativity, critical quantitative thinking, effective communication skills, and a strong commitment to humane values are essential.

Mission of the School

1. The creation and dissemination of scholarly research in both basic and applied arenas to be an international center of engineering excellence and the regional catalyst for technological innovation;
2. The design and delivery of engineering education known for its rigor, breadth and relevance to prepare its students to become global leaders in technology-based fields.

Mission Statements of Bachelor of Science in Engineering Programs (ABET-accredited)

- Bioengineering (http://www.be.seas.upenn.edu/about-academics)
- Chemical and Biomolecular Engineering (http://www.cbe.seas.upenn.edu/about-ugrad)
- Computer Science (http://www.cis.upenn.edu/ugrad/abet.shtml)
- Computer Engineering (http://www.seas.upenn.edu/cmpe/accreditation.php)
- Electrical Engineering (http://www.ese.upenn.edu/about-ugrad)
- Materials Science and Engineering (http://www.mse.upenn.edu/about-ugrad/accreditation.php)
- Mechanical Engineering and Applied Mechanics (http://www.me.upenn.edu/about-ug-ed/accreditation.php)
- Systems Science and Engineering (http://www.ese.upenn.edu/about-ugrad)

Our extraordinary faculty-to-student ratio provides great opportunities for undergraduate students to work in state-of-the-art research laboratories during the academic year and in the summer. Below are examples of student research, along with helpful information to guide undergraduates toward finding research positions at Penn Engineering.

For more information, visit: http://www.seas.upenn.edu/undergraduate/research/index.php.

Finding a Research Mentor and Research Experiences

Students are encouraged to explore the Penn Engineering Faculty Expertise Directory (http://www.seas.upenn.edu/directory/departments.php), featuring the School's standing faculty and is searchable by department, research center affiliation, and research expertise keyword. Users can identify which faculty are conducting research in a specific area and contact faculty members whose research interests them.

The Engineering Dean's Advisory Board (EDAB) puts together a guide for fellow students that gives step-by-step instructions and tips on how to secure research positions as an undergraduate.
Summer Undergraduate Research in Engineering (SURE)
Penn Engineering’s world-acclaimed faculty, along with state-of-the-art research laboratories and highly interdisciplinary curricula, offers summer research opportunities for talented undergraduates who seek hands-on research experience. From robotics and computer animation, nanotechnology, genomics and biotechnology, Penn’s centers and institutes are at the forefront of research on multiple scientific and technological frontiers.

International Summer Undergraduate Research in Engineering (iSURE)
Opportunities for undergraduates are available during the summer to spend eight to 12 weeks on a research internship in one of Penn Engineering’s partner institutions abroad.

Littlejohn Undergraduate Research Program
Thanks to a generous gift by Angus Littlejohn, the School of Engineering is able to offer Summer Research Opportunities to Penn Engineering Students. The program is open to rising, sophomores, juniors and seniors.

The program intends to provide students the opportunity to get involved in hands-on engineering research under the supervision of a faculty member. Topics of research include all areas covered by the departments in the School of Engineering and Applied Science. Students will receive a stipend of $4,500 for a 10 week period.

Rachleff Scholars Program
This program offers Penn Engineering undergraduates the opportunity to gain valuable research experiences with standing faculty and to participate in a community of peers who share a common interest in research and scholarly inquiry.

The following BSE programs are accredited by the Engineering Accreditation Commission of ABET (http://www.abet.org).

• Bioengineering (http://www.be.seas.upenn.edu/about-academics)
• Chemical and Biomolecular Engineering (http://www.cbe.seas.upenn.edu/about-ugrad)
• Computer Science (http://www.cis.upenn.edu/ugrad/abet.shtml)
• Computer Engineering (http://www.seas.upenn.edu/cmpe/accreditation.php)
• Electrical Engineering (http://www.ece.upenn.edu/about-ugrad)
• Materials Science and Engineering (http://www.mse.seas.upenn.edu/about-ugrad/accreditation.php)
• Mechanical Engineering and Applied Mechanics (http://www.me.upenn.edu/about-ug-ed/accreditation.php)
• Systems Science and Engineering (http://www.ee.upenn.edu/about-ugrad)

The BSE program in Computer Science is accredited by the Computing Accreditation Commission of ABET (http://www.abet.org).

For more information, visit: http://www.seas.upenn.edu/undergraduate/handbook/programs/abet-accreditation.php.

Each student is assigned a faculty advisor with whom they are required to meet at least twice per year. No student is permitted to register for classes in any semester without first meeting with an advisor and a review of their Permission to Register form (https://www.seas.upenn.edu/undergraduate/pdf/ug-advisor-signoff.pdf). Students who take the time to prepare for these meetings generally find them beneficial and informative. Faculty advisors are the best source of information about electives within the major, research opportunities, and options for graduate study.

For more information, visit: https://www.seas.upenn.edu/undergraduate/advising/.

Curriculum
Each major (p. 169) within the School of Engineering and Applied Science has its own curriculum. Specific curricular requirements for each major are listed by program.

However, all Engineering students must complete requirements in four specific tracks:

• math (http://www.seas.upenn.edu/undergraduate/handbook/courses/math-courses.php) and natural science (http://www.seas.upenn.edu/undergraduate/handbook/courses/nat-science-courses.php)
• core engineering courses within the chosen major
• professional electives
• social science/humanities (http://www.seas.upenn.edu/undergraduate/handbook/courses/ssh-requirements.php) and free electives (http://www.seas.upenn.edu/undergraduate/handbook/courses/free-elective.php)

A course planning guide exists for each major to assist with planning and keeping track of the requirements toward graduation.

In addition, all Engineering students must complete the following requirements.

Writing Requirement
Beginning with the Class of 2001, Penn Engineering has implemented a Writing Requirement. The Writing Requirement will not necessitate the completion of additional course units. Students can easily satisfy the requirement without altering the existing constraints of BAS or the BSE degrees.

Students are strongly encouraged to fulfill the Writing Requirement during the first two years of study because it becomes increasingly difficult to schedule first-year courses as one moves through the curriculum.

For more information, visit: http://www.seas.upenn.edu/undergraduate/handbook/courses/writing-requirement.php.

Engineering Ethics Requirement
Beginning with the Class of 2017, Penn Engineering students must fulfill the Engineering Ethics requirement. The Ethics Requirement will not necessitate the completion of any additional course units in the existing BAS or the BSE degrees, as the requirement may be double-counted from the student’s SSH course requirements.

The Engineering Ethics requirement can be satisfied by taking EAS 203 Engineering Ethics. This course may be used (double-counted) for the Social Science requirement as well. Students are strongly encouraged to take the Ethics Requirement course during the sophomore year.
For more information, visit: http://www.seas.upenn.edu/undergraduate/handbook/courses/ethics-requirement.php.

**Bioengineering, BSE**

Bioengineering is a multidisciplinary area where the engineering sciences interface biology, biomedical sciences, and medicine, to advance human health. Bioengineering brings together the creation of new knowledge and understanding of biological systems through engineering analysis and experimentation, with the application of engineering design and practice principles for the development of devices, processes, methods and biotechnologies to improve medical practice and health care delivery.

For more information: https://www.seas.upenn.edu/prospective-students/undergrad/majors/bioengineering/

**Bioengineering (BE) Major Requirements**

40.5 course units are required. Read more about the Undergraduate Student Handbook (http://www.seas.upenn.edu/undergraduate/handbook).

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Course Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>BE 100</td>
<td>Introduction to Bioengineering</td>
<td>0.5</td>
</tr>
<tr>
<td>BE 101</td>
<td>Introduction to Bioengineering II</td>
<td>0.5</td>
</tr>
<tr>
<td>EAS/ENGR 105</td>
<td>Introduction to Scientific Computing</td>
<td>1</td>
</tr>
<tr>
<td>BE 200</td>
<td>Introduction to Biomechanics</td>
<td>1</td>
</tr>
<tr>
<td>BE 220</td>
<td>Biomaterials</td>
<td>1</td>
</tr>
<tr>
<td>BE 301</td>
<td>Bioengineering Signals and Systems</td>
<td>1</td>
</tr>
<tr>
<td>BE 305</td>
<td>Engineering Principles of Human Physiology</td>
<td>1</td>
</tr>
<tr>
<td>BE 306</td>
<td>Molecular Physiology and Cellular Engineering from Atoms to Disease</td>
<td>1</td>
</tr>
<tr>
<td>BE 309</td>
<td>Bioengineering Lab I</td>
<td>1</td>
</tr>
<tr>
<td>BE 310</td>
<td>Bioengineering Lab II</td>
<td>1</td>
</tr>
<tr>
<td>BE 324</td>
<td>Chemical Basis of Bioengineering II</td>
<td>1</td>
</tr>
<tr>
<td>BE 350</td>
<td>Introduction to Biotransport Processes</td>
<td>1</td>
</tr>
<tr>
<td>BE 495</td>
<td>Senior Design Project</td>
<td>1</td>
</tr>
<tr>
<td>BE 496</td>
<td>Senior Design Project</td>
<td>1</td>
</tr>
<tr>
<td>BE Elective (400 or 500 level)</td>
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</tr>
<tr>
<td>Engineering Elective</td>
<td>1</td>
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**Math**

<table>
<thead>
<tr>
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<th>Title</th>
<th>Course Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>MATH 104</td>
<td>Calculus, Part I</td>
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</tr>
<tr>
<td>MATH 114</td>
<td>Calculus, Part II</td>
<td>1</td>
</tr>
<tr>
<td>MATH 240</td>
<td>Calculus, Part III</td>
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</tr>
<tr>
<td>MATH 241</td>
<td>Calculus, Part IV</td>
<td>1</td>
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Select one of the following:

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Course Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENM 375</td>
<td>Biological Data Science I - Fundamentals of Biostatistics</td>
<td>1</td>
</tr>
<tr>
<td>ENM 321</td>
<td>Engineering Statistics</td>
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<tr>
<td>ESE 302</td>
<td>Engineering Applications of Statistics</td>
<td>1</td>
</tr>
<tr>
<td>STAT 431</td>
<td>Statistical Inference</td>
<td>1</td>
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**Natural Science**

Select one of the following:

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Course Units</th>
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</thead>
<tbody>
<tr>
<td>PHYS 093</td>
<td>AP Credit for Principles I (PHYS 150)</td>
<td>1</td>
</tr>
<tr>
<td>PHYS 140</td>
<td>Principles of Physics I (without laboratory)</td>
<td>1</td>
</tr>
<tr>
<td>PHYS 150</td>
<td>Principles of Physics I: Mechanics and Wave Motion</td>
<td>1</td>
</tr>
<tr>
<td>PHYS 170</td>
<td>Honors Physics I: Mechanics and Wave Motion</td>
<td>1</td>
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Select one of the following:

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Course Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>PHYS 094</td>
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<td>1</td>
</tr>
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<td>PHYS 141</td>
<td>Principles of Physics II (without laboratory)</td>
<td>1</td>
</tr>
<tr>
<td>PHYS 151</td>
<td>Principles of Physics II: Electromagnetism and Radiation</td>
<td>1</td>
</tr>
<tr>
<td>PHYS 171</td>
<td>Honors Physics II: Electromagnetism and Radiation</td>
<td>1</td>
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Select one of the following:

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Course Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>CHEM 091</td>
<td>AP Credit Intro Chem</td>
<td>1</td>
</tr>
<tr>
<td>CHEM 101</td>
<td>General Chemistry I</td>
<td>1</td>
</tr>
<tr>
<td>CHEM 115</td>
<td>Honors Chemistry I: Theoretical Perspectives</td>
<td>1</td>
</tr>
<tr>
<td>CHEM 053</td>
<td>General Chemistry Laboratory I</td>
<td>0.5</td>
</tr>
</tbody>
</table>

Select one of the following:

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Course Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>CHEM 102</td>
<td>General Chemistry II</td>
<td>1</td>
</tr>
<tr>
<td>CHEM 116</td>
<td>Honors Chemistry II</td>
<td>1</td>
</tr>
<tr>
<td>CHEM 054</td>
<td>General Chemistry Laboratory II</td>
<td>0.5</td>
</tr>
<tr>
<td>BIOL 121</td>
<td>Introduction to Biology - The Molecular Biology of Life</td>
<td>1</td>
</tr>
<tr>
<td>BIOL 123</td>
<td>Introductory Molecular Biology Laboratory</td>
<td>0.5</td>
</tr>
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</table>

Select one of the following:

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Course Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIOL 204</td>
<td>Biochemistry</td>
<td>1</td>
</tr>
<tr>
<td>BIOL 205</td>
<td>Cell Biology</td>
<td>1</td>
</tr>
<tr>
<td>BIOL 215</td>
<td>Vertebrate Physiology</td>
<td>1</td>
</tr>
<tr>
<td>BIOL 221</td>
<td>Molecular Biology and Genetics</td>
<td>1</td>
</tr>
</tbody>
</table>

**Technical Electives**

Select two Engineering, Math, Science Electives

**Social Sciences and Humanities**

Select 2 Social Science courses

Select 2 Humanities courses
Select 1 Social Science or Humanities course

Select 2 Social Science, Humanities or Technology in Business & Society course

**Ethics Requirement**

Select one from the following:

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>BE/EAS 303</td>
<td>Ethics, Social and Professional Responsibility for Engineers</td>
</tr>
<tr>
<td>EAS 203</td>
<td>Engineering Ethics</td>
</tr>
<tr>
<td>SOCI 101/PHIL 072/PPE 072</td>
<td>Bioethics</td>
</tr>
<tr>
<td>HSOC 102</td>
<td>History of Bioethics</td>
</tr>
<tr>
<td>LGST 210</td>
<td>Corporate Responsibility and Ethics</td>
</tr>
<tr>
<td>LGST 220</td>
<td>International Business Ethics</td>
</tr>
<tr>
<td>NURS 330</td>
<td>Theoretical Foundations of Health Care Ethics</td>
</tr>
<tr>
<td>NURS 525</td>
<td>Ethical Aspects of Health and Technology</td>
</tr>
<tr>
<td>PHIL 272</td>
<td>Ethics &amp; the Professions</td>
</tr>
<tr>
<td>PHIL 472</td>
<td>Survey of Ethical Theory</td>
</tr>
<tr>
<td>PHIL 473</td>
<td>Topics in Ethics</td>
</tr>
<tr>
<td>SOCI 118</td>
<td>Sociology of Bioethics</td>
</tr>
</tbody>
</table>

**Free Elective**

Select 3 course units of free electives

| Total Course Units | 40.5 |

---

1. **ENM 375** Biological Data Science I - Fundamentals of Biostatistics is recommended.
2. If PHYS 150 Principles of Physics I: Mechanics and Wave Motion or PHYS 170 Honors Physics I: Mechanics and Wave Motion & PHYS 151 Principles of Physics II: Electromagnetism and Radiation or PHYS 171 Honors Physics II: Electromagnetism and Radiation taken then only 1 course unit technical elective required.
3. The Social Science & Humanities Depth, Writing & Ethics Requirements can be satisfied with the 7 total course units.

**Concentrations**

Students may select one of eight concentrations (http://www.be.seas.upenn.edu/current-students/undergraduates/concentrations.php):

- Biomedical Data Science and Computational Medicine
- Biomedical Devices
- Cellular/Tissue Engineering and Biomaterials
- Biomedical Imaging and Radiation Physics
- Systems and Synthetic Biology
- Neuroengineering
- Multiscale Biomechanics
- Therapeutics, Drug Delivery & Nanomedicine

**Biomedical Science, BAS**

Interface the engineering sciences, biology, biomedical sciences, and medicine to advance human health and solve problems in medicine and the biological sciences. The Bachelor of Applied Science degree offers students breadth and flexibility and allows them to combine a technology-based degree with considerable course work in the liberal arts, communications, business or fine arts. It is designed primarily for students whose interests are not oriented toward a professional engineering career. It is a popular degree option for those preparing for careers in medicine, business, and law. Many students who are pursuing dual degree programs opt for this degree.

For more information: http://www.be.seas.upenn.edu/prospective-students/undergraduates/program-bse-bas.php

**Biomedical Science (ASBS) Major Requirements**

40.5 course units are required. Read more about the Undergraduate Student Handbook (http://www.seas.upenn.edu/undergraduate/handbook).

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Course Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>BE 100</td>
<td>Introduction to Bioengineering</td>
<td>0.5</td>
</tr>
<tr>
<td>BE 101</td>
<td>Introduction to Bioengineering II</td>
<td>0.5</td>
</tr>
<tr>
<td>EAS/ENGR 105</td>
<td>Introduction to Scientific Computing</td>
<td>1</td>
</tr>
<tr>
<td>BE 200</td>
<td>Introduction to Biomechanics</td>
<td>1</td>
</tr>
<tr>
<td>BE 220</td>
<td>Biomaterials</td>
<td>1</td>
</tr>
<tr>
<td>BE 305</td>
<td>Engineering Principles of Human Physiology</td>
<td>1</td>
</tr>
<tr>
<td>BE 306</td>
<td>Molecular Physiology and Cellular Engineering from Atoms to Disease</td>
<td>1</td>
</tr>
<tr>
<td>BE 497</td>
<td>Senior Thesis in Biomedical Science</td>
<td>1</td>
</tr>
<tr>
<td>BE 498</td>
<td>Senior Thesis in Biomedical Science</td>
<td>1</td>
</tr>
<tr>
<td>BE Elective (300, 400 or 500 level)</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>BE Elective (400 or 500 level)</td>
<td>2</td>
<td></td>
</tr>
</tbody>
</table>

**Math**

- MATH 104 Calculus, Part I 1
- MATH 114 Calculus, Part II 1
- MATH 240 Calculus, Part III 1
- MATH 241 Calculus, Part IV 1

**ENM 375** Biological Data Science I - Fundamentals of Biostatistics 1

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Course Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>or ENM 321</td>
<td>Engineering Statistics</td>
<td></td>
</tr>
<tr>
<td>or ESE 302</td>
<td>Engineering Applications of Statistics</td>
<td></td>
</tr>
<tr>
<td>or STAT 431</td>
<td>Statistical Inference</td>
<td></td>
</tr>
</tbody>
</table>

**Natural Science**

Select one of the following:

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>PHYS 093</td>
<td>AP Credit for Principles I (PHYS 150)</td>
</tr>
<tr>
<td>PHYS 140</td>
<td>Principles of Physics I (without laboratory)</td>
</tr>
<tr>
<td>PHYS 150</td>
<td>Principles of Physics I: Mechanics and Wave Motion</td>
</tr>
</tbody>
</table>

The degree and major requirements displayed are intended as a guide for students entering in the Fall of 2017 and later. Students should consult with their academic program regarding final certifications and requirements for graduation.
PHYS 170  Honors Physics I: Mechanics and Wave Motion

Select one of the following: 1

PHYS 094  AP Credit for Principles II (PHYS 151)
PHYS 141  Principles of Physics II (without laboratory)
PHYS 151  Principles of Physics II: Electromagnetism and Radiation
PHYS 171  Honors Physics II: Electromagnetism and Radiation

Select one of the following: 1

CHEM 091  AP Credit Intro Chem
CHEM 115  Honors Chemistry I: Theoretical Perspectives
CHEM 101  General Chemistry I
CHEM 053  General Chemistry Laboratory I 0.5
CHEM 102  General Chemistry II 1
or CHEM 116  Honors Chemistry II
CHEM 054  General Chemistry Laboratory II 0.5
BIOL 121  Introduction to Biology - The Molecular Biology of Life 1

BIOL 123  Introductory Molecular Biology Laboratory 0.5

Select one of the following: 1

BIOL 204  Biochemistry
BIOL 205  Cell Biology
BIOL 215  Vertebrate Physiology
BIOL 221  Molecular Biology and Genetics

Technical Electives
Math, Science, or Engineering Electives 2 3

Career Path
Select any Math, Science, Engineering, Business, or health-related course 3

Social Sciences and Humanities 3
Select 2 Social Science courses 2
Select 2 Humanities courses 2
Select 1 Social Science or Humanities course 1
Select 2 Social Science or Humanities or Technology in Business & Society courses 2

Select one of the following courses to fulfill the Ethics Requirement:
BE/EAS 303  Ethics, Social and Professional Responsibility for Engineers
EAS 203  Engineering Ethics
SOCI 072/PPE 072  Bioethics
HSOC 102  Bioethics
SOCI 118  Sociology of Bioethics
HSOC 140  History of Bioethics
LGST 210  Corporate Responsibility and Ethics
LGST 220  International Business Ethics
NURS 525  Ethical Aspects of Health and Technology
NURS 330  Theoretical Foundations of Health Care Ethics
PHIL 272  Ethics & the Professions
PHIL 472  Survey of Ethical Theory
PHIL 473  Topics in Ethics

Free Elective
Select 3 free electives 3

Total Course Units 40.5

1 ENM 375 Biological Data Science I - Fundamentals of Biostatistics is recommended.
2 If PHYS 150 Principles of Physics I: Mechanics and Wave Motion or PHYS 170 Honors Physics I: Mechanics and Wave Motion & PHYS 151 Principles of Physics II: Electromagnetism and Radiation or PHYS 171 Honors Physics II: Electromagnetism and Radiation taken then only 2 course units technical elective required.
3 The Social Science & Humanities Depth, Writing & Ethics Requirement can be satisfied with the 7 total course units.

Concentrations
Students may select one of eight concentrations (http://www.be.seas.upenn.edu/current-students/undergraduates/concentrations.php):

- Biomedical Data Science and Computational Medicine
- Biomedical Devices
- Cellular/Tissue Engineering and Biomaterials
- Biomedical Imaging and Radiation Physics
- Systems and Synthetic Biology
- Neuroengineering
- Multiscale Biomechanics
- Therapeutics, Drug Delivery & Nanomedicine

The degree and major requirements displayed are intended as a guide for students entering in the Fall of 2017 and later. Students should consult with their academic program regarding final certifications and requirements for graduation.

Chemical and Biomolecular Engineering, BSE

Chemical Engineers apply concepts from the physical sciences (chemistry and physics) and life sciences (biochemistry and microbiology) to the design and optimization of processes for the efficient production of products ranging from fuels and chemicals to pharmaceuticals to advanced materials. Penn’s chemical engineering department provides students with both a strong foundation in engineering fundamentals and exposure to modern chemical engineering technologies. The program’s versatility allows our students to excel in diverse careers in the chemical industries, research, medicine, law, government, and education.

For more information: https://www.seas.upenn.edu/prospective-students/undergrad/majors/chemical-and-biomolecular-engineering/
Chemical and Biomolecular Engineering (CBE) Major Requirements

41 course units are required. Read more about the Undergraduate Student Handbook (http://www.seas.upenn.edu/undergraduate/handbook).

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Course Units</th>
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<td>ENGR 105</td>
<td>Introduction to Scientific Computing</td>
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<td>CBE 160</td>
<td>Introduction to Chemical Engineering</td>
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<tr>
<td>CBE 230</td>
<td>Material and Energy Balances of Chemical Processes</td>
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</tr>
<tr>
<td>CBE 231</td>
<td>Thermodynamics of Fluids</td>
<td>1</td>
</tr>
<tr>
<td>CBE 350</td>
<td>Fluid Mechanics</td>
<td>1</td>
</tr>
<tr>
<td>CBE 351</td>
<td>Heat and Mass Transport</td>
<td>1</td>
</tr>
<tr>
<td>CBE 353</td>
<td>Advanced Chemical Engineering Science</td>
<td>1</td>
</tr>
<tr>
<td>CBE 371</td>
<td>Separation Processes</td>
<td>1</td>
</tr>
<tr>
<td>CBE 400</td>
<td>Introduction to Product and Process Design</td>
<td>1</td>
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<tr>
<td>CBE 410</td>
<td>Chemical Engineering Laboratory</td>
<td>1</td>
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<tr>
<td>CBE 451</td>
<td>Chemical Reactor Design</td>
<td>1</td>
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<tr>
<td>CBE 459</td>
<td>Product and Process Design Projects</td>
<td>1</td>
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<tr>
<td>CBE 460</td>
<td>Chemical Process Control</td>
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<tr>
<td>CBE Elective</td>
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<tr>
<td></td>
<td><strong>Math</strong></td>
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</tr>
<tr>
<td>MATH 104</td>
<td>Calculus, Part I</td>
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<td>MATH 114</td>
<td>Calculus, Part II</td>
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<td>MATH 240</td>
<td>Calculus, Part III</td>
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<tr>
<td>MATH 241</td>
<td>Calculus, Part IV</td>
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<td></td>
<td><strong>Natural Science</strong></td>
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</tr>
<tr>
<td>PHYS 140</td>
<td>Principles of Physics I (without laboratory)</td>
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</tr>
<tr>
<td>or PHYS 150</td>
<td>Principles of Physics I: Mechanics and Wave Motion</td>
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</tr>
<tr>
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<td>Principles of Physics II (without laboratory)</td>
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</tr>
<tr>
<td>or PHYS 151</td>
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<tr>
<td></td>
<td>Radiation</td>
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</tr>
<tr>
<td>CHEM 101</td>
<td>General Chemistry I</td>
<td>1</td>
</tr>
<tr>
<td>CHEM 053</td>
<td>General Chemistry Laboratory I</td>
<td>0.5</td>
</tr>
<tr>
<td>CHEM 102</td>
<td>General Chemistry II</td>
<td>1</td>
</tr>
<tr>
<td>CHEM 054</td>
<td>General Chemistry Laboratory II</td>
<td>0.5</td>
</tr>
<tr>
<td>CHEM 221</td>
<td>Physical Chemistry I</td>
<td>1</td>
</tr>
<tr>
<td>or MSE 221</td>
<td>Quantum Physics of Materials</td>
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<tr>
<td>CHEM 241</td>
<td>Principles of Organic Chemistry</td>
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</tr>
<tr>
<td>CHEM 242</td>
<td>Principles of Organic Chemistry II</td>
<td>1</td>
</tr>
<tr>
<td>or CHEM 251</td>
<td>Principles of Biological Chemistry</td>
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</tr>
<tr>
<td></td>
<td><strong>Technical Electives</strong></td>
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<tr>
<td>Select 1 Engineering elective</td>
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<td></td>
</tr>
<tr>
<td>Select 2 Technical Electives</td>
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<td></td>
</tr>
<tr>
<td>Select one of the following:</td>
<td></td>
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<tr>
<td>CBE 480</td>
<td>Laboratory in Biotechnology and Genetic Engineering</td>
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</tr>
<tr>
<td></td>
<td><strong>Social Sciences and Humanities</strong></td>
<td></td>
</tr>
<tr>
<td>Select 2 Social Science courses</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>Select 2 Humanities courses</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>Select 1 Social Science or Humanities course</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Select 2 Social Science or Humanities or Technology in Business and Society courses</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td></td>
<td><strong>Free Elective</strong></td>
<td></td>
</tr>
<tr>
<td>Select 3 course units of free electives</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td><strong>Total Course Units</strong></td>
<td>41</td>
<td></td>
</tr>
</tbody>
</table>

1 Must be upper level CBE course, 300 or higher, or ENM 510 Foundations of Engineering Mathematics - I, ENM 511 Foundations of Engineering Mathematics - II.
2 One less Technical Elective required if PHYS 150 Principles of Physics I: Mechanics and Wave Motion/PHYS 151 Principles of Physics II: Electromagnetism and Radiation taken.
3 CBE 150 Introduction to Biotechnology recommended.
4 The Social Science & Humanities Depth and Writing requirements can be satisfied with the 7 total course units.

Concentrations

Students may select one of four concentrations (http://www.cbe.seas.upenn.edu/current-students/undergraduates/concentrations.php):

- Pharmaceutics and Biotechnology
- Polymer Science and Engineering
- Nanotechnology
- Environmental Engineering

The degree and major requirements displayed are intended as a guide for students entering in the Fall of 2017 and later. Students should consult with their academic program regarding final certifications and requirements for graduation.

Computational Biology, BAS

The BAS in Computational Biology is an interdisciplinary area that crosses between the biological sciences, math, and computer science. More specifically, it requires that students augment a basic computer science curriculum with courses in biology, chemistry, genetics and statistics. The program is intended to train students in key areas of Computational Biology and is also designed so that a student may focus on those areas of biology in which he or she wishes to specialize. A broad background in computer science, from programming to algorithms to database systems, is also required. This program has a year-long capstone course in computational biology that is co-taught by faculty in computer science, biology and genetics. The development of Computational Biology has been influenced by various factors. One main influence derives from the need to solve problems associated with the assimilation, storage, retrieval and analysis of data arising from the Human Genome Project and similar projects that involve massive data sets containing bibliographic information, DNA sequence information and testing methods and results. The analysis of such data involves
the development and use of complex information modeling techniques, languages, visualization techniques, and computational methods. The second broad area of biology in which computational methods have for some time been used is in evolution and ecology. Many evolutionary processes when viewed from the genetic point of view involve equations of such complexity that ordinary algebraic and calculus methods are simply insufficient to solve them, and numerical methods entailing the use of a computer are necessary. The construction of phylogenetic trees of evolution has for a long time been carried out by computational as opposed to mathematical methods. Many ecological processes similarly involve such complexities that computer methods offer the only way forward. Computational Biology is a field of current interest and is essential to train computer scientists with enough knowledge of biology to be able to understand the problems and computational opportunities in this domain. Employment opportunities are excellent at major pharmaceutical companies, biotech companies and research labs.

For more information: https://www.seas.upenn.edu/prospective-students/undergrad/majors/bachelor-of-applied-science/

**Computational Biology (ASCB) Major Requirements**

40 course units are required. Read more about the Undergraduate Student Handbook (http://www.seas.upenn.edu/undergraduate/handbook).

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Course Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>Engineering</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CIS 110</td>
<td>Introduction to Computer Programming</td>
<td>1</td>
</tr>
<tr>
<td>CIS 120</td>
<td>Programming Languages and Techniques I</td>
<td>1</td>
</tr>
<tr>
<td>CIS 121</td>
<td>Programming Languages and Techniques II</td>
<td>1</td>
</tr>
<tr>
<td>CIS 240</td>
<td>Introduction to Computer Systems</td>
<td>1</td>
</tr>
<tr>
<td>CIS 320</td>
<td>Introduction to Algorithms</td>
<td>1</td>
</tr>
<tr>
<td>CIS Electives 1</td>
<td></td>
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</tr>
<tr>
<td>CIS Project Electives 2</td>
<td></td>
<td>2</td>
</tr>
<tr>
<td>Engineering Electives</td>
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<td>EAS 499</td>
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</tr>
<tr>
<td>Math</td>
<td></td>
<td></td>
</tr>
<tr>
<td>MATH 114</td>
<td>Calculus, Part II</td>
<td>1</td>
</tr>
<tr>
<td>CIS 160</td>
<td>Mathematical Foundations of Computer Science</td>
<td>1</td>
</tr>
<tr>
<td>CIS 262</td>
<td>Automata, Computability, and Complexity</td>
<td>1</td>
</tr>
<tr>
<td>BIOL 446</td>
<td>Statistics for Biologists</td>
<td>1</td>
</tr>
<tr>
<td>Math Elective</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Natural Science</td>
<td></td>
<td></td>
</tr>
<tr>
<td>BIOL 121</td>
<td>Introduction to Biology - The Molecular Biology of Life</td>
<td>1</td>
</tr>
<tr>
<td>BIOL 102</td>
<td>Introduction to Biology B</td>
<td>1.5</td>
</tr>
<tr>
<td>BIOL 221</td>
<td>Molecular Biology and Genetics</td>
<td>1</td>
</tr>
<tr>
<td>CHEM 101</td>
<td>General Chemistry I</td>
<td>1</td>
</tr>
<tr>
<td>CHEM 053</td>
<td>General Chemistry Laboratory I</td>
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<td>Concentration</td>
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<td>Select 7-8 course units</td>
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<tr>
<td>Social Sciences and Humanities 3</td>
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<td></td>
</tr>
<tr>
<td>EAS 203</td>
<td>Engineering Ethics</td>
<td>1</td>
</tr>
</tbody>
</table>

Select 2 Social Science courses 2
Select 2 Humanities courses 2
Select 2 Social Science or Humanities or Technology in Business and Society courses 2

**Free Elective**

Select 2.5-3.5 course units of free electives 2.5-3.5

Total Course Units 40

---

1. A CIS elective is a CIS or NETS engineering course. The SEAS handbook defines all CIS and NETS classes numbered 1XX-5XX as engineering courses, with the following exceptions that cannot be used: CIS 100 Information Technology and Its Impact on Society, CIS 101 Introduction to Computer Science: Principles of information and Computation, CIS 106 Visualizing the Past, CIS 125 Technology and Policy, CIS 160 Mathematical Foundations of Computer Science, CIS 261 Discrete Probability, Stochastic Processes, and Statistical Inference, CIS 262 Automata, Computability, and Complexity. ESE 350 Embedded Systems/Microcontroller Laboratory may be used to satisfy the CIS elective requirement. Please note: Students may count at most 1 course unit of 1XX credit as a CIS elective.


3. The Social Science & Humanities Depth, Writing & Ethics Requirement can be satisfied with the 7 total course units.

**Concentration**

Department approval is required.

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Course Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIOL 437</td>
<td>Introduction to Computational Biology &amp; Biological Modeling</td>
<td>1</td>
</tr>
<tr>
<td>BIOL 537</td>
<td>Advanced Computational Biology</td>
<td>1</td>
</tr>
</tbody>
</table>

Select two of the following:

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Course Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>PHYS 150</td>
<td>Principles of Physics I: Mechanics and Wave Motion</td>
<td></td>
</tr>
<tr>
<td>CHEM 102/054</td>
<td>General Chemistry II</td>
<td></td>
</tr>
<tr>
<td>BIOL 215</td>
<td>Vertebrate Physiology</td>
<td></td>
</tr>
<tr>
<td>BIOL 251</td>
<td>Molecular and Cellular Neurobiology</td>
<td></td>
</tr>
<tr>
<td>BIOL 230</td>
<td>Evolutionary Biology</td>
<td></td>
</tr>
<tr>
<td>BIOL 231</td>
<td>The Evolution of Animal Behavior</td>
<td></td>
</tr>
<tr>
<td>BIOL 240</td>
<td>Ecology: From individuals to ecosystems</td>
<td></td>
</tr>
<tr>
<td>CHEM 054</td>
<td>General Chemistry Laboratory II (if applicable)</td>
<td>0.5</td>
</tr>
</tbody>
</table>

Select remaining 3 courses from the following:

Any CIS course
Any 200 level Biology course
BIOL 410 Advanced Evolution
BIOL 411 Evolutionary Ecology
BIOL 414 Advanced Ecology
BIOL 421 Molecular Genetics
The degree and major requirements displayed are intended as a guide for students entering in the Fall of 2017 and later. Students should consult with their academic program regarding final certifications and requirements for graduation.

Computer and Cognitive Science, BAS

The BAS in Computer and Cognitive Science through the School of Engineering and Applied Science combines the application of theoretical insights from Computer Science, Linguistics, Neuroscience, Philosophy, and Psychology to the formal study of intelligence, perception, reasoning, and other properties of mind, and their application in the service of Information Technology. The degree combines a form grounding in relevant aspects of Computer Science, from programming to algorithms to artificial intelligence, with a concentration in specific courses from the contingent disciplines. The non-computer science courses have been selected for formal rigor and scientific relevance. The degree prepares students for a wide variety of careers in a number of distinct academic, industrial, and professional arenas relating to psychology, philosophy and linguistics. In particular, these careers pertain to the impact of knowledge and information technology on the professions, including those in Media and Communications, Software Development, and Education (among many others), in which a broad background in computer science must be combined with a deep understanding of the human mind. The BAS in Computer and Cognitive Science is intended to address the need for properly trained computer scientists who have sufficient understanding of these other disciplines to be able to solve the many open problems in applications, research, and development that must be addressed if we are to realize the full potential of information processing technologies in these domains. Employment opportunities for students going through such a program are excellent at major information technology companies, software houses, and research labs, as well as in the standard career structures in the areas identified above.

For more information: https://www.seas.upenn.edu/prospective-students/undergrad/majors/bachelor-of-applied-science/

Computer and Cognitive Science (ASCC) Major Requirements

40 course units are required. Read more about the Undergraduate Student Handbook (http://www.seas.upenn.edu/undergraduate/handbook).

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Course Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>CIS 110</td>
<td>Introduction to Computer Programming</td>
<td>1</td>
</tr>
<tr>
<td>CIS 120</td>
<td>Programming Languages and Techniques I</td>
<td>1</td>
</tr>
<tr>
<td>CIS 121</td>
<td>Programming Languages and Techniques II</td>
<td>1</td>
</tr>
<tr>
<td>CIS 140</td>
<td>Introduction to Cognitive Science</td>
<td>1</td>
</tr>
<tr>
<td>CIS 240</td>
<td>Introduction to Computer Systems</td>
<td>1</td>
</tr>
<tr>
<td>CIS 320</td>
<td>Introduction to Algorithms</td>
<td>1</td>
</tr>
<tr>
<td>CIS 421</td>
<td>Artificial Intelligence</td>
<td>1</td>
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<td>CIS Elective</td>
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<tr>
<td>EAS 499</td>
<td>Senior Capstone Project</td>
<td>1</td>
</tr>
<tr>
<td>MATH 104</td>
<td>Calculus, Part I</td>
<td>1</td>
</tr>
<tr>
<td>MATH 114</td>
<td>Calculus, Part II</td>
<td>1</td>
</tr>
<tr>
<td>CIS 160</td>
<td>Mathematical Foundations of Computer Science</td>
<td>1</td>
</tr>
<tr>
<td>CIS 262</td>
<td>Automata, Computability, and Complexity</td>
<td>1</td>
</tr>
<tr>
<td>Math Elective</td>
<td></td>
<td>2</td>
</tr>
<tr>
<td>PHYS 140</td>
<td>Principles of Physics I (without laboratory)</td>
<td>1</td>
</tr>
<tr>
<td>PHYS 141</td>
<td>Principles of Physics II (without laboratory)</td>
<td>1</td>
</tr>
<tr>
<td>Natural Science</td>
<td></td>
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</tr>
<tr>
<td>EAS 203</td>
<td>Engineering Ethics</td>
<td>1</td>
</tr>
<tr>
<td>Select 2 Social Science courses</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>Select 2 Humanities courses</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>Select 2 Social Science or Humanities or Technology in Business &amp; Society courses</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>Free Elective</td>
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<td>3</td>
</tr>
<tr>
<td>Total Course Units</td>
<td></td>
<td>40</td>
</tr>
</tbody>
</table>

1 A CIS elective is a CIS or NETS engineering course. The SEAS handbook defines all CIS and NETS classes numbered 1xx-5xx as engineering courses, with the following exceptions that cannot be used: CIS 100 Information Technology and its Impact on Society, CIS 101 Introduction to Computer Science: Principles of information and Computation, CIS 106 Visualizing the Past., CIS 125 Technology and Policy, CIS 160 Mathematical Foundations of Computer Science, CIS 261 Discrete Probability, Stochastic Processes, and Statistical Inference, CIS 262 Automata, Computability, and Complexity. ESE 350 Embedded Systems/Microcontroller Laboratory can also be used to satisfy the CIS elective requirement. Please note: Students may count at most 1 course unit of 1xx credit as a CIS Elective.
Science labs are not required. Labs taken can be used as Natural Science credit.

The Social Science & Humanities Depth, Writing & Ethics Requirement can be satisfied with the 7 total course units.

Concentration

Department approval is required.

- Option 1: Any approved minor, or sequence of approved courses. Remaining must be Math, Natural Science or Engineering. (Minors are strongly encouraged.)

- Option 2: Any 8 course units from Math, Natural Science, Engineering, or from the following specified tech electives:

For ASCC Majors, Nat Sci may also include the following Cog Sci Courses:

The degree and major requirements displayed are intended as a guide for students entering in the Fall of 2017 and later. Students should consult with their academic program regarding final certifications and requirements for graduation.

### Computer Engineering, BSE

Computer Engineering is the discipline that designs and engineers computer systems from digital circuits, through compilers and runtime systems, to networking and world-wide distributed systems. As an engineering discipline, the computer engineer must appreciate the physical aspects of computations (energy, delay, area, reliability, costs) and be able to expertly navigate the multidimensional tradeoff space associated with implementing computations. Since today's high performance programmable computing devices mean enormous computational tasks can be performed entirely in software, the computer engineer must manage computational capabilities and functionalities which migrate between hardware and software driven by advancing technology and these engineering tradeoffs. Recent advances in manufacturing make it economical to construct systems containing billions of components and millions of lines of code, and these systems are increasingly invaluable in life-critical and real-time systems; computer engineering is the discipline that seeks to understand how to design and manage systems of this complexity while providing adequate guarantees of safety and trustworthiness for such systems.

For more information: [https://www.seas.upenn.edu/prospective-students/undergrad/majors/computer-engineering/](https://www.seas.upenn.edu/prospective-students/undergrad/majors/computer-engineering/)

### Computer Engineering (CMPE) Major Requirements

40 course units are required. Read more about the Undergraduate Student Handbook ([http://www.seas.upenn.edu/undergraduate/handbook](http://www.seas.upenn.edu/undergraduate/handbook)).
Select one of the following:

- ESE 301 Engineering Probability
- CIS 261 Discrete Probability, Stochastic Processes, and Statistical Inference
- STAT 430 Probability
- MATH 430 Introduction to Probability
- ENM 321 Engineering Statistics
- CIS 160 Mathematical Foundations of Computer Science

Select one of the following:

- PHYS 093 AP Credit for Principles I (PHYS 150)
- PHYS 140 Principles of Physics I (without laboratory)
- PHYS 150 Principles of Physics I: Mechanics and Wave Motion
- PHYS 170 Honors Physics I: Mechanics and Wave Motion
- MEAM 110 Introduction to Mechanics

Select one of the following:

- CHEM 101 General Chemistry I
- BIOL 101 Introduction to Biology A
- BIOL 121 Introduction to Biology - The Molecular Biology of Life
- MATH or Natural Science Elective

Select one of the following:

- PHYS 094/051 AP Credit for Principles II (PHYS 151)
- PHYS 151 Principles of Physics II: Electromagnetism and Radiation
- PHYS 171 Honors Physics II: Electromagnetism and Radiation

Select one of the following:

- ESE 400 Engineering Economics
- EAS 545 Engineering Entrepreneurship I
- EAS 595 Foundations of Leadership
- MGMT 235 Technological Innovation and Entrepreneurship
- MGMT 237 Management of Technology
- Math, Science, or Engineering Elective

Math, Science, or Engineering Electives

- ESE 400 Engineering Economics
- EAS 545 Engineering Entrepreneurship I
- EAS 595 Foundations of Leadership
- MGMT 235 Technological Innovation and Entrepreneurship
- MGMT 237 Management of Technology
- Math, Science, or Engineering Elective

Social Sciences and Humanities

- Select 2 Social Science courses
- Select 2 Humanities courses
- Select 1 Social Science or Humanities course

Computer Science, BSE

Computer scientists and engineers have revolutionized society and created the computer and telecommunications industries that are so important to human life and the world’s economy. As a result of this revolution, expertise in computer science is essential in many new areas, including computer and network service and consulting companies, financial institutions, health industries, natural science labs and medical research labs, and other contexts where intensive manipulation of information is important. As a result, opportunities for computer scientists and engineers have expanded greatly, both in specialized fields as well as in numerous dual-career opportunities in which computer expertise is combined with advanced degrees in business, communication, engineering, law, medicine, and science.

For more information: https://www.seas.upenn.edu/prospective-students/undergrad/majors/computer-science/

Computer Science (CSCI) Major Requirements

40 course units are required. Read more about the Undergraduate Student Handbook (http://www.seas.upenn.edu/undergraduate/handbook).

Select 1 Social Science, Humanities, or Technology in Business & Society courses

Ethics Requirement: Select one of the following:

- EAS 203 Engineering Ethics
- EAS 303 Ethics, Social, and Professional Responsibility for Engineers
- CIS 125 Technology and Policy

Free Elective

Select 3 course units of free electives

Total Course Units

1 One approved Natural Science Lab (.5 cu) is required.
2 A limit of two freshman-level Engineering courses may be used as a Technical Elective.
3 The Social Science & Humanities Depth, Writing & Ethics Requirements can be satisfied with the 7 total course units.

The degree and major requirements displayed are intended as a guide for students entering in the Fall of 2017 and later. Students should consult with their academic program regarding final certifications and requirements for graduation.
Select one of the following CIS Project elective courses:

- CIS 330 Design Principles of Information Systems
- CIS 341 Compilers and Interpreters
- CIS 455 Internet and Web Systems
- CIS 460 Interactive Computer Graphics
- CIS 553 Networked Systems
- ESE 350 Embedded Systems/Microcontroller Laboratory
- CIS 371 Computer Organization and Design
- CIS 380 Computer Operating Systems
- CIS 400 Senior Project
- CIS 401 Senior Project
- CIS Elective

Math

- MATH 104 Calculus, Part I
- MATH 114 Calculus, Part II
- CIS 160 Mathematical Foundations of Computer Science

Select one of the following:

- CIS 261 Discrete Probability, Stochastic Processes, and Statistical Inference
- ESE 301 Engineering Probability
- ENM 321 Engineering Statistics
- STAT 430 Probability

MATH Elective

Natural Science

- PHYS 140 Principles of Physics I (without laboratory)
- PHYS 150 Principles of Physics I: Mechanics and Wave Motion
- PHYS 141 Principles of Physics II (without laboratory)
- PHYS 151 Principles of Physics II: Electromagnetism and Radiation

Natural Science/Lab Requirement

Technical Electives

Engineering Courses (required)

Select Option A or B:

Option A: Select any 4 approved minor or minor equivalent courses; or a sequence of 4 approved courses

Option B: Select any Math, Natural Science, or Engineering course or from the following list:

- LING 106 Introduction to Formal Linguistics
- PHIL 231 Epistemology
- PHIL 244 Introduction to Philosophy of Mind
- PHIL 444 Wittgenstein
- OIDD 220 Introduction to Operations Management
- OIDD 321 Introduction to Management Science
- OIDD 325 Computer Simulation Models

Social Sciences and Humanities

Select 2 Social Science courses

Select 2 Humanities courses

Select 1 Social Science or Humanities course

Ethics Requirement

EAS 203 Engineering Ethics

Free Elective

Select 3 course units of free electives

Total Course Units

1 A CIS elective is a CIS or NETS engineering course. The SEAS handbook defines all CIS and NETS classes numbered 1xx5xx as engineering courses, with the following exceptions that cannot be used: CIS 100, 101, 106, 125, 160, 261. ESE 350 Embedded Systems/Microcontroller Laboratory can also be used to satisfy the CIS elective requirement. Please note: Students may count at most 1 cu of 1xx credit as a CIS elective.

2 For CSCI Majors, Natural Science may also include the following Cognitive Science Courses: LING 250 Introduction to Syntax, PSYC 111 Perception, (these courses cannot be used by CSCI majors in the SSH category).

3 One year of laboratory course work is required which can be used as one of the 4 course units. One way to satisfy this requirement is by taking PHYS 150 Principles of Physics I: Mechanics and Wave Motion and PHYS 151 Principles of Physics II: Electromagnetism and Radiation.

4 Two of the six must be Engineering courses.

5 The Social Science & Humanities Depth, Writing and Ethics requirements can be satisfied with the 7 total course units.

Technical Electives

(Department Approval Required)

Two Engineering courses required. Remaining course can be from:

- Option 1: Any approved minor or minor equiv; or a sequence of approved courses.
- Option 2: Any Math, Natural Science, or Engineering, or the following list:

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Course Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>LING 106</td>
<td>Introduction to Formal Linguistics</td>
<td>1</td>
</tr>
<tr>
<td>PHIL 231</td>
<td>Epistemology</td>
<td>1</td>
</tr>
<tr>
<td>PHIL 244</td>
<td>Introduction to Philosophy of Mind</td>
<td>1</td>
</tr>
<tr>
<td>PHIL 444</td>
<td>Wittgenstein</td>
<td>1</td>
</tr>
<tr>
<td>OIDD 220</td>
<td>Introduction to Operations Management</td>
<td>1</td>
</tr>
<tr>
<td>OIDD 321</td>
<td>Introduction to Management Science</td>
<td>1</td>
</tr>
<tr>
<td>OIDD 325</td>
<td>Computer Simulation Models</td>
<td>1</td>
</tr>
</tbody>
</table>

The degree and major requirements displayed are intended as a guide for students entering in the Fall of 2017 and later. Students should consult with their academic program regarding final certifications and requirements for graduation.

Computer Science, BAS

Computer scientists and engineers have revolutionized society and created the computer and telecommunications industries that are so important to human life and the world's economy. As a result of this revolution, expertise in computer science is essential in many...
new areas, including computer and network service and consulting companies, financial institutions, health industries, natural science labs and medical research labs, and other contexts where intensive manipulation of information is important. As a result, opportunities for computer scientists and engineers have expanded greatly, both in specialized fields as well as in numerous dual-career opportunities in which computer expertise is combined with advanced degrees in business, communication, engineering, law, medicine, and science.

For more information: https://www.seas.upenn.edu/prospective-students/undergrad/majors/computer-science/

Computer Science (ASCS) Major Requirements

40 course units are required. Read more about the Undergraduate Student Handbook (http://www.seas.upenn.edu/undergraduate/handbook).

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Course Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>CIS 110</td>
<td>Introduction to Computer Programming</td>
<td>1</td>
</tr>
<tr>
<td>CIS 120</td>
<td>Programming Languages and Techniques I</td>
<td>1</td>
</tr>
<tr>
<td>CIS 121</td>
<td>Programming Languages and Techniques II</td>
<td>1</td>
</tr>
<tr>
<td>CIS 240</td>
<td>Introduction to Computer Systems</td>
<td>1</td>
</tr>
<tr>
<td>CIS 320</td>
<td>Introduction to Algorithms</td>
<td>1</td>
</tr>
<tr>
<td>CIS Electives ¹</td>
<td></td>
<td>2</td>
</tr>
<tr>
<td>CIS Project Electives ²</td>
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<td>2</td>
</tr>
<tr>
<td>EAS 499</td>
<td>Senior Capstone Project</td>
<td>1</td>
</tr>
</tbody>
</table>

Math

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Course Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>MATH 104</td>
<td>Calculus, Part I</td>
<td>1</td>
</tr>
<tr>
<td>MATH 114</td>
<td>Calculus, Part II</td>
<td>1</td>
</tr>
<tr>
<td>CIS 160</td>
<td>Mathematical Foundations of Computer Science</td>
<td>1</td>
</tr>
<tr>
<td>CIS 262</td>
<td>Automata, Computability, and Complexity</td>
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</tr>
<tr>
<td>Math Electives</td>
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</table>

Natural Science

Select two of the following:

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Course Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>PHYS 140</td>
<td>Principles of Physics I (without laboratory)</td>
<td>1</td>
</tr>
<tr>
<td>PHYS 141</td>
<td>Principles of Physics II (without laboratory)</td>
<td>1</td>
</tr>
<tr>
<td>CHEM 101</td>
<td>General Chemistry I</td>
<td>1</td>
</tr>
<tr>
<td>BIOL 101</td>
<td>Introduction to Biology A</td>
<td>1</td>
</tr>
<tr>
<td>or BIOL 121</td>
<td>Introduction to Biology - The Molecular Biology of Life</td>
<td>1</td>
</tr>
</tbody>
</table>

Select 8 course units of free electives

Total Course Units 40

¹ A CIS elective is a CIS or NETS engineering course. The SEAS handbook defines all CIS & NETS classes numbered 1xx-5xx as engineering courses, with the following exceptions that cannot be used: CIS 100 Information Technology and Its Impact on Society, CIS 101 Introduction to Computer Science: Principles of information and Computation, CIS 106 Visualizing the Past, CIS 125 Technology and Policy, CIS 160 Mathematical Foundations of Computer Science, CIS 261 Discrete Probability, Stochastic Processes, and Statistical Inference, CIS 262 Automata, Computability, and Complexity. ESE 350 Embedded Systems/Microcontroller Laboratory can also be used to satisfy the CIS elective requirement. Please note: Students may count at most 1 course unit of 1XX credit as a CIS elective.


³ Science labs are not required. Labs taken can be used as Natural Science credit.

⁴ The Social Science & Humanities Depth, Writing & Ethics Requirement can be satisfied with the 7 total course units.

Concentration

Department approval is required.

- Option 1: Any approved minor, or sequence of approved courses. Remaining must be Math, Natural Science or Engineering. (Minors are strongly encouraged.)
- Option 2: Any 8 course units from Math, Natural Science, Engineering, or from the following specified tech electives:

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Course Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>LING 106</td>
<td>Introduction to Formal Linguistics</td>
<td>1</td>
</tr>
<tr>
<td>PHIL 231</td>
<td>Epistemology</td>
<td>1</td>
</tr>
<tr>
<td>PHIL 244</td>
<td>Introduction to Philosophy of Mind</td>
<td>1</td>
</tr>
<tr>
<td>PHIL 444</td>
<td>Wittenstein</td>
<td>1</td>
</tr>
<tr>
<td>OIDD 220</td>
<td>Introduction to Operations Management</td>
<td>1</td>
</tr>
<tr>
<td>OIDD 321</td>
<td>Introduction to Management Science</td>
<td>1</td>
</tr>
<tr>
<td>OIDD 325</td>
<td>Computer Simulation Models</td>
<td>1</td>
</tr>
</tbody>
</table>

For ASCS Majors, Natural Science options may also include the following Cognitive Science courses:

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Course Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>LING 250</td>
<td>Introduction to Syntax</td>
<td>1</td>
</tr>
<tr>
<td>LING 230</td>
<td>Sound Structure of Language</td>
<td>1</td>
</tr>
<tr>
<td>LING 255</td>
<td>Formal Semantics and Cognitive Science</td>
<td>1</td>
</tr>
<tr>
<td>LING 520</td>
<td>Phonetics I</td>
<td>1</td>
</tr>
<tr>
<td>LING 530</td>
<td>Phonology I</td>
<td>1</td>
</tr>
<tr>
<td>LING 531</td>
<td>Phonology II</td>
<td>1</td>
</tr>
<tr>
<td>LING 550</td>
<td>Syntax I</td>
<td>1</td>
</tr>
<tr>
<td>LING 551</td>
<td>Syntax II</td>
<td>1</td>
</tr>
</tbody>
</table>
The Digital Media Design (DMD) program is an interdisciplinary major in the School of Engineering and Applied Science at Penn. As a full-fledged Bachelors in Engineering and Science (BSE) degree, it combines major coursework in computer graphics within the Computer & Information Science Department, Communication theory courses from the Annenberg School and Fine Arts courses from Penn’s School of Design. The program was designed for students who have an interest in computer graphics, animation, games, and the design of virtual reality environments and interactive technologies. The Digital Media Design Program was established in response to what we perceived as a growing rift within the computer graphics and animation industry.

For more information: https://www.seas.upenn.edu/prospective-students/undergrad/majors/digital-media-design/

Digital Media Design (DMD) Major Requirements

40 course units are required. Read more about the Undergraduate Student Handbook (http://www.seas.upenn.edu/undergraduate/handbook).

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Course Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>CIS 110</td>
<td>Introduction to Computer Programming</td>
<td>1</td>
</tr>
<tr>
<td>CIS 120</td>
<td>Programming Languages and Techniques I</td>
<td>1</td>
</tr>
<tr>
<td>CIS 121</td>
<td>Programming Languages and Techniques II</td>
<td>1</td>
</tr>
<tr>
<td>CIS 240</td>
<td>Introduction to Computer Systems</td>
<td>1</td>
</tr>
<tr>
<td>CIS 320</td>
<td>Introduction to Algorithms</td>
<td>1</td>
</tr>
<tr>
<td>CIS 460</td>
<td>Interactive Computer Graphics</td>
<td>1</td>
</tr>
<tr>
<td>CIS 462</td>
<td>Computer Animation</td>
<td>1</td>
</tr>
<tr>
<td>or CIS 455</td>
<td>Internet and Web Systems</td>
<td>1</td>
</tr>
<tr>
<td>CIS 461</td>
<td>Advanced Computer Graphics</td>
<td>1</td>
</tr>
<tr>
<td>CIS 497</td>
<td>DMD Senior Project</td>
<td>1</td>
</tr>
<tr>
<td>CIS 300 level or above</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>CIS Elective</td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>Math &amp; Natural Science</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Math Core</td>
<td></td>
<td></td>
</tr>
<tr>
<td>MATH 104</td>
<td>Calculus, Part I</td>
<td>1</td>
</tr>
<tr>
<td>MATH 114</td>
<td>Calculus, Part II</td>
<td>1</td>
</tr>
</tbody>
</table>

Digital Media Design (DMD) Major Requirements

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Course Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>CIS 160</td>
<td>Mathematical Foundations of Computer Science</td>
<td>1</td>
</tr>
<tr>
<td>CIS 262</td>
<td>Automata, Computability, and Complexity</td>
<td>1</td>
</tr>
<tr>
<td>EAS 205</td>
<td>Applications of Scientific Computing.</td>
<td>1</td>
</tr>
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</table>

Natural Science Core

Select two of the following:

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Course Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>PHYS 093</td>
<td>AP Credit for Principles I (PHYS 150)</td>
<td>1</td>
</tr>
<tr>
<td>or PHYS 140</td>
<td>Principles of Physics I (without laboratory)</td>
<td>1</td>
</tr>
<tr>
<td>MEAM 110</td>
<td>Introduction to Mechanics</td>
<td>1</td>
</tr>
<tr>
<td>&amp; MEAM 147</td>
<td>Introduction to Mechanics Lab</td>
<td>1</td>
</tr>
<tr>
<td>PHYS 141</td>
<td>Principles of Physics II (without laboratory)</td>
<td>1</td>
</tr>
<tr>
<td>or PHYS 094</td>
<td>AP Credit for Principles II (PHYS 151)</td>
<td>1</td>
</tr>
<tr>
<td>CHEM 091</td>
<td>AP Credit Intro Chem</td>
<td>1</td>
</tr>
<tr>
<td>CHEM 101</td>
<td>General Chemistry I</td>
<td>1</td>
</tr>
<tr>
<td>MEAM 110/147</td>
<td>Introduction to Mechanics</td>
<td>1</td>
</tr>
<tr>
<td>BIOL 091</td>
<td>AP/Transfer Credit: Introductory Biology for the Major</td>
<td>1</td>
</tr>
<tr>
<td>or BIOL 101</td>
<td>Introduction to Biology A</td>
<td>1</td>
</tr>
<tr>
<td>or BIOL 121</td>
<td>Introduction to Biology - The Molecular Biology of Life</td>
<td>1</td>
</tr>
</tbody>
</table>

Electives

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Course Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>Math or Natural Science</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Natural Science</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>DMD Electives</td>
<td></td>
<td></td>
</tr>
<tr>
<td>FNAR 123</td>
<td>Drawing I</td>
<td>1</td>
</tr>
<tr>
<td>or FNAR 124</td>
<td>Drawing Investigations</td>
<td>1</td>
</tr>
<tr>
<td>FNAR 235</td>
<td>3-D Computer Modeling</td>
<td>1</td>
</tr>
<tr>
<td>or FNAR 236</td>
<td>Digital Figure Modeling</td>
<td>1</td>
</tr>
<tr>
<td>Select 7 DMD Electives</td>
<td>7</td>
<td></td>
</tr>
</tbody>
</table>

Social Sciences and Humanities

Select 2 Social Science courses. 2
Select 2 Humanities courses. 2
Select 1 Social Science or Humanities course. 1
Select 2 Social Science or Humanities or Technology in Business & Society courses. 2

Free Elective

Select 2 free electives 3

Total Course Units 40

1 Select courses from offerings in the following categories: COMM; FNAR, CIMS, THAR, MKTG, EDUC (Advisor approval is required).
2 The Social Science & Humanities Depth, Writing & Ethics Requirement can be satisfied with the 7 total course units.
3 Approval is required.

The degree and major requirements displayed are intended as a guide for students entering in the Fall of 2017 and later. Students should consult with their academic program regarding final certifications and requirements for graduation.
Electrical Engineering, BSE

Electrical engineering connects the physical world with the information world. Electrical engineers apply physics and chemistry in modern nanotechnology devices, encode and manipulate information in circuits and networks, and mathematically understand and reason with large amounts of data in real time. This makes electrical engineering one of the broadest forms of engineering, resulting in a multitude of possible careers. The societal impact of electrical engineering can be found in numerous domains, from smartphones, 5G wireless, and medical imaging to electric/driverless cars and the Internet of Things. Electrical engineering includes the engineering of electrons, magnets, photons, electromagnetic waves, quantum states, and electro-mechanical structures. Electrically engineering systems provide communication, sensing, actuation, display, storage, conversion, control, and computation. The electrical engineering discipline includes both the design and implementation of physical realizations (devices, circuits, antennas) and the mathematical tools for optimizing the exploitation of these systems (control theory, information theory, digital logic, signal processing).

For more information: https://www.seas.upenn.edu/prospective-students/undergrad/majors/electrical-engineering/

Electrical Engineering (EE) Major Requirements

40 course units are required. Read more about the Undergraduate Student Handbook (http://www.seas.upenn.edu/undergraduate/handbook).

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Course Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>CIS 110</td>
<td>Introduction to Computer Programming</td>
<td>1</td>
</tr>
<tr>
<td>or ENGR 105</td>
<td>Introduction to Scientific Computing</td>
<td>1</td>
</tr>
<tr>
<td>ESE 111</td>
<td>Atoms, Bits, Circuits and Systems</td>
<td>1</td>
</tr>
<tr>
<td>ESE 215</td>
<td>Electrical Circuits and Systems</td>
<td>1.5</td>
</tr>
<tr>
<td>ESE 218</td>
<td>Electronic, Photonic, and Electromechanical Devices</td>
<td>1.5</td>
</tr>
<tr>
<td>ESE 224</td>
<td>Signal and Information Processing</td>
<td>1.5</td>
</tr>
<tr>
<td>Area Course: (A) Advance Computing Elective</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CIS 120</td>
<td>Programming Languages and Techniques I</td>
<td>1</td>
</tr>
<tr>
<td>or CIS 240</td>
<td>Introduction to Computer Systems</td>
<td>1</td>
</tr>
<tr>
<td>Area Course: (B) Intermediate or Advanced ESE Elective</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Select one ESE Elective</td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>Area Course: (C) Advanced ESE Courses</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Select any combination of 4 Advanced Electives from the following areas</td>
<td>4-4.5</td>
<td></td>
</tr>
</tbody>
</table>

Circuits and Computer Engineering:

| ESE 319 | Fundamentals of Solid-State Circuits       |               |
| ESE 350 | Embedded Systems/Microcontroller Laboratory |               |
| ESE 370 | Circuit-Level Modeling, Design, and Optimization for Digital Systems |   |
| ESE 419 | Analog Integrated Circuits                 |               |
| ESE 518 | Battery and Super-Capacitor Systems        |               |
| ESE 568 | Mixed Signal Design and Modeling          |               |

Electrical Engineering (EE) Major Requirements

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Course Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>ESE 570</td>
<td>Digital Integrated Circuits and VLSI-Fundamentals</td>
<td></td>
</tr>
<tr>
<td>ESE 578</td>
<td>RFIC (Radio Frequency Integrated Circuit) Design</td>
<td></td>
</tr>
</tbody>
</table>

Nanodevices and Nanosystems:

| ESE 310 | Electric and Magnetic Fields I            |               |
| ESE 321 | Physics and Models of Semiconductor Devices |               |
| ESE 460 | Principles of Microfabrication Technology |               |
| ESE 509 | Waves, Fibers and Antennas for Telecommunications |  |
| ESE 510 | Electromagnetic and Optical Theory       |               |
| ESE 521 | The Physics of Solid State Energy Devices |               |
| ESE 523 | Quantum Engineering                      |               |
| ESE 525 | Nanoscale Science and Engineering        |               |
| ESE 526 | Photovoltaic Systems Engineering         |               |
| ESE 529 | Introduction to Micro- and Nano-electromechanical Technologies |   |

Information and Decision Systems:

| ESE 303 | Stochastic Systems Analysis and Simulation |               |
| ESE 313 | Robotics and Bioinspired Systems          |               |
| ESE 325 | Fourier Analysis and Applications in Engineering, Mathematics, and the Sciences |   |
| ESE 407 | Introduction to Networks and Protocols    |               |
| ESE 500 | Linear Systems Theory                     |               |
| ESE 504 | Introduction to Optimization Theory       |               |
| ESE 505 | Control of Systems                        |               |
| ESE 512 | Dynamical Systems for Engineering and Biological Applications |   |
| ESE 527 | Design of Smart Systems                   |               |
| ESE 528 | Estimation and Detection Theory           |               |
| ESE 531 | Digital Signal Processing                 |               |
| ESE 539 | Neural Networks, Chaos, and Dynamics: Theory and Application |   |
| ESE 590 | Systems Methodology                       |               |

Area Course: (C) Design and Project Courses

Select one ESE Lab from the following: 1

| ESE 290 | Introduction to Electrical and Systems Engineering Research Methodology |               |
| or ESE 291 | Introduction to Electrical and Systems Engineering Research and Design |   |
| ESE 319 | Fundamentals of Solid-State Circuits                                           |               |
| ESE 350 | Embedded Systems/Microcontroller Laboratory                                   |               |
| MEAM 410 | Design of Mechatronic Systems                                               |               |
| BE 470 | Medical Devices                                                             |               |
| ESE 450 | Senior Design Project I - EE and SSE                                         | 1            |
| ESE 451 | Senior Design Project II - EE and SSE                                         | 1            |

Professional Electives 2

Engineering Elective 1

Math, Science, or Engineering Electives 2

Professional Elective - Select from the following: 1
Math, Science, or Engineering Elective

ESE 400  Engineering Economics
EAS 545  Engineering Entrepreneurship I
EAS 595  Foundations of Leadership
MGMT 235  Technological Innovation and Entrepreneurship
MGMT 237  Management of Technology

**Math and Natural Science**

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Course Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>MATH 104</td>
<td>Calculus, Part I</td>
<td>1</td>
</tr>
<tr>
<td>MATH 114</td>
<td>Calculus, Part II</td>
<td>1</td>
</tr>
<tr>
<td>MATH 240</td>
<td>Calculus, Part III</td>
<td>1</td>
</tr>
<tr>
<td>ESE 301</td>
<td>Engineering Probability</td>
<td>1</td>
</tr>
</tbody>
</table>

Select one of the following:

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Course Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>PHYS 093</td>
<td>AP Credit for Principles I (PHYS 150)</td>
<td>1</td>
</tr>
<tr>
<td>PHYS 140</td>
<td>Principles of Physics I (without laboratory)</td>
<td></td>
</tr>
<tr>
<td>PHYS 150</td>
<td>Principles of Physics I: Mechanics and Wave Motion</td>
<td></td>
</tr>
<tr>
<td>PHYS 170</td>
<td>Honors Physics I: Mechanics and Wave Motion</td>
<td></td>
</tr>
<tr>
<td>MEAM 110</td>
<td>Introduction to Mechanics</td>
<td></td>
</tr>
</tbody>
</table>

Select one of the following:

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Course Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>PHYS 094</td>
<td>AP Credit for Principles II (PHYS 151)</td>
<td>1</td>
</tr>
<tr>
<td>or PHYS 051</td>
<td>Physics Laboratory II</td>
<td></td>
</tr>
<tr>
<td>PHYS 151</td>
<td>Principles of Physics II: Electromagnetism and Radiation</td>
<td></td>
</tr>
<tr>
<td>PHYS 171</td>
<td>Honors Physics II: Electromagnetism and Radiation</td>
<td></td>
</tr>
<tr>
<td>CHEM 101</td>
<td>General Chemistry I</td>
<td>1</td>
</tr>
<tr>
<td>or BIOL 101</td>
<td>Introduction to Biology A</td>
<td></td>
</tr>
<tr>
<td>or BIOL 121</td>
<td>Introduction to Biology - The Molecular Biology of Life</td>
<td></td>
</tr>
</tbody>
</table>

**Math Elective**

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Course Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>MATH 104</td>
<td>Calculus, Part I</td>
<td>1</td>
</tr>
<tr>
<td>MATH 114</td>
<td>Calculus, Part II</td>
<td>1</td>
</tr>
</tbody>
</table>

**Natural Science Electives**

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Course Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>CHEM 053</td>
<td>General Chemistry Laboratory I</td>
<td>0.5</td>
</tr>
</tbody>
</table>

**Math Elective**

Select 2 of the following:

- CHEM 101/053 General Chemistry I
- BIOL 101 Introduction to Biology A
- BIOL 121 Introduction to Biology - The Molecular Biology of Life

**Natural Science Lab**

- One approved Natural Science Lab (.5cu) is required. Satisfied if PHYS 050 Physics Laboratory I, PHYS 150 Principles of Physics I: Mechanics and Wave Motion, PHYS 170 Honors Physics I: Mechanics and Wave Motion, MEAM 147 Introduction to Mechanics Lab, BIOL 101 Introduction to Biology A or CHEM 053 General Chemistry Laboratory I is taken.

**Social Sciences and Humanities**

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Course Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>EAS 203</td>
<td>Engineering Ethics</td>
<td>1</td>
</tr>
</tbody>
</table>

Select 1 Social Science course

Select 2 Humanities courses

Select 1 Social Science or Humanities course

Select 2 Social Science or Humanities or Technology in Business & Society courses

**Free Elective**

Select 3 course units of free electives

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Course Units</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Total Course Units</td>
<td>40</td>
</tr>
</tbody>
</table>

---

1. If not taken freshman year, must be replaced by another department approved engineering course.
2. Dual Degree, Dual Major or Second Major candidates in Math or Natural Science, may use up to three Professional Electives to satisfy requirements for their second major. One freshman-level Engineering course may be used as a Professional Elective.
3. The Social Science & Humanities Depth and Writing Requirement can be satisfied with the 7 total course units.

---

**Individualized Program, BAS**

The individualized major offers an opportunity for exceptional, creative, self-motivated students to explore innovative and multi-disciplinary fields of knowledge. The individualized major is intended to foster a closer relationship between the student and the faculty advisors.

For more information: https://www.seas.upenn.edu/prospective-students/undergrad/majors/individualized/

**Individualized Program Major Requirements**

40 course units are required. Read more about the Undergraduate Student Handbook (http://www.seas.upenn.edu/undergraduate/handbook).

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Course Units</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Engineering</td>
<td></td>
</tr>
<tr>
<td>CIS 110</td>
<td>Introduction to Computer Programming</td>
<td>1</td>
</tr>
<tr>
<td>CIS 120</td>
<td>Programming Languages and Techniques I</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Engineering courses</td>
<td>10</td>
</tr>
<tr>
<td>EAS 110</td>
<td>Senior Capstone Project</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Math</td>
<td></td>
</tr>
<tr>
<td>MATH 104</td>
<td>Calculus, Part I</td>
<td>1</td>
</tr>
<tr>
<td>MATH 114</td>
<td>Calculus, Part II</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Mathematics courses</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>Natural Science</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Select 2 of the following:</td>
<td>2.5-3</td>
</tr>
<tr>
<td>PHYS 150</td>
<td>Principles of Physics I: Mechanics and Wave Motion</td>
<td></td>
</tr>
<tr>
<td>CHEM 101/053</td>
<td>General Chemistry I</td>
<td></td>
</tr>
<tr>
<td></td>
<td>or BIOL 101 Introduction to Biology A</td>
<td></td>
</tr>
<tr>
<td>or BIOL 121</td>
<td>Introduction to Biology - The Molecular Biology of Life</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Natural Science Electives</td>
<td>2</td>
</tr>
<tr>
<td>CHEM 053</td>
<td>General Chemistry Laboratory I (if applicable)</td>
<td></td>
</tr>
</tbody>
</table>

**Concentration**

Select 9 course units

---

1. One approved Natural Science Lab (.5cu) is required. Satisfied if PHYS 050 Physics Laboratory I, PHYS 150 Principles of Physics I: Mechanics and Wave Motion, PHYS 170 Honors Physics I: Mechanics and Wave Motion, MEAM 147 Introduction to Mechanics Lab, BIOL 101 Introduction to Biology A or CHEM 053 General Chemistry Laboratory I is taken.
2. The Social Science & Humanities Depth and Writing Requirement can be satisfied with the 7 total course units.
Materials Science and Engineering, BSE

The Materials Science and Engineering (MSE) program reflects the explosive growth of interest in the nano and bio sectors of engineering science and technology. MSE prepares students to use fundamental scientific principles to synthesize, manipulate, design and characterize the structural and functional properties of advanced engineering materials. The program offers students advantages seldom found in other MSE programs: the opportunity to tailor the curriculum to their own interests, guaranteed research experience and an excellent student-faculty ratio.

For more information: https://www.seas.upenn.edu/prospective-students/undergrad/majors/materials-science-and-engineering/

Materials Science and Engineering (MSE) Major Requirements

40 course units are required. Read more about the Undergraduate Student Handbook (http://www.seas.upenn.edu/undergraduate/handbook).

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Course Units</th>
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<tr>
<td>MSE 215</td>
<td>Introduction to Functional Materials: From Macro to Nanoscale</td>
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<td>MSE 220</td>
<td>Introduction to Materials Science and Engineering</td>
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<td>MSE 250</td>
<td>Nano-scale Materials Lab</td>
<td>1</td>
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<td>MSE 260</td>
<td>Energetics of Macro and Nano-scale Materials</td>
<td>1</td>
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<tr>
<td>MSE 330</td>
<td>Self-Assembly of Soft Materials</td>
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</tr>
<tr>
<td>MSE 360</td>
<td>Structure at the Nanoscale</td>
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<tr>
<td>MSE 393</td>
<td>Materials Selection</td>
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<tr>
<td>MSE 405</td>
<td>Mechanical Behavior of Macro/Nanoscale Materials</td>
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<td>MSE 440</td>
<td>Phase Transformations</td>
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<td>MSE 460</td>
<td>Computational Materials Science</td>
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<td>MATH 104</td>
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<td>MATH 240</td>
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<td>MATH 241</td>
<td>Calculus, Part IV</td>
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<td>or ENM 251</td>
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<tr>
<td>Mathematics</td>
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<tr>
<td>ESE 301</td>
<td>Engineering Probability (recommended)</td>
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<tr>
<td>Natural Science</td>
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<td></td>
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<tr>
<td>PHYS 140</td>
<td>Principles of Physics I (without laboratory)</td>
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<tr>
<td>or MEAM 110</td>
<td>Introduction to Mechanics</td>
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<tr>
<td>PHYS 141</td>
<td>Principles of Physics II (without laboratory)</td>
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<td>CHEM 101</td>
<td>General Chemistry I</td>
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<td>CHEM 053</td>
<td>General Chemistry Laboratory I</td>
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<tr>
<td>CHEM 102</td>
<td>General Chemistry II</td>
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<tr>
<td>CHEM 054</td>
<td>General Chemistry Laboratory II</td>
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<td>MSE 221</td>
<td>Quantum Physics of Materials</td>
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<td>Technical Electives</td>
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<tr>
<td>ENGR 105</td>
<td>Introduction to Scientific Computing</td>
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<td>Engineering, Math or Natural Science Electives</td>
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<td>Social Sciences and Humanities</td>
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<tr>
<td>EAS 203</td>
<td>Engineering Ethics</td>
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<td>Select 2 Humanities courses</td>
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<tr>
<td>Select 1 Social Science or Humanities course</td>
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<tr>
<td>Select 2 Social Science or Humanities or Technology in Business &amp; Society courses</td>
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</tr>
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<td>Free Elective</td>
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<td></td>
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<td>Select 3 course units of free electives</td>
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<td>3</td>
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<tr>
<td>Total Course Units</td>
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</tr>
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</table>

1. The Social Science & Humanities Depth, Writing & Ethics Requirement can be satisfied with the 7 total course units.

2. Note: MEAM 110 Introduction to Mechanics can be taken with department permission.


4. The Social Science & Humanities Depth and Writing Requirement can be satisfied with the 7 total course units.
Concentrations

- Nanoscale Materials Science (http://www.mse.seas.upenn.edu/about-ugrad/ug-concentrations.php)

Note: MSE students automatically receive this concentration as the courses above are part of the MSE core curriculum.

Areas of Specialization

To develop a specialization, the faculty recommends completing 3 courses. Students are welcome to have multiple areas of specialization. At present specializations are not designated on official transcripts.

For more information, visit: http://www.mse.seas.upenn.edu/about-ugrad/ug-concentrations.php.

- Biomaterials and Biomimetics
- Electronic and Optical Materials
- Energy Conversion and Storage
- Materials Modelling and Simulation
- Product Design, Manufacturing, and Materials

The degree and major requirements displayed are intended as a guide for students entering in the Fall of 2017 and later. Students should consult with their academic program regarding final certifications and requirements for graduation.

Mechanical Engineering and Applied Mechanics, BSE

Mechanical Engineering & Applied Mechanics (MEAM) is the study of forces, deformations and motions of solid bodies and fluids, heat generation and transport, and applications to analysis, design, and manufacture of components, machines, and systems. Students in mechanical engineering follow a program which contains basic groundwork in all aspects of mechanical engineering, but flexibility in the curriculum allows students to pursue elective programs in fields such as aeronautics, robotics, computers, electronics, automatic controls, and materials.

For more information: https://www.seas.upenn.edu/prospective-students/undergrad/majors/mechanical-engineering-and-applied-mechanics/

Mechanical Engineering and Applied Mechanics (MEAM) Major Requirements

40 course units are required. Read more about the Undergraduate Student Handbook (http://www.seas.upenn.edu/undergraduate/handbook).

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Course Units</th>
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<tr>
<td>MEAM 203</td>
<td>Thermodynamics I</td>
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</tr>
<tr>
<td>MEAM 210</td>
<td>Statics and Strength of Materials</td>
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<tr>
<td>MEAM 211</td>
<td>Engineering Mechanics: Dynamics</td>
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<tr>
<td>MEAM 247</td>
<td>Mechanical Engineering Laboratory I</td>
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<tr>
<td>MEAM 248</td>
<td>Mechanical Engineering Lab I</td>
<td>0.5</td>
</tr>
<tr>
<td>MEAM 302</td>
<td>Fluid Mechanics</td>
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<tr>
<td>MEAM 321</td>
<td>Vibrations of Mechanical Systems</td>
<td>1</td>
</tr>
<tr>
<td>MEAM 333</td>
<td>Heat and Mass Transfer</td>
<td>1</td>
</tr>
<tr>
<td>MEAM 347</td>
<td>Mechanical Engineering Design Laboratory</td>
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</tr>
<tr>
<td>MEAM 348</td>
<td>Mechanical Engineering Design Laboratory</td>
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<tr>
<td>MEAM 354</td>
<td>Mechanics of Solids</td>
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<td>MATH 104</td>
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<td>MATH 114</td>
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<tr>
<td>ENM 251</td>
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<tr>
<td>or MATH 241</td>
<td>Calculus, Part IV</td>
<td></td>
</tr>
</tbody>
</table>

Math and Natural Science

- MEAM 110 Introduction to Mechanics                  | 1            |
- or PHYS 150 Principles of Physics I: Mechanics and Wave Motion | 1            |
- MEAM 147 Introduction to Mechanics Lab 1             | 0.5          |
- PHYS 151 Principles of Physics II: Electromagnetism and Radiation | 1.5          |
- CHEM 101 General Chemistry I                        | 1            |
- CHEM 053 General Chemistry Laboratory I             | 0.5          |
- Math or Natural Science                              | 1            |

Professional Electives

- MEAM 445 Mechanical Engineering Design Projects (Design Project I) | 1            |
- MEAM 446 Mechanical Engineering Design Projects (Design Project II) | 1            |
- ENGR 105 Introduction to Scientific Computing       | 1            |
- MEAM Upper Level 2                                    | 3            |
- Professional Elective 2                               | 4            |

Social Sciences and Humanities 3

- EAS 203 Engineering Ethics                           | 1            |
- Select 1 Social Science course                       | 1            |
- Select 2 Humanities courses                         | 2            |
- Select 1 Social Science or Humanities course         | 1            |
- Select 2 Social Science or Humanities or Technology in Business & Society courses | 2            |

Free Elective

Select 3 course units of free electives               | 3            |

Total Course Units                                      40

1 MEAM 147 Introduction to Mechanics Lab lab is required if MEAM 110 Introduction to Mechanics is taken.
A max of (3) 100 level courses permitted.
Other Programming Courses such as CIS 110 Introduction to Computer Programming, CIS 120 Programming Languages and Techniques I, or ESE 112 Engineering Electromagnetics may be substituted for ENGR 105 Introduction to Scientific Computing. MEAM Upper Level courses include: MEAM 404 Materials in Mechanical Design, MEAM 405 Mechanical Properties of Macro/ Nanoscale Materials, MEAM 410 Design of Mechatronic Systems, MEAM 454 Mechanics of Materials, MEAM 455 Continuum Biomechanics, and all MEAM 500 Engineering Mathematics I level courses.
Professional Electives include courses from the Math, Science and Engineering categories. Up to two Professional Electives may be satisfied with advanced dual degree requirements (with approval).

The Social Science & Humanities Depth and Writing Requirement can be satisfied with the 7 total course units.

The degree and major requirements displayed are intended as a guide for students entering in the Fall of 2017 and later. Students should consult with their academic program regarding final certifications and requirements for graduation.

Networked and Social Systems Engineering, BSE

The Rajendra and Neera Singh Program in Networked and Social Systems Engineering (NETS), formerly called Market and Social Systems Engineering (MKSE), is the world’s first course of study to fully integrate the disciplines needed to design and analyze the complex networks that are reshaping our society. This program prepares students to shape the technologies that underpin Internet-based search and electronic commerce, financial networks, social networks, and even such exchanges as the power grid. Graduates of this program will be prepared to engineer networks that work for both end-users and investors. Other graduates may become the policy-makers who are urgently needed to regulate these networks for the protection of commercial property and societal good.

For more information: https://www.seas.upenn.edu/prospective-students/undergrad/majors/networked-social-systems-engineering/

Networked and Social Systems Engineering (NETS) Major Requirements

40 course units are required. Read more about the Undergraduate Student Handbook (http://www.seas.upenn.edu/undergraduate/handbook).

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Course Units</th>
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<tbody>
<tr>
<td>CIS 110</td>
<td>Introduction to Computer Programming</td>
<td>1</td>
</tr>
<tr>
<td>CIS 120</td>
<td>Programming Languages and Techniques I</td>
<td>1</td>
</tr>
<tr>
<td>CIS 121</td>
<td>Programming Languages and Techniques II</td>
<td>1</td>
</tr>
<tr>
<td>CIS 320</td>
<td>Introduction to Algorithms</td>
<td>1</td>
</tr>
<tr>
<td>ESE 210</td>
<td>Introduction to Dynamic Systems</td>
<td>1</td>
</tr>
<tr>
<td>ESE 303</td>
<td>Stochastic Systems Analysis and Simulation</td>
<td>1</td>
</tr>
</tbody>
</table>

Math and Natural Science

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Course Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>MATH 104</td>
<td>Calculus, Part I</td>
<td>1</td>
</tr>
<tr>
<td>MATH 114</td>
<td>Calculus, Part II</td>
<td>1</td>
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<tr>
<td>MATH 240</td>
<td>Calculus, Part III</td>
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</tr>
<tr>
<td>CIS 160</td>
<td>Mathematical Foundations of Computer Science</td>
<td>1</td>
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<tr>
<td>EAS 205</td>
<td>Applications of Scientific Computing.</td>
<td>1</td>
</tr>
<tr>
<td>or MATH 312</td>
<td>Linear Algebra</td>
<td>1</td>
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Select one of the following:

- EAS 301 Climate Policy and Technology
- STAT 430 Probability
- MATH 430 Introduction to Probability
- PHYS 150 Principles of Physics I: Mechanics and Wave Motion
- or PHYS 170 Honors Physics I: Mechanics and Wave Motion
- PHYS 151 Principles of Physics II: Electromagnetism and Radiation
- or PHYS 171 Honors Physics II: Electromagnetism and Radiation

Natural Science Elective

Technical Electives

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Course Units</th>
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<tbody>
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Social Sciences and Humanities

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Course Units</th>
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<tbody>
<tr>
<td>ECON 101</td>
<td>Intermediate Microeconomics</td>
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<tr>
<td>ECON 212</td>
<td>Game Theory</td>
<td>1</td>
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</table>

Select 2 Humanities courses

Ethics Requirement: Select one of the following courses:

- CIS 125 Technology and Policy
- EAS 203 Engineering Ethics
- EAS 303 Ethics, Social, and Professional Responsibility for Engineers

Select 2 Social Science or Humanities or Technology in Business & Society courses

Free Elective

<table>
<thead>
<tr>
<th>Code</th>
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<th>Course Units</th>
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<tbody>
<tr>
<td>Select 3 course units of free electives</td>
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</table>

Total Course Units

40

1 Approval of the advisor and undergrad chair required. At least 3 course units required from an approved Depth area of choice available on the NETS website, plus 3 additional courses from any Depth Area and/or TCOM, CIS, ESE, CMPE, OPIM, MATH, STAT, ECON.
consult with their academic program regarding final certifications and requirements for graduation.

**Systems Science and Engineering, BSE**

Systems Engineers provide technical management for societal-scale problems that often encompass the connections between the physical and the information world. Examples of the many cutting-edge applications include autonomous robotics, smart buildings, national power grid management, global networks, service optimization, and biological systems. Systems engineering is the set of reusable mathematics, intellectual tools, and methodology for attacking large-scale engineering problems. These common tools are adaptable for problems in different engineering domains (e.g., electrical, mechanical, biological, chemical, and computing) and help us understand, design, and manage systems that contain elements from multiple domains. Systems engineering deals with how we extract useful, abstract models from lower level systems, use these models to analyze and predict behavior, and use the analysis to control behavior and optimize/synthesize solutions.

System engineering helps us understand what happens when we compose many elements, each with their own behavior, and how to design and constrain the individual elements to engineer desired behavior for the composed system.

For more information: [https://www.seas.upenn.edu/prospective-students/undergrad/majors/systems-science-and-engineering/](https://www.seas.upenn.edu/prospective-students/undergrad/majors/systems-science-and-engineering/)

**Systems Science and Engineering (SSE) Major Requirements**

40 course units are required. Read more about the Undergraduate Student Handbook ([http://www.seas.upenn.edu/undergraduate/handbook](http://www.seas.upenn.edu/undergraduate/handbook)).

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Course Units</th>
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<tbody>
<tr>
<td>CIS 110</td>
<td>Introduction to Computer Programming (or equivalent)</td>
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<td>or ENGR 105</td>
<td>Introduction to Scientific Computing</td>
<td>1</td>
</tr>
<tr>
<td>ESE 111</td>
<td>Atoms, Bits, Circuits and Systems</td>
<td>1</td>
</tr>
<tr>
<td>CIS 120</td>
<td>Programming Languages and Techniques I</td>
<td>1</td>
</tr>
<tr>
<td>ESE 204</td>
<td>Decision Models</td>
<td>1</td>
</tr>
<tr>
<td>ESE 210</td>
<td>Introduction to Dynamic Systems</td>
<td>1</td>
</tr>
<tr>
<td>ESE 224</td>
<td>Signal and Information Processing</td>
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<tr>
<td>ESE 303</td>
<td>Stochastic Systems Analysis and Simulation</td>
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**Information Systems Electives**

Select 3 from the following: 3

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<tbody>
<tr>
<td>CIS 240</td>
<td>Introduction to Computer Systems</td>
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<tr>
<td>CIS 330</td>
<td>Design Principles of Information Systems</td>
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<tr>
<td>CIS 450</td>
<td>Database and Information Systems</td>
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<tr>
<td>ESE 304</td>
<td>Optimization of Systems</td>
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<td>ESE 407</td>
<td>Introduction to Networks and Protocols</td>
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<table>
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<tr>
<td>ESE 420</td>
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<td>ESE 504</td>
<td>Introduction to Optimization Theory</td>
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<tr>
<td>ESE 505</td>
<td>Control of Systems</td>
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<tr>
<td>ESE 512</td>
<td>Dynamical Systems for Engineering and Biological Applications</td>
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<tr>
<td>ESE 520</td>
<td>Agent-Based Modeling and Simulation</td>
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<td>ESE 528</td>
<td>Estimation and Detection Theory</td>
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<td>NETS 212</td>
<td>Scalable and Cloud Computing</td>
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<td>NETS 312</td>
<td>Theory of Networks</td>
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<td>NETS 412</td>
<td>Algorithmic Game Theory</td>
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**System Design**

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<tr>
<td>CIS 350</td>
<td>Software Design/Engineering</td>
</tr>
<tr>
<td>CIS 441</td>
<td>Embedded Software for Life-Critical Applications</td>
</tr>
<tr>
<td>ESE 505</td>
<td>Control of Systems</td>
</tr>
<tr>
<td>ESE 527</td>
<td>Design of Smart Systems</td>
</tr>
<tr>
<td>ESE 590</td>
<td>Systems Methodology</td>
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Select one of the following: 1

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<th>Title</th>
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<tbody>
<tr>
<td>ESE 290/291</td>
<td>Introduction to Electrical and Systems Engineering Research Methodology</td>
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<tr>
<td>ESE 350</td>
<td>Embedded Systems/Microcontroller Laboratory</td>
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<tr>
<td>BE 470</td>
<td>Medical Devices</td>
</tr>
<tr>
<td>ESE 450</td>
<td>Senior Design Project I - EE and SSE</td>
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<td>ESE 451</td>
<td>Senior Design Project II - EE and SSE</td>
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</table>

**Math and Natural Science**

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Course Units</th>
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<tr>
<td>MATH 104</td>
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<td>MATH 114</td>
<td>Calculus, Part II</td>
<td>1</td>
</tr>
<tr>
<td>MATH 240</td>
<td>Calculus, Part III</td>
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<tr>
<td>ESE 301</td>
<td>Engineering Probability</td>
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</tr>
<tr>
<td>ESE 302</td>
<td>Engineering Applications of Statistics</td>
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Select one of the following: 1.5

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<td>PHYS 140</td>
<td>Principles of Physics I (without laboratory)</td>
</tr>
<tr>
<td>PHYS 150</td>
<td>Principles of Physics II: Mechanics and Wave Motion</td>
</tr>
<tr>
<td>PHYS 170</td>
<td>Honors Physics I: Mechanics and Wave Motion</td>
</tr>
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<td>MEAM 110</td>
<td>Introduction to Mechanics</td>
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Select one of the following: 1.5

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<th>Code</th>
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<tbody>
<tr>
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<td>AP Credit for Principles II (PHYS 151)</td>
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<tr>
<td>PHYS 151</td>
<td>Principles of Physics II: Electromagnetism and Radiation</td>
</tr>
<tr>
<td>PHYS 171</td>
<td>Honors Physics II: Electromagnetism and Radiation</td>
</tr>
</tbody>
</table>

Select one of the following: 1

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>CHEM 101</td>
<td>General Chemistry I</td>
</tr>
<tr>
<td>BIOL 101</td>
<td>Introduction to Biology A</td>
</tr>
<tr>
<td>BIOL 121</td>
<td>Introduction to Biology - The Molecular Biology of Life</td>
</tr>
<tr>
<td>MATH 312</td>
<td>Linear Algebra</td>
</tr>
</tbody>
</table>

or EAS 205 | Applications of Scientific Computing. |
Natural Science Lab \(^2\) \(0.5\)  

**Professional Electives**  

**Technology Management Electives**  

Choose 2 from the following:  

- ESE 400 Engineering Economics  
- EAS 545 Engineering Entrepreneurship I  
- EAS 595 Foundations of Leadership  
- MGMT 235 Technological Innovation and Entrepreneurship  
- MGMT 237 Management of Technology  

**Societal Problem Application**  

Select 3 Societal Problem Electives \(^3\) \(3\)  

**Social Sciences and Humanities** \(^4\)  

- EAS 203 Engineering Ethics \(1\)  
- Select 1 Social Science course \(1\)  
- Select 2 Humanities courses \(2\)  
- Select 1 Social Science or Humanities course \(1\)  
- Select 2 Social Science or Humanities or Technology in Business & Society courses \(2\)  

**Free Elective**  

Select 3 course units of free electives \(3\)  

Total Course Units \(40\)  

---  

1. If not taken by the end of freshman year, must be replaced by another department approved Engineering course.  
2. Natural Science Lab - 1.0 cu total; PHYS 150/170, or PHYS 050 or MEAM 147; PHYS 151/171 or PHYS 051; BIOL 101/121; CHEM 053 can each count 0.5 cu toward this requirement.  
3. Approval required; A complete list of approved SPA electives can be found on the ESE undergraduate webpage.  
4. The Social Science & Humanities Depth and Writing Requirement can be satisfied with the 7 total course units.

---  

The degree and major requirements displayed are intended as a guide for students entering in the Fall of 2017 and later. Students should consult with their academic program regarding final certifications and requirements for graduation.

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## Minors

- Chemical and Biomolecular Engineering, Minor (p. 192)  
- Computer Science, Minor (p. 186)  
- Data Science, Minor (p. 186)  
- Digital Media Design, Minor (p. 191)  
- Electrical Engineering, Minor (p. 190)  
- Energy & Sustainability, Minor (p. 187)  
- Engineering Entrepreneurship, Minor (p. 188)  
- Material Science & Engineering, Minor (p. 189)  
- Mechanical Engineering and Applied Mechanics, Minor (p. 189)  
- Nanotechnology, Minor (p. 191)  
- Systems Science and Engineering, Minor (p. 190)  

## Computer Science, Minor

Computer scientists and engineers have revolutionized society and created the computer and telecommunications industries that are so important to human life and the world's economy. As a result of this revolution, expertise in computer science is essential in many new areas, including computer and network service and consulting companies, financial institutions, health industries, natural science labs and medical research labs, and other contexts where intensive manipulation of information is important. As a result, opportunities for computer scientists and engineers have expanded greatly, both in specialized fields as well as in numerous dual-career opportunities in which computer expertise is combined with advanced degrees in business, communication, engineering, law, medicine, and science.

### SEAS Second Major or Minor Option

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For more information: [http://www.cis.upenn.edu/current-students/undergraduate/minor.php](http://www.cis.upenn.edu/current-students/undergraduate/minor.php)

## Computer Science Minor (CSCI)

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Course Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>CIS 110</td>
<td>Introduction to Computer Programming</td>
<td>1</td>
</tr>
<tr>
<td>CIS 120</td>
<td>Programming Languages and Techniques I</td>
<td>1</td>
</tr>
<tr>
<td>CIS 121</td>
<td>Programming Languages and Techniques II</td>
<td>1</td>
</tr>
<tr>
<td>CIS 160</td>
<td>Mathematical Foundations of Computer Science</td>
<td>1</td>
</tr>
</tbody>
</table>

**Electives**  

Select 2 Electives \(^1\) \(2\)  

Total Course Units \(6\)  

---  

1. One CIS Elective must be 200 level or above.

The degree and major requirements displayed are intended as a guide for students entering in the Fall of 2017 and later. Students should consult with their academic program regarding final certifications and requirements for graduation.

## Data Science, Minor

Data Science applies core concepts in computer science, statistics and mathematics to problems in a wide variety of fields, from physical, social, biomedical, and behavioral sciences to arts and humanities. The minor targets students with strong analytical abilities and some existing programming experience, and requires courses in statistics, data-centric programming, data management, and data analysis. It also points to courses across the University that deal with data in areas of importance to Data Science.
SEAS Second Major or Minor Option

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For more information: http://www.seas.upenn.edu/undergraduate/degrees/minors.php

### Data Science Minor

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Course Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>CIS 120</td>
<td>Programming Languages and Techniques I</td>
<td>1</td>
</tr>
<tr>
<td>CIS 419</td>
<td>Introduction to Machine Learning</td>
<td>1</td>
</tr>
<tr>
<td>or STAT 471</td>
<td>Modern Data Mining</td>
<td></td>
</tr>
<tr>
<td>NETS 212</td>
<td>Scalable and Cloud Computing</td>
<td>1</td>
</tr>
<tr>
<td>ENM 321</td>
<td>Engineering Statistics</td>
<td>1</td>
</tr>
<tr>
<td>or ESE 302</td>
<td>Engineering Applications of Statistics</td>
<td></td>
</tr>
<tr>
<td>or STAT 431</td>
<td>Statistical Inference</td>
<td></td>
</tr>
</tbody>
</table>

Select two Data Science electives from two of the following required categories:

1. **Data-Centric Programming**
   - CIS 110: Introduction to Computer Programming
   - CIS 120: Programming Languages and Techniques I
   - EAS 105: Introduction to Scientific Computing
   - OIDD 311: Business Computer Languages
   - STAT 405: Statistical Computing with R
   - STAT 470: Data Analytics and Statistical Computing

2. **Statistics**
   - MATH 430: Introduction to Probability
   - ESE 301: Engineering Probability
   - ESE 302: Engineering Applications of Statistics
   - ENM 321: Engineering Statistics
   - STAT 430: Probability
   - STAT 431: Statistical Inference
   - STAT 471: Modern Data Mining
   - STAT 476: Applied Probability Models in Marketing

3. **Data Collection, Representation, Management and Retrieval**
   - CIS 450: Database and Information Systems
   - CIS 550: Database and Information Systems
   - CIS 455: Internet and Web Systems
   - NETS 212: Scalable and Cloud Computing
   - NETS 213: Crowdsourcing and Human Computation
   - OIDD 105: Developing Tools for Data Access and Analysis (VBA and SQL Programming)
   - STAT 434: Financial and Economic Time Series
   - STAT 475: Sample Survey Design

4. **Data Analysis**
   - CIS 419: Introduction to Machine Learning
   - or CIS 519: Introduction to Machine Learning
   - or CIS 520: Machine Learning

5. **Modeling**
   - NETS 312: Theory of Networks
   - MKTG 271: Models for Marketing Strategy
   - OIDD 325: Computer Simulation Models
   - OIDD 353: Mathematical Modeling and its Application in Finance
   - STAT 433: Stochastic Processes
   - STAT 436: Introduction to Large-Scale Data Science

6. **Other Electives**
   - CIS 106: Visualizing the Past.
   - CIS 125: Technology and Policy

Total Course Units: 6

Approval required.

The degree and major requirements displayed are intended as a guide for students entering in the Fall of 2017 and later. Students should consult with their academic program regarding final certifications and requirements for graduation.

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### Energy & Sustainability, Minor

The minor in Energy and Sustainability provides students with broad coverage of technical and societal issues in energy and sustainability. It is designed to help students become leaders in developing technologies for a more sustainable energy future.

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### SEAS Second Major or Minor Option

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For more information: http://www.seas.upenn.edu/undergraduate/degrees/minor-energy.php

### Energy and Sustainability Minor (ENSU)

Students participating in the minor are expected to have taken at least one semester of intro chemistry, mathematics and physics.
<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Course Units</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Fundamental Engineering Science</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Engineering Thermodynamics</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Select one of the following:</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>CBE 230</td>
<td>Material and Energy Balances of Chemical Processes</td>
<td></td>
</tr>
<tr>
<td>CBE 231</td>
<td>Thermodynamics of Fluids</td>
<td></td>
</tr>
<tr>
<td>MEAM 203</td>
<td>Thermodynamics I</td>
<td></td>
</tr>
<tr>
<td>MSE 260</td>
<td>Energetics of Macro and Nano-scale Materials</td>
<td></td>
</tr>
<tr>
<td><strong>Basic Principles in Solid State Physics</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>MSE 221</td>
<td>Quantum Physics of Materials</td>
<td>1</td>
</tr>
<tr>
<td>or ESE 321</td>
<td>Physics and Models of Semiconductor Devices</td>
<td></td>
</tr>
<tr>
<td><strong>Energy and Sustainability Systems &amp; Technology</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ENGR 250</td>
<td>Energy Systems, Resources and Technology</td>
<td>1</td>
</tr>
<tr>
<td><strong>Energy and Sustainability Policy, Regulation and Societal Impact</strong></td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Select one of the following:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>EAS 301</td>
<td>Climate Policy and Technology</td>
<td></td>
</tr>
<tr>
<td>EAS 306</td>
<td>Electricity and Systems Markets</td>
<td></td>
</tr>
<tr>
<td>EAS 401</td>
<td>Energy and Its Impacts: Technology, Environment, Economics, Sustainability</td>
<td></td>
</tr>
<tr>
<td>EAS 402</td>
<td>Renewable Energy and Its Impacts: Technology, Environment, Economics, Sustainability</td>
<td></td>
</tr>
<tr>
<td>EAS 403</td>
<td>Energy Systems and Policy</td>
<td></td>
</tr>
<tr>
<td><strong>Energy and Sustainability Electives</strong></td>
<td>2-3</td>
<td></td>
</tr>
<tr>
<td>Select 2-3 course units of the following:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CBE 375</td>
<td>Engineering and the Environment</td>
<td></td>
</tr>
<tr>
<td>CBE 545</td>
<td>Electrochemical Energy Conversion and Storage.</td>
<td></td>
</tr>
<tr>
<td>CBE 546</td>
<td>Fundamentals of Industrial Catalytic Processes</td>
<td></td>
</tr>
<tr>
<td>ENGR 503</td>
<td>Engineering in Oil, Gas and Coal, from Productin to End Use</td>
<td></td>
</tr>
<tr>
<td>ESE 560/ CBE 543</td>
<td>Sustainable Development of Water, Resource Systems</td>
<td></td>
</tr>
<tr>
<td>ESE 521</td>
<td>The Physics of Solid State Energy Devices</td>
<td></td>
</tr>
<tr>
<td>MEAM 503</td>
<td>Direct Energy Conversion: from Macro to Nano</td>
<td></td>
</tr>
<tr>
<td>MSE 545</td>
<td>Materials for Energy and Environmental Sustainability</td>
<td></td>
</tr>
<tr>
<td>MEAM 502</td>
<td>Energy Engineering</td>
<td></td>
</tr>
<tr>
<td>Total Course Units</td>
<td>6</td>
<td></td>
</tr>
</tbody>
</table>

1 Of the two CBE courses, CBE 231 Thermodynamics of Fluids is preferred.

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Systems Science & Engineering, Minor

SEAS Second Major or Minor Option

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For more information: http://www.me.upenn.edu/prospective-students/undergraduates/majors-minors.php

MEAM, Minor

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Course Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>ESE 204</td>
<td>Decision Models</td>
<td>1</td>
</tr>
<tr>
<td>ESE 210</td>
<td>Introduction to Dynamic Systems</td>
<td>1</td>
</tr>
<tr>
<td>ESE 224</td>
<td>Signal and Information Processing</td>
<td>1.5</td>
</tr>
<tr>
<td>ESE 303</td>
<td>Stochastic Systems Analysis and Simulation</td>
<td>1</td>
</tr>
<tr>
<td>Electives</td>
<td>Select 1 Information Systems Elective ¹</td>
<td></td>
</tr>
<tr>
<td>Electives</td>
<td>Select 1 Information Systems or Systems Design Elective ¹</td>
<td>1</td>
</tr>
<tr>
<td>Total Course Units</td>
<td></td>
<td>5.5</td>
</tr>
</tbody>
</table>

¹ Completion of 6 course units with a grade of "C" or better. No pass/fail permitted. All MEAM courses (except MEAM 445 Mechanical Engineering Design Projects and MEAM 446 Mechanical Engineering Design Projects) can be used. Only (2) 100 level courses are permitted. Up to (2) approved Cognate courses can be substituted with department approval from the following list: BE 200 Introduction to Biomechanics, BE 330 Soft Materials, BE 445 Engineering and Biological Principles in Cancer, BE 510 Biomechanics and Biotransport, CBE 430 Polymers and Biomaterials, CBE 535 Interfacial Phenomena., MSE 330 Self-Assembly of Soft Materials, MSE 393 Materials Selection, MSE 405 Mechanical Behavior of Macro/Nanoscale Materials, MSE 530 Thermodynamics and Phase Equilibria.

Material Science & Engineering, Minor

The Materials Science and Engineering (MSE) program reflects the explosive growth of interest in the nano and bio sectors of engineering science and technology. MSE prepares students to use fundamental scientific principles to synthesize, manipulate, design and characterize the structural and functional properties of advanced engineering materials. The program offers students advantages seldom found in other MSE programs: the opportunity to tailor the curriculum to their own interests, guaranteed research experience and an excellent student-faculty ratio.

SEAS Second Major or Minor Option

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Approved elective lists can be found on the most recent SSE worksheet.

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requirements and obtain approval on the Second Major or Minor form. The approved form must be returned to the SEAS Research and Academic Services Office, 109 Towne Building.

**Material Science & Engineering Minor (CSCI)**

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Course Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>MSE 220</td>
<td>Introduction to Materials Science and Engineering</td>
<td>1</td>
</tr>
<tr>
<td>MSE 221</td>
<td>Quantum Physics of Materials</td>
<td>1</td>
</tr>
<tr>
<td>MSE 215</td>
<td>Introduction to Functional Materials: From Macro to Nanoscale</td>
<td>1</td>
</tr>
<tr>
<td>MSE 260</td>
<td>Energetics of Macro and Nano-scale Materials</td>
<td>1</td>
</tr>
<tr>
<td>MSE 330</td>
<td>Self-Assembly of Soft Materials</td>
<td>1</td>
</tr>
<tr>
<td>MSE 440</td>
<td>Phase Transformations</td>
<td>1</td>
</tr>
</tbody>
</table>

**Total Course Units**: 6

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**Electrical Engineering Minor**

Electrical engineering (EE) connects the physical world with the information world. Electrical engineers can apply physics and chemistry in modern nanotechnology devices, can encode and manipulate information in circuits and networks, and can mathematically understand and reason with large amounts of data in real time. Students can pursue an EE minor by completing six courses that includes the conception, design, analysis, and implementation of devices, circuits, and signal processing.

**SEAS Second Major or Minor Option**

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For more information: http://www.ese.upenn.edu/current-students/undergraduates/minors.php

**Electrical Engineering Minor**

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Course Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>ESE 215</td>
<td>Electrical Circuits and Systems</td>
<td>1.5</td>
</tr>
<tr>
<td>ESE 218</td>
<td>Electronic, Photonic, and Electromechanical Devices</td>
<td>1.5</td>
</tr>
<tr>
<td>ESE 224</td>
<td>Signal and Information Processing</td>
<td>1.5</td>
</tr>
<tr>
<td>ESE 150</td>
<td>Digital Audio Basics</td>
<td>1</td>
</tr>
</tbody>
</table>

**Electives**

Select 2 ESE Electives $^2$  

**Total Course Units**: 7.5

$^1$ Approved elective lists can be found on the most recent SSE worksheet.

$^2$ An intermediate or Advanced ESE elective can be taken with department approval.

The degree and major requirements displayed are intended as a guide for students entering in the Fall of 2017 and later. Students should consult with their academic program regarding final certifications and requirements for graduation.
Digital Media Design, Minor

The DMD minor is a programming-intensive exploration into interactive computer graphics. The interested student is encouraged but not required to take courses in Fine Arts (in the SEAS SSH category, for example) to gain the artistic knowledge and skills that would augment the DMD technology emphasis. Suggested relevant Fine Arts courses include Digital Design Foundations and 3D Modeling. The DMD minor also encourages exploration of the connections of computer graphics programming with human cognition and interactive experiences. A capstone EAS499 Integrative Project is required to link the DMD minor with the student’s major.

SEAS Second Major or Minor Option

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For more information: http://cg.cis.upenn.edu/dmd-minor.html

Digital Media Design Minor

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Course Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>Select one of the following:</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>CIS 106</td>
<td>Visualizing the Past.</td>
<td></td>
</tr>
<tr>
<td>CIS 140</td>
<td>Introduction to Cognitive Science</td>
<td></td>
</tr>
<tr>
<td>CIS 112</td>
<td>Networked Life</td>
<td></td>
</tr>
<tr>
<td>CIS 110</td>
<td>Introduction to Computer Programming</td>
<td>1</td>
</tr>
<tr>
<td>CIS 120</td>
<td>Programming Languages and Techniques I</td>
<td>1</td>
</tr>
<tr>
<td>CIS 121</td>
<td>Programming Languages and Techniques II</td>
<td>1</td>
</tr>
<tr>
<td>CIS 160</td>
<td>Mathematical Foundations of Computer Science</td>
<td>1</td>
</tr>
<tr>
<td>CIS 460</td>
<td>Interactive Computer Graphics</td>
<td>1</td>
</tr>
<tr>
<td>Select one CIS course 300 level or above 2</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>EAS 499</td>
<td>Senior Capstone Project</td>
<td>1</td>
</tr>
<tr>
<td>Total Course Units</td>
<td>8</td>
<td></td>
</tr>
</tbody>
</table>

1 CIS 110 Introduction to Computer Programming must be taken prior to CIS 120 Programming Languages and Techniques I.

Nanotechnology, Minor

Nanotechnology is an interdisciplinary field that underpins next generation energy, communications, and health care solutions. The Nanotechnology minor provides the foundation to contribute to these advances. The program is accessible to engineering and physical science students.

SEAS Second Major or Minor Option

Students interested in a second major (College students only) or minor with SEAS are required to meet with the Undergraduate Curriculum Chair from the major/minor department you wish to declare to discuss requirements and obtain approval on the Second Major or Minor form. The approved form must be returned to the SEAS Research and Academic Services Office, 109 Towne Building.

For more information: http://www.seas.upenn.edu/undergraduate/degrees/minors.php

Nanotechnology Minor

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Course Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>EAS 210</td>
<td>Introduction to Nanotechnology</td>
<td>1</td>
</tr>
<tr>
<td>Basic Science and Engineering Electives</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Select one of the following:</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>CBE 231</td>
<td>Thermodynamics of Fluids</td>
<td></td>
</tr>
<tr>
<td>CBE 351</td>
<td>Heat and Mass Transport</td>
<td></td>
</tr>
<tr>
<td>ESE 218</td>
<td>Electronic, Photonic, and Electromechanical Devices</td>
<td></td>
</tr>
<tr>
<td>ESE 310</td>
<td>Electric and Magnetic Fields I</td>
<td></td>
</tr>
<tr>
<td>MEAM 203</td>
<td>Thermodynamics I</td>
<td></td>
</tr>
<tr>
<td>MEAM 302</td>
<td>Fluid Mechanics</td>
<td></td>
</tr>
<tr>
<td>or CBE 350 Fluid Mechanics</td>
<td></td>
<td></td>
</tr>
<tr>
<td>MEAM 333</td>
<td>Heat and Mass Transfer</td>
<td></td>
</tr>
<tr>
<td>MEAM 572</td>
<td>Micro/Nanoscale Energy Transport</td>
<td></td>
</tr>
<tr>
<td>MSE 221</td>
<td>Quantum Physics of Materials</td>
<td></td>
</tr>
<tr>
<td>MSE 260</td>
<td>Energetics of Macro and Nano-scale Materials</td>
<td></td>
</tr>
<tr>
<td>Nano/Micro Fabrication Devices Electives</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Select one of the following:</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>BE 350</td>
<td>Introduction to Biotransport Processes</td>
<td></td>
</tr>
<tr>
<td>CBE 150</td>
<td>Introduction to Biotechnology</td>
<td></td>
</tr>
<tr>
<td>CBE 479</td>
<td>Biotechnology and Biochemical Engineering</td>
<td></td>
</tr>
<tr>
<td>CBE 480</td>
<td>Laboratory in Biotechnology and Genetic Engineering</td>
<td></td>
</tr>
<tr>
<td>PHYS 280</td>
<td>Physical Models of Biological Systems</td>
<td></td>
</tr>
<tr>
<td>ESE 460</td>
<td>Principles of Microfabrication Technology</td>
<td></td>
</tr>
<tr>
<td>ESE/MEAM 550</td>
<td>Advance Transportation Seminar, Air</td>
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</tr>
<tr>
<td>ESE/MSE 525</td>
<td>Nanoscale Science and Engineering</td>
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</tr>
</tbody>
</table>
MSE 465/565 Fabrication and Characterization of Micro and Nanostructured Devices

Nano Electives

Select two NANO electives  

<table>
<thead>
<tr>
<th>Electives</th>
<th>Course Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Course Units</td>
<td>6</td>
</tr>
</tbody>
</table>

1  Program approval required.

The degree and major requirements displayed are intended as a guide for students entering in the Fall of 2017 and later. Students should consult with their academic program regarding final certifications and requirements for graduation.

Chemical and Biomolecular Engineering, Minor

Chemical Engineers apply concepts from the physical sciences (chemistry and physics) and life sciences (biochemistry and microbiology) to the design and optimization of processes for the efficient production of products ranging from fuels and chemicals to pharmaceuticals to advanced materials. Penn’s chemical engineering department provides students with both a strong foundation in engineering fundamentals and exposure to modern chemical engineering technologies. The program’s versatility allows our students to excel in diverse careers in the chemical industries, research, medicine, law, government, and education.

SEAS Second Major or Minor Option

Students interested in a second major (College students only) or minor with SEAS are required to meet with the Undergraduate Curriculum Chair from the major/minor department you wish to declare to discuss requirements and obtain approval on the Second Major or Minor form. The approved form must be returned to the SEAS Research and Academic Services Office, 109 Towne Building.

For more information: http://www.seas.upenn.edu/undergraduate/degrees/minors.php

Chemical and Biomolecular, Minor

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Course Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>Electives</td>
<td>6</td>
<td></td>
</tr>
</tbody>
</table>

1  The Minor in Chemical and Biomolecular Engineering consists of six engineering courses in CBE selected with the approval of the Undergraduate Curriculum chair.

Academic Opportunities

Penn Engineering offers a number of academic opportunities for undergraduate students.

Global Opportunities

Experience in an international setting is an opportunity that Penn Engineering strongly encourages students to obtain. Spending time in another country allows students to develop their intercultural abilities, and increase their independence and confidence as they immerse themselves in a new environment – all while fulfilling their major requirements. Students can study abroad for a semester or a year, take part in a Global Service Learning project, enroll in a Global Immersion Course, or complete a summer internship.

Opportunities include:

- Study Abroad
- Global Service Learning
- Global Immersion

For more information, visit: http://www.seas.upenn.edu/undergraduate/degrees/study-abroad.php.

Research Opportunities

Our extraordinary faculty-to-student ratio provides great opportunities for undergraduate students to work in state-of-the-art research laboratories during the academic year and in the summer. Below you can see examples of outstanding student research, along with helpful information to guide undergraduates toward finding research positions at Penn Engineering.

For more information, including summer and additional research programs available, visit the Penn Engineering Research section (p. 167).

Submatriculation

Penn undergraduates may begin an engineering master's program while still completing their undergraduate program via the submatriculation application procedure.

For more information, visit the Submatriculation section (p. 262).

Dual Degrees

You may combine your BAS or BSE degree with a second degree in one of Penn's other undergraduate schools. A Dual Degree is not to be confused with a Dual Major (http://www.seas.upenn.edu/undergraduate/handbook/programs/dual-majors.php), where a student earns two majors within Penn Engineering, or with a Second Major (http://www.seas.upenn.edu/undergraduate/degrees/two-majors.php) where an engineering student also earns a major within the College.

For more information, visit: http://www.seas.upenn.edu/undergraduate/degrees/dual-degrees.php.
SCHOOL OF NURSING

Penn Nursing offers a number of resources and experiences not found at most other schools, including a state-of-the-art simulation lab with mannequins that respond as patients would, classrooms with the latest hospital-based electronic medical records (EMR) technology, and clinical experiences in The Children's Hospital of Philadelphia and the Hospital of the University of Pennsylvania, two of the nation's best hospitals. Penn Nursing is a premier academic and research institution renowned for advancing the frontiers of nursing science and patient care. Our students learn from the thought leaders in nursing research, education, and practice who ensure Penn Nursing remain one of the top schools of nursing in the world. At Penn Nursing, students become part of the next generation of healthcare leaders, prepared to care for patients, to conduct landmark research, and to make new strides in healthcare management and health policy.

Learn more about our history: http://www.nursing.upenn.edu/about/history/

Learn more about our school leadership: http://www.nursing.upenn.edu/about/our-leadership/

Mission

The mission of the University of Pennsylvania School of Nursing is to make a significant impact on health by advancing science, promoting equity, demonstrating practice excellence, and preparing leaders in the discipline of nursing.

Philosophy

The mission of the School of Nursing is aimed at meeting the health needs of society in a global and multicultural world. To this end, scholarship, research, education, and practice are integrated to create a culture of inquiry that values intellectual curiosity and diversity, and where faculty, clinicians, staff, and students thrive and learn from one another.

Scholarship and Research

We believe that integrating the arts and sciences is the basis for nursing knowledge and the framework for nursing practice and scholarship. Nursing knowledge encompasses empirical, philosophical, historical, ethical, and personal ways of knowing and is fundamental to the advancement of professional practice. Scholarship encompasses more than research, but also the integration of research into practice and health policy formation and the advancement and dissemination of nursing knowledge. Research is integral in every educational program and strengthened by participating in and contributing to the rich scholarly environment of the University and across national and international health policy organizations.

Nursing is scientifically based and carried out autonomously, as well as interdependently. The focus is development, dissemination, and utilization of knowledge about nursing actions that promote positive changes in patients, systems of care, and the larger society. Nurses collaborate with individuals, families, groups, communities, and other professions to achieve health and well-being for all people.

The School of Nursing is responsive to numerous influences that shape health care, including evolving models of care, consumer advocacy, demographic changes, and advances in science and technology. The faculty are committed to a scholarly agenda that pushes the boundaries of nursing science, in turn influencing education and shaping policy and practice.

Education

Education at the University of Pennsylvania facilitates the intellectual, personal and social development of students as they identify and attain academic and professional goals. Our educational environment fosters independence, ethical behavior, creative and critical thinking, increased breadth of knowledge, and sensitive interactions concerning cultures and viewpoints.

Programs, from baccalaureate to post-doctoral and lifelong learning, are enriched by the varied needs and perspectives of a culturally diverse population, as well as pressing needs for nursing leaders in a rapidly changing world. These leaders will be the clinical experts, health policy shapers, and nursing scholars of the future.

The baccalaureate program, including traditional and second degree students, focuses on professional nursing practice across the continuum of health care, with particular emphasis on vulnerable populations. The curriculum is dynamic and includes leadership skills, interdisciplinary collaboration, and content and clinical experiences that emphasize evidence-based practice. The curriculum also reflects changes in science and technology.

The Master’s programs focus on advanced practice nursing and administration, with an emphasis on specialty and subspecialty practice in concert with changing societal needs. Graduate nurses are prepared for advanced practice that creatively combines knowledge and skills in critical thinking and expert interventions across the lifespan. Special attention is given to clinical decision-making and management skills, as well as methods of evaluation of quality and cost of care.

Pre- and post-doctoral education is dedicated to advancing the discipline of nursing through research. The goal is to equip students with a foundation in nursing and a field of concentration to make substantive contributions to scholarship. Strong faculty mentorship is integral to the development of a critical cadre of future researchers, academicians, and leaders, nationally and internationally.

Practice

The primary goal of nursing practice is to optimize care and outcomes for patients and their family members. The practice of nursing is the foundation for informing educational pedagogies and for the generation of discipline-specific research. Practice is defined as the diverse and varied construction, application, and evaluation of knowledge and the action within the discipline of nursing, particularly for the recipients of nursing care. We believe it is the responsibility of academic nursing to serve as the fulcrum of modeling the intentional integration of education, research, and clinical care to improve the delivery of quality health services.

Nursing is an evidence-based, caring profession that improves the health and quality of life for individuals, families, and communities throughout the world. Nursing possesses a unique body of knowledge that guides its practice in both autonomous and collaborative health care settings. Penn Nursing serves as the model for nurses who care for society’s needs in a global and multicultural context. Thus at Penn, we seek to promote health and alleviate suffering in every part of the world by preparing nurses to be responsive to the health-related issues and preferences, values, and needs of all societies. Our goals are to improve and maintain optimal health, prevent disease, enhance the quality of recovery from illness,
and support patients and families to cope with acute and chronic health problems. Penn Nursing serves as a model to direct the advancement of the translation of evidence-based knowledge toward culturally competent models of care.

Revised Mission and Philosophy approved by the School of Nursing Faculty Senate 2/3/03.

Revised Mission and Philosophy approved by the School of Nursing Faculty Senate 5/7/12.

Revised Practice statement approved by the School of Nursing Faculty Senate 4/8/13.

Revised Mission approved by the School of Nursing Faculty Senate 10/5/15.

The Office of Nursing Research (http://nursing.livewhale.net/research/), along with our four research centers (http://nursing.livewhale.net/research/research-centers) and partnerships across Penn, provide students with resources and support that are virtually unparalleled in our field. Students, from undergraduates to doctoral students, have numerous opportunities to engage in research and work alongside some of the most recognized researchers in their fields.

For more information, visit: https://www.nursing.upenn.edu/research/.

Accreditation is a hallmark of educational quality, and we are proud to share our credentials on our website: http://www.nursing.upenn.edu/about/accreditation/.

Penn Nursing students benefit from a dual advising structure. All students are assigned a faculty advisor and have access to the professional staff advisors in the Office of Student Affairs.

For more information, visit: http://www.nursing.upenn.edu/student-services/advising/.

Curriculum

Baccalaureate Program Objectives Leveled by Year

The faculty has defined behaviors that each student must achieve before progressing to the next level. The objectives are leveled by year: level 1 references freshman year; level 2 references sophomore year, and so on. Students are encouraged to refer to these objectives at the mid-point of the semester and again at the end of the semester to actively participate in the learning and self-evaluation processes.

End of Program. Synthesize knowledge from the humanities and the natural and social sciences as the basis for continuing personal, intellectual, social, and professional development.

**Level 3.** Apply knowledge from the humanities and the natural and social sciences in the development of the role of nurse in patient care situations in acute care settings.

**Level 2.** Articulate the relevance of knowledge from the humanities and the natural and social sciences to the evolving role of the nurse.

**Level 1.** Demonstrate knowledge of the interrelationship of the humanities and the natural and social sciences as a basis for the development of nursing practice and as a source of personal development.

End of Program. As a generalist, use theoretical and scientific bases for nursing to deliver nursing care to clients as individuals, families, communities, and organizations in a variety of settings at any level of wellness, illness, and risk.

**Level 3.** Apply theoretical and scientific bases for nursing practice related to individuals and families with potential or actual health-related problems in acute care settings.

**Level 2.** Demonstrate the use of theoretical and scientific bases for nursing practice related to risk assessment and health promotion activities to individuals within selected communities and healthcare agencies.

**Level 1.** Identify theoretical and scientific bases for nursing practice.

End of Program. Apply research findings to evaluate and improve nursing care and the healthcare system.

**Level 3.** Appraise the relevance, quality, and applicability of research in decision making related to patient care.

**Level 2.** Discuss the research implications for various nursing practice environments.

**Level 1.** Recognize the relationship between research and nursing practice.

End of Program. Assume responsibility for providing nursing care in a collaborative relationship with individuals and groups in a variety of settings.

**Level 3.** Participate in providing nursing care in a collaborative relationship with individuals and families in complex healthcare settings.

**Level 2.** Participate in providing nursing care in a collaborative relationship with individuals, selected communities, and healthcare agencies.

**Level 1.** Observe the process of how nurses collaborate with individuals.

End of Program. Participate in collaborative relationships with colleagues through referral, consultation, planning, and evaluation.

**Level 3.** Initiate a collaborative relationship with colleagues to facilitate consultation, referrals, planning, and evaluation in a complex healthcare setting.

**Level 2.** Participate in a collaborative relationship with colleagues by consultation, planning, and evaluating selected communities and healthcare agencies.

**Level 1.** Identify various interdisciplinary roles in healthcare.

End of Program. Demonstrate leadership and management skills through direction and support of clients and colleagues as individuals, families, communities, and organizations.
Level 3. Integrate an understanding of leadership and management skills through the direction and support of colleagues, individuals, and families in acute care settings.

Level 2. Provide peer support and management of individual clients in selected communities and healthcare agencies.

Level 1. Define leadership and management skills using professional organizations as a model.

End of Program. Participate as an agent of change in scientific, social, and political action for the advancement of research, healthcare, and policy at any level from local to international.

Level 3. Initiate change for the advancement of research and healthcare in an acute care setting.

Level 2. Participate as an agent of change to effect modification in health promotion behavior and level of wellness in selected local communities and healthcare agencies.

Level 1. Recognize the need for change related to healthcare reform and policymaking at the national level.

End of Program. Communicate coherently, comprehensively, and systematically in written and oral forms as they pertain to nursing care, collaboration, research, and policy.

Level 3. Analyze written and oral communication patterns and recommend modification if necessary as they pertain to nursing care, collaboration, and research.

Level 2. Demonstrate therapeutic and professional oral communication with individuals, groups, and peers in selected local communities and healthcare agencies.

Level 1. Demonstrate effective written communication skills.

End of Program. Perform clinical skills appropriate to generalist nursing practice, with competence and judgment within specific settings.

Level 3. Demonstrate advanced nursing skills with competence and judgment in acute care settings.

Level 2. Demonstrate and expected level of judgment in basic nursing skills in selected communities and healthcare agencies.

Level 1. Identify components of professional nursing practice.

BSN Undergraduate Curriculum Organizing Framework and Vision

Class of 2015 and Beyond
(Accelerated BSN Class of December 2014 and Beyond)

Our Mission

Penn Nursing is committed to teach the art and science of nursing and to create opportunities for service, practice, leadership, and research. This is achieved through talented faculty, internationally recognized scholarship, respect for the diversity of our own community (of faculty, staff, and students), and a commitment to individualizing the pedagogical and material resources necessary for success.

Our Vision

Penn baccalaureate nursing graduates are broadly educated and socially engaged. They demonstrate the capacity for clinical expertise, leadership at the bedside and around the globe, and translating the science of the profession into practice. Our graduates have matured in the intellectual and social environment of both the University and the School of Nursing. This environment is built upon the values of civic engagement, critical inquiry, interdisciplinary knowledge, and the integration of research and practice. It has prepared our graduates to create and realize their own vision and ambition for themselves and their profession.

Our Values

- Respect for the diversity of individuals and their ideas
- Dedication to rigorous clinical inquiry as the basis of clinical judgment
- Commitment to collaboration with individuals, families, communities, and colleagues
- Responsible and engaged advocacy
- Recognition of the intersections of history, social context, culture, and economics in shaping a global society that seeks equity and access for all
- Respect for nursing science and its substantive contribution to health care
- Organizing Framework - One University, One School, One Curriculum

Penn's baccalaureate curriculum brings structure to the School's mission, vision, and values by centering on the primacy of nursing practice situated in caring relationships that facilitate health and healing. The baccalaureate curriculum builds on this conceptualization of nursing as it moves students toward increasingly contextualized understandings of individuals, families, communities, and populations living with health and illness. It also moves students into increasingly complex situations and care environments as they experience the dynamic nature of nursing's embeddedness in health care systems, social structures, and society.

The baccalaureate curriculum concentrates on four intersecting core themes that characterize the complex and contextual nature of nursing practice: engagement, inquiry, judgment, and voice. The competencies derived from this framework are not intended to be achieved in a sequential manner. Rather, this framework explicates competencies that are fluid, adapt to various learning experiences when presented in the curriculum, and essential to the formation of a graduate nurse's professional identity. The application of these themes is demonstrated in the following examples:

Engagement: The student understands the relationships among:

- Caring relationships with individuals, families, and patient populations
- Collegial intra-disciplinary, interdisciplinary, and multidisciplinary collaborative relationships
- Observer and participant in policies and politics
- Situational advocacy and civic commitment to social and political change

Inquiry: The student understands the relationships among:

- Knowledge use, acquisition, and development
• Scientific ways of knowing patients and families and multidimensional and contextual ways of knowing
• Knowledge and implementation of humanistic understandings in practice and research
• Evidence-based practices and the social and political processes of practice with less clear scientific rationales
• Knowledge of how to use and manipulate technological information systems to acquire meaningful data
• Knowledge use and ongoing clinical knowledge development
• Measures of quality in clinical care environments

Judgment: The student understands the relationships among:

• Acquisition of knowledge and skill and the integration of both within relational practices with individuals, families, communities, populations, and healthcare systems
• Knowledge of individuals and families and collective knowledge about communities, populations, and systems
• Core nursing knowledge and integrated knowledge
• Situated judgment and clinical know-how

Voice: The student understands the relationships among:

• Observer, advocate, and moral agent
• Facilitation of patient and family learning and advocacy affecting social and political practices
• Informal methods of dialogue, discourse, and debate and those necessary for formal writing and publication and for joining a community of scholars
• Vision for self and the profession

Requirements for the Bachelor of Science in Nursing Degree

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Course Units</th>
</tr>
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<tr>
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<td>Non-Nursing Major Requirements</td>
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<td>Critical Writing Seminar Requirement</td>
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<tr>
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<td>Language Requirement</td>
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<td>Distribution Requirements by Sector</td>
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<tr>
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<td>Arts and Letters</td>
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<tr>
<td></td>
<td>Society and Social Structures</td>
<td></td>
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<tr>
<td></td>
<td>Histories and Traditions</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Global and Cultural Studies</td>
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</tr>
<tr>
<td></td>
<td>Reasoning, Systems, and Relationships</td>
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<td>Free Elective</td>
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<td>Nursing Major</td>
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</table>

More information including individual course requirements can be found in the BSN Handbook (http://www.nursing.upenn.edu/live/files/172-bsn-handbook.pdf).

Students who are receiving their second bachelor’s degree in nursing (known as “second degree students” or “BSN/MSN students”) are not required to complete the liberal arts component while at Penn. All plans of study include an 11 c.u. waiver for liberal arts requirements because students who have already completed one undergraduate degree are exempt from all sector requirements, the language requirement, the writing requirement, and free electives. If you have questions regarding your plan of study or the requirements specific to your program, please reach out to the Office of Academic Affairs: http://www.nursing.upenn.edu/student-services/advising/.

Majors

• Nursing, BSN (p. 196)
• Nutrition, BSN (p. 199)

Nursing, BSN

Penn Nursing combines the resources and opportunities of a large university with the intimacy and personal attention of a small college. Our traditional four-year BSN is a direct-entry program for graduating high school seniors.

At Penn Nursing, you will learn from a passionate faculty (http://www.nursing.upenn.edu/about/our-faculty) whose accomplishments are recognized worldwide. You will benefit from the academic opportunities (http://www.nursing.upenn.edu/academics/bachelor-of-science-in-nursing-bsn) of an Ivy League university while enjoying a fun and fulfilling campus life (http://www.nursing.upenn.edu/about/our-students/student-life). You will gain clinical experience (http://www.nursing.upenn.edu/practice/practice-partners) in some of the nation’s top hospitals, located just steps from your classrooms. And you will have the chance to participate in faculty-driven research (http://www.nursing.upenn.edu/research), supported by state-of-the-art technology (http://www.nursing.upenn.edu/academics/a-penn-nursing-education/learning-through-simulation). Penn Nursing graduates are the leaders shaping the future of health care practice, policy, research, and education.

The nursing program begins in your freshman year with a combination of science, nursing, and liberal arts courses, and students are encouraged to take advantage of our flexible curriculum and take courses offered within Penn’s four undergraduate schools. Clinicals begin in the spring of your sophomore year, and students will have experiences in primary care, acute care, women’s health, and mental health settings working with patients from newborns to older adults.

For more information: http://www.nursing.upenn.edu/admissions/undergraduate/Pages/default.aspx

Nursing, BSN Requirements

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Course Units</th>
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<tr>
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<td>Language Requirement</td>
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<td>Satisfy by exemption or if language proficiency completed in less than 4 semesters, use remaining course units as free electives</td>
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<td>Society and Social Structures Sector</td>
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<td>Histories and Traditions Sector</td>
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<td>Global and Cultural Studies Sector</td>
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<td>Reasoning, Systems, and Relationships Sector</td>
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</table>
Natural Sciences Sector - satisfied by:
- NURS 061 Biologically-Based Chemistry
- NURS 068 Integrated Cell Biology and Microbiology

Free Elective 1

### Nursing Major Courses

#### Nursing Foundational Courses

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
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<tbody>
<tr>
<td>NURS 101</td>
<td>The Nature of Nursing Practice</td>
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<tr>
<td>NURS 102</td>
<td>Situating the Practice of Nursing</td>
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<tr>
<td>NURS 103</td>
<td>Psychological and Social Diversity in</td>
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<td></td>
<td>Health and Wellness</td>
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#### Nursing Clinical Courses

<table>
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<th>Course</th>
<th>Title</th>
<th>Units</th>
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<tbody>
<tr>
<td>NURS 215</td>
<td>Nursing of Women and Infants</td>
<td>1.5</td>
</tr>
<tr>
<td>NURS 225</td>
<td>Pediatric Nursing</td>
<td>1.5</td>
</tr>
<tr>
<td>NURS 235</td>
<td>Psychiatric Nursing</td>
<td>1.5</td>
</tr>
<tr>
<td>NURS 245</td>
<td>Nursing of Young and Middle Aged Adults</td>
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<td>NURS 255</td>
<td>Nursing of Older Adults</td>
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<td>Select a Nursing Case Study from among NURS</td>
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<td>355-NURS 369</td>
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<tr>
<td>NURS 380</td>
<td>Nursing in the Community</td>
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<tr>
<td>NURS 390</td>
<td>Leadership in the Complex Healthcare System</td>
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### Science Requirements

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<tr>
<td>NURS 061</td>
<td>Biologically-Based Chemistry</td>
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<tr>
<td>NURS 065</td>
<td>Fundamentals of Nutrition</td>
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</tr>
<tr>
<td>NURS 068</td>
<td>Integrated Cell Biology and Microbiology</td>
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<tr>
<td>NURS 163</td>
<td>Integrated Anatomy, Physiology, and Physical Assessment I</td>
<td>2</td>
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<tr>
<td>NURS 164</td>
<td>Integrated Human Anatomy, Physiology &amp; Physical Assessment II</td>
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<tr>
<td>NURS 165</td>
<td>Integrated Pathophysiology, Pharmacology, and Therapeutics</td>
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### Non-Clinical Courses

<table>
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<tr>
<th>Course</th>
<th>Title</th>
<th>Units</th>
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<tbody>
<tr>
<td>NURS 230</td>
<td>Statistics for Research and Measurement</td>
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</tr>
<tr>
<td>NURS 547</td>
<td>Scientific Inquiry for Evidence-based Practice</td>
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Select one of the following:
- NURS 330 Theoretical Foundations of Health Care Ethics
- PHIL 072 Biomedical Ethics
- SOCI 118 Sociology of Bioethics
- NURS 389 Research/Inquiry-Based Service Residency 0.5

### Nursing Elective

Select a Nursing Elective 1

Total Course Units 40.5

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1. See the BSN Handbook (https://www.nursing.upenn.edu/live/files/172-bsn-handbookpdf) for a list of approved Health Policy courses.

The degree and major requirements displayed are intended as a guide for students entering in the Fall of 2017 and later. Students should consult with their academic program regarding final certifications and requirements for graduation.

The following sample Plan of Study is just one possibility for undergraduate study. This plan may not be compatible with several academic options you might choose (e.g., study abroad, submatriculation, dual degree, etc.). If you are interested in pursuing any of the special academic options available to you during the course of your undergraduate experience and want to know how this will alter your plan of study, please contact your faculty advisor and/or the Office of Student Services at 215-898-6687 or advisor@nursing.upenn.edu. Please note that all plans of study are subject to curricular change.

<table>
<thead>
<tr>
<th>Course</th>
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<th>Course Units</th>
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<tr>
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</tr>
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<td>NURS 061</td>
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<tr>
<td>NURS 068</td>
<td>Integrated Cell Biology and Microbiology</td>
<td>1</td>
</tr>
<tr>
<td>NURS 101</td>
<td>The Nature of Nursing Practice</td>
<td>0.5</td>
</tr>
<tr>
<td></td>
<td>Critical Writing Requirement</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Language Requirement (or free elective if level IV proficiency met)</td>
<td>1</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Course Units</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Spring</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>NURS 065</td>
<td>Fundamentals of Nutrition</td>
<td>1</td>
</tr>
<tr>
<td>NURS 163</td>
<td>Integrated Anatomy, Physiology, and Physical Assessment I</td>
<td>2</td>
</tr>
<tr>
<td>NURS 102</td>
<td>Situating the Practice of Nursing</td>
<td>0.5</td>
</tr>
<tr>
<td></td>
<td>Sector Requirement (e.g. Reasoning, Systems, &amp; Relationships)</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Language Requirement (or free elective if level IV proficiency met)</td>
<td>1</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Course Units</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Second Year</strong></td>
<td>Fall</td>
<td></td>
</tr>
<tr>
<td>NURS 164</td>
<td>Integrated Human Anatomy, Physiology &amp; Physical Assessment II</td>
<td>2</td>
</tr>
<tr>
<td>NURS 103</td>
<td>Psychological and Social Diversity in Health and Wellness</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Sector Requirement (e.g. Arts and Letters)</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Language Requirement (or free elective if level IV proficiency met)</td>
<td>1</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Course Units</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Spring</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>NURS 165</td>
<td>Integrated Pathophysiology, Pharmacology, and Therapeutics</td>
<td>2</td>
</tr>
<tr>
<td>NURS 215</td>
<td>Nursing of Women and Infants</td>
<td>1.5</td>
</tr>
<tr>
<td></td>
<td>Sector Requirement (e.g. Histories and Traditions)</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Language Requirement (or free elective if level IV proficiency met)</td>
<td>1</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Course Units</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Total Course Units</strong></td>
<td></td>
<td>5.5</td>
</tr>
</tbody>
</table>
Third Year

Fall
NURS 245 & NURS 255 Nursing of Young and Middle Aged Adults and Nursing of Older Adults 3
Select one of the following: 1
NURS 334 Public Policy and the Nation’s Health (or approved Health Policy course) 3
NURS 330 Theoretical Foundations of Health Care Ethics (or approved Health Care Ethics course) 4
NURS 230 Statistics for Research and Measurement 1

Course Units 5

Spring
NURS 225 & NURS 235 Pediatric Nursing and Psychiatric Nursing 3
Select one of the following: 1
NURS 334 Public Policy and the Nation’s Health (or approved Health Policy course) 3
NURS 330 Theoretical Foundations of Health Care Ethics (or approved Health Care Ethics course) 4
NURS 547 Scientific Inquiry for Evidence-based Practice 1

Course Units 5

Fourth Year

Fall
NURS 380 Nursing in the Community 2
Select 1 course from NURS 355-NURS 368 1
Sector Requirement (e.g. Global and Cultural Studies) 1
Sector Requirement (e.g. Society and Social Structures) 1

Course Units 5

Spring
NURS 390 Leadership in the Complex Healthcare System 3
NURS 389 Research/Inquiry-Based Service Residency 0.5
Nursing Elective 1
Free Elective 1

Course Units 5.5

Total Course Units 40.5

1 Sector requirements can be taken in any order. For more information on sector requirements, refer to p.26 of the BSN Handbook (https://www.nursing.upenn.edu/live/files/172-bsn-handbookpdf).
2 Free electives and language requirement courses may be taken pass/fail. For more detailed information on pass/fail policies, refer to the Pass/Fail section in the BSN handbook (https://www.nursing.upenn.edu/live/files/172-bsn-handbookpdf).
3 Check with your advisor for additional approved Health Policy courses.
4 Check with your advisor for additional approved Health Care Ethics courses.

BSN Plan of Study: Accelerated Summer Start

Course Title Course Units

Transfer Credit
Please note: This is an estimation of potential transfer credit and does not constitute final approval until all final transcripts are submitted, course completion and grades are verified, etc.
NURS 061 Biologically-Based Chemistry 0.5
NURS 065 Fundamentals of Nutrition 1
NURS 068 Integrated Cell Biology and Microbiology 1
NURS 131 Human Anatomy and Physiology - Part A 1.5
NURS 132 Human Anatomy and Physiology - Part B 1.5
NURS 230 Statistics for Research and Measurement 1
Liberal Arts Waiver 11

Course Units 17.5

First Year
Summer
NURS 103 Psychological and Social Diversity in Health and Wellness 1
NURS 159 Pathways To Practice 1
NURS 160 Physical Assessment 1
NURS 165 Integrated Pathophysiology, Pharmacology, and Therapeutics 2

Course Units 5

Second Year
Fall
NURS 215 Nursing of Women and Infants 1.5
NURS 225 & NURS 235 Pediatric Nursing and Psychiatric Nursing 3
NURS 547 Scientific Inquiry for Evidence-based Practice 1

Course Units 5.5

Spring
NURS 245 & NURS 255 Nursing of Young and Middle Aged Adults and Nursing of Older Adults 3

The Nursing Case Study can be taken during the junior or senior year (following completion of NURS 164 Integrated Human Anatomy, Physiology & Physical Assessment II). Only one course is required from the case study group. The Nursing Elective can be taken earlier in the plan of study depending upon the course selected.

Students must consult with an academic advisor prior to making revisions to the plan of study to ensure that the necessary curricular requirements are being met and to prevent delays in academic progression.

The following sample Plan of Study is just one possibility for second-degree students, and individual plans depend on what prerequisites students have fulfilled prior to matriculating at Penn. This plan may not be compatible with several academic options you might choose (e.g., submatriculation, study abroad, minors, etc.). If you are interested in pursuing any of the special academic options available to you during the course of your undergraduate experience and want to know how this will alter your plan of study, please contact your faculty advisor and/or the Office of Student Services at 215-898-6687 or advisor@nursing.upenn.edu. Please note that all plans of study are subject to curricular change.
Select one of the following Health Care Ethics courses:  
- NURS 330 Theoretical Foundations of Health Care Ethics  
- NURS 525 Ethical Aspects of Health and Technology  
- SOCI 118 Sociology of Bioethics  
- PHIL 072 Biomedical Ethics

Select one Health Policy course  
1, 2

| Third Year |  
| --- | --- |
| Fall |  
| NURS 389 Research/Inquiry-Based Service Residency | 0.5 |
| NURS 390 Leadership in the Complex Healthcare System | 3 |
| Nursing Case Study 1, 2 | 1 |
| Choose one Nursing elective 1, 2 | 1 |

| Summer |  
| --- | --- |
| NURS 380 Nursing in the Community | 2 |

Total Course Units 40.5

1 There is some flexibility as to when these courses can be taken (fall vs. spring). Please consult with an advisor about your options and course offerings.

2 See the BSN Handbook (https://www.nursing.upenn.edu/live/files/172-bsn-handbookpdf) for an approved list of courses.

Notes

1. All plans of study are subject to curricular change. Students must consult with an academic advisor prior to making revisions to the plan of study to ensure that the necessary curricular requirements are being met and to prevent delays in academic progression.

2. Clinical experiences may include evenings, weekends, and 12 hour shifts. Most clinical rotations are accessible by public transportation; however a car may be necessary for transportation to some clinical sites.

3. Course work outside the School of Nursing is not permitted, with the exception of approved non-nursing courses for the Health Care Ethics and Health Policy requirements.

4. 5.5 course units is the maximum course load for undergraduate nursing students. Students who wish to exceed this limit must seek approval from the Office of Student Services prior to the advance registration period for the semester in question. If approved, the Office of Student Services will increase the maximum course load accordingly in Penn in Touch.

### Nutrition, BSN

Our Bachelor of Science in Nutrition major is an interdisciplinary collaboration with Penn’s School of Arts & Sciences. You will study concepts like dietary behaviors and metabolism, as well as scientific approaches to the physiological roles of nutrients in the diet, from the cellular to human level. You will explore the role of nutrition in cancer, cardiovascular diseases, diabetes, and obesity, which together account for nearly seventy percent of global mortality. We believe that the next generation of nurse researchers and clinicians need a well-rounded background in nutrition science, social sciences, and public health, and we built this innovative program with these goals in mind.

The major consists of 14 course units: six basic science courses (such as cellular biology, anatomy and physiology, and chemistry), four fundamental nutrition science courses, and four electives. Penn Nursing BSN undergrads can add this as a second major.

For more information: https://www.nursing.upenn.edu/nutrition-major/

### Nutrition, BSN Requirements

#### Non-Nursing Major Requirements

| Writing Requirement |
| --- | --- | --- |
| Select a Writing Intensive Course | 1 |

| Language Requirement |
| --- | --- | --- |
| Satisfy by exemption or if language proficiency completed in less than 4 semesters, use remaining course units as free electives | 4 |

| Distribution by Sectors |
| --- | --- | --- |
| Arts & Letters Sector | 1 |
| Society and Social Structures Sector | 1 |
| Histories and Traditions Sector | 1 |
| Global and Cultural Studies Sector | 1 |
| Reasoning, Systems, and Relationships Sector | 1 |
| Natural Sciences Sector - satisfied by: |  
| NURS 061 Biologically-Based Chemistry |  
| NURS 068 Integrated Cell Biology and Microbiology |  
| Free Elective | 1 |

#### Nursing Foundational Courses

| Code | Title |
| --- | --- | --- |
| NURS 101 | The Nature of Nursing Practice | 0.5 |
| NURS 102 | Situating the Practice of Nursing | 0.5 |
| NURS 103 | Psychological and Social Diversity in Health and Wellness | 1 |

#### Nursing Clinical Courses

| Code | Title |
| --- | --- | --- |
| NURS 215 | Nursing of Women and Infants | 1.5 |
| NURS 225 | Pediatric Nursing | 1.5 |
| NURS 235 | Psychiatric Nursing | 1.5 |
| NURS 245 | Nursing of Young and Middle Aged Adults | 1.5 |
| NURS 255 | Nursing of Older Adults | 1.5 |

Select a Nursing Case Study from among NURS 355-NURS 369  
1

#### Science Requirements

| Code | Title |
| --- | --- | --- |
| NURS 061 | Biologically-Based Chemistry | 0.5 |
| NURS 068 | Integrated Cell Biology and Microbiology | 1 |
| NURS 065 | Fundamentals of Nutrition | 1 |
| NURS 163 | Integrated Anatomy, Physiology, and Physical Assessment I | 2 |
| NURS 164 | Integrated Human Anatomy, Physiology & Physical Assessment II | 2 |
Minors

- Global Health, Minor (p. 200)
- Health Communications, Minor (p. 200)
- History, Health and the Humanities, Minor (p. 201)
- Nursing and Health Services Management, Minor (p. 201)
- Nutrition, Minor (p. 201)

BSN students are also eligible to complete no more than half of an MSN minor while enrolled as an undergraduate student. For more information, visit: https://www.nursing.upenn.edu/academics/master-of-science-in-nursing-msn/minors/.

Global Health, Minor

This minor offers students the option to focus their studies on the domestic or international level. Opportunities are provided via clinical experiences, and students gain advanced multicultural knowledge and skills. It is our goal that graduates will rise to professional leadership roles, serving as catalysts to disseminate new research and clinical skills as they work among diverse social and cultural groups.

For more information: https://www.nursing.upenn.edu/global-health-minor/

The Global Health Minor requires a total of 6 course units.

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Course Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>NURS 315/515</td>
<td>Sociocultural Influences on Health</td>
<td>1</td>
</tr>
<tr>
<td>PUBH 519</td>
<td>Issues in Global Health</td>
<td>1</td>
</tr>
<tr>
<td>Select 1 Global Health Experiential course</td>
<td></td>
<td>1</td>
</tr>
</tbody>
</table>

The degree and major requirements displayed are intended as a guide for students entering in the Fall of 2017 and later. Students should consult with their academic program regarding final certifications and requirements for graduation.

Health Communications, Minor

The Health Communication minor is a collaboration between the School of Nursing and the Annenberg School for Communication. This program expands students’ knowledge of the communication process, theory, and behavior, and it prepares them for roles as professionals who develop cutting edge models for health behavior intervention or implement patient education and health communications programs locally, nationally, and globally.

For more information: http://www.nursing.upenn.edu/health-communications-minor/

The Health Communications Minor requires a total of 6 course units.

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Course Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>NURS 547</td>
<td>Scientific Inquiry for Evidence-based Practice</td>
<td>1</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Course Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>NURS 547</td>
<td>Scientific Inquiry for Evidence-based Practice</td>
<td>1</td>
</tr>
</tbody>
</table>

The degree and major requirements displayed are intended as a guide for students entering in the Fall of 2017 and later. Students should consult with their academic program regarding final certifications and requirements for graduation.
History, Health and the Humanities, Minor

A number of universities have forged bridges between the humanities and sciences to nourish students intellectually, build self-awareness, consider social justice-related phenomena through a new lens, and help them develop empathy. The School of Nursing has launched a new minor in History, Health and the Humanities for undergraduate students. This innovative initiative provides students with the tools and perspectives to study clinical issues in ways different than the lens provided by natural or social sciences. It amplifies the humanities component of the Judgement, Inquiry, Voice, and Engagement pillars that define the “Penn Advantage.” It offers formalized opportunities for writing, both reflective and analytical, beyond that available in the required nursing curriculum.

Student enrolled in this minor will be considered Bates’ Center associates and will be invited to lunches, dinners, and other events with visiting scholars and faculty.

For more information: https://www.nursing.upenn.edu/academics/bachelor-of-science-in-nursing-bsn/minors/

The History, Health and the Humanities Minor requires a total of 6 course units.

For more information contact the director of the History, Health and the Humanities minor, Cynthia Connolly PhD RN FAAN at cac1@nursing.upenn.edu.

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Course Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>NURS 305</td>
<td>Narrative Matters in Health and Illness Experiences</td>
<td>1</td>
</tr>
</tbody>
</table>

Elective Courses

Select 5 course units  

Total Course Units 6

1 At least 1 elective course must be in the School of Nursing.

The degree and major requirements displayed are intended as a guide for students entering in the Fall of 2017 and later. Students should consult with their academic program regarding final certifications and requirements for graduation.

Nursing and Health Services Management, Minor

The delivery of health care increasingly involves decisions that entail considerations beyond clinical or medical issues. With the rise of managed care in the United States, it is critical for health professionals to understand not only the clinical factors that affect patients but also the business environment in which healthcare institutions function. This program, a partnership between the School of Nursing and The Wharton School, helps students understand both the nature of the economic and managerial constraints that healthcare organizations face, and how to effectively manage these constraints to provide the best possible health care for patients.

For more information: http://www.nursing.upenn.edu/nursing-and-health-services-management-minor/

The Nursing and Health Services Management Minor requires a total of 8 course units.

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Course Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>ECON 001</td>
<td>Introduction to Micro Economics</td>
<td>1</td>
</tr>
<tr>
<td>or ECON 010</td>
<td>Introduction to Economics for Business</td>
<td></td>
</tr>
</tbody>
</table>

Select 2 course units of Elective Classes from Wharton  

Select 2 course units of Elective Classes from Nursing  

Select 3 course units of Additional Nursing & Health Services Management Electives  

Total Course Units 8

1 See the website (http://www.nursing.upenn.edu/nursing-and-health-services-management-minor/plans-of-study) for a list of approved elective courses.

The degree and major requirements displayed are intended as a guide for students entering in the Fall of 2017 and later. Students should consult with their academic program regarding final certifications and requirements for graduation.

Nutrition, Minor

Jointly sponsored by the Schools of Nursing and Arts and Sciences, the Nutrition Minor presents a broad view of the field and illustrates the pervasiveness of nutrition-related issues in such diverse fields as anthropology, economics, folklore, history, physiology, psychology, health care, and public policy.
For more information: http://www.nursing.upenn.edu/nutrition-minor/

The Nutrition Minor requires a total of 6 course units.

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Course Units</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td><strong>Core Courses</strong></td>
<td></td>
</tr>
<tr>
<td></td>
<td><strong>Core A - Basic Nutrition</strong></td>
<td>1</td>
</tr>
<tr>
<td>NURS 065</td>
<td>Fundamentals of Nutrition</td>
<td></td>
</tr>
<tr>
<td>or NURS 112</td>
<td>Nutrition: Science &amp; Applications</td>
<td></td>
</tr>
<tr>
<td></td>
<td><strong>Core B - Scientific Basis of Nutrition</strong></td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Select one of the following:</td>
<td></td>
</tr>
<tr>
<td>Option 1:</td>
<td>NURS 068</td>
<td>Integrated Cell Biology and Microbiology</td>
</tr>
<tr>
<td></td>
<td>Option 2:</td>
<td></td>
</tr>
<tr>
<td>Select one of the following:</td>
<td>BIOL 017</td>
<td>The Biology of Food</td>
</tr>
<tr>
<td></td>
<td>BIOL 091</td>
<td>AP/Transfer Credit: Introductory Biology for the Major</td>
</tr>
<tr>
<td></td>
<td>BIOL 101</td>
<td>Introduction to Biology A</td>
</tr>
<tr>
<td></td>
<td>BIOL 121</td>
<td>Introduction to Biology - The Molecular Biology of Life</td>
</tr>
<tr>
<td></td>
<td><strong>Core C - Advanced Nutrition</strong></td>
<td>1</td>
</tr>
<tr>
<td>NURS 524</td>
<td>Advanced Human Nutrition and Micronutrient Metabolism</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td><strong>Elective Courses</strong></td>
<td></td>
</tr>
<tr>
<td>Select 3 course units</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>Total Course Units</td>
<td></td>
<td>6</td>
</tr>
</tbody>
</table>

1. It is strongly recommended that Core A & B courses be taken prior to the Elective courses.
2. See the website (http://www.nursing.upenn.edu/nutrition-minor/plans-of-study) for a list of approved elective courses.

The degree and major requirements displayed are intended as a guide for students entering in the Fall of 2017 and later. Students should consult with their academic program regarding final certifications and requirements for graduation.

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**Academic Opportunities**

Penn Nursing offers a wide variety of supplemental academic opportunities designed to enhance your academic experience and professional development.

For more information, visit: http://www.nursing.upenn.edu/student-services/advising/opportunities/.

**Benjamin Franklin Scholars Program - Nursing** (http://www.nursing.upenn.edu/academics/a-penn-nursing-education/undergraduate-honors-program)

The Benjamin Franklin Scholars (BFS) Program for Nursing (http://www.nursing.upenn.edu/academics/a-penn-nursing-education/undergraduate-honors-program) seeks to foster the development of the next generation of nurse achievers - scholars, leaders, and researchers - through intellectual rigor, academic excellence, and outstanding achievements. Scholars are required to complete four Benjamin Franklin Seminars - small, intensive classes in a wide range of disciplines across the liberal arts and sciences - and a Capstone Honors course in the Nursing school.

**Dual Degrees** (http://www.nursing.upenn.edu/academics/dual-degrees)

We recognize the value of interdisciplinary learning, which is why student at all levels - undergraduate, masters, and doctoral - can pursue a dual degree with other schools across campus. Our Dual Degree (http://www.nursing.upenn.edu/academics/dual-degrees) page provides a complete listing of our approved programs.

**Global Opportunities** (http://www.nursing.upenn.edu/global-health/student-opportunities)

Penn Nursing offers a variety of international experiences for students in the BSN and MSN programs, which range from short-term opportunities that focus on comparative healthcare in international contexts, to full-semester clinical experiences.

**Hillman Scholars Program in Nursing Innovation** (http://www.nursing.upenn.edu/academics/accelerated-options/bsn-phd-hillman-scholars)

The Hillman Scholars Program in Nursing Innovation (http://www.nursing.upenn.edu/academics/accelerated-options/bsn-phd-hillman-scholars) is an integrated BSN-to-PhD program designed to educate a new cadre of nurse scientists and leaders to develop innovative solutions in healthcare. The program is available for current Penn Nursing undergraduate students, as well as students applying to the Accelerated Second Degree BSN program.

**Minors** (p. 200)

Penn Nursing offers a variety of minors in such in-demand areas as global health, palliative care, health services management, and oncology. Adding a minor allows students to complement their major by diving more deeply into a specific area of inquiry.

**Nutrition Major** (p. 199)

Our Nutrition major (http://www.nursing.upenn.edu/nutrition-major) is an interdisciplinary collaboration with Penn’s School of Arts & Sciences. You will study concepts like dietary behaviors and metabolism, as well as scientific approaches to the physiological roles of nutrients in the diet, from the cellular to human level.
Research Opportunities (http://www.nursing.upenn.edu/research/student-research)

Students have numerous opportunities to engage with research at Penn Nursing, whether that means participating in one of the school-supported research centers, applying for a prestigious fellowship through the Center for Undergraduate Research and Fellowships (http://www.upenn.edu/curf) (CURF), or working one-on-one with a faculty mentor on a student-driven research project.

Submatriculation (http://www.nursing.upenn.edu/academics/a-penn-nursing-education/submatriculation)

One of the most popular options at Penn Nursing, submatriculation allows undergraduate students the opportunity to apply to a graduate program and begin coursework while completing the BSN degree. Students can apply to any of the MSN / DNP majors (http://www.nursing.upenn.edu/academics) here at Penn Nursing, or to Penn Law.

School Policies

The majority of Penn Nursing policies can be found in the Policies and Procedures (p. 265) section of the Catalog.

The following additional policies apply specifically to School of Nursing students:

• Statement of Personal Attributes and Capabilities (https://www.nursing.upenn.edu/live/files/218-statement-personal-attributes-and-capabilities)

The curricula leading to degrees in nursing require students to engage in diverse and complex experiences directed to the practice, refinement and full acquisition of essential nursing competencies and functions. Unique combinations of cognitive, behavioral, sensory, communication, psychomotor, and communication abilities are required to perform these functions in a satisfactory manner and to consistently demonstrate these competencies. In addition to being essential to the successful completion of the requirements for the respective nursing degree, these competencies and functions are necessary to ensure the health and safety of patients, fellow students, faculty and other health care providers. This statement describes the minimum competencies and functions necessary for entrance to, continuation in, and graduation from the nursing degree programs of the School of Nursing at the University of Pennsylvania. Candidates for nursing degrees must be able to meet these minimum standards with or without reasonable accommodation.

• Student Social Media Policy (https://www.nursing.upenn.edu/live/files/217-student-social-media-policy)

This document serves as the official policy for student use of social media at the SON. These guidelines apply to all students creating or contributing to any kind of social media affiliated with the SON. Please check back periodically to make sure you're up to date. We trust that you will adhere to these policies. If, for any reason an incident occurs that violates the policy, we expect you to bring it to our attention immediately so we can work together toward a resolution.

• Student Substance Abuse Policy (https://www.nursing.upenn.edu/live/files/219-student-substance-abuse-policy)

The School of Nursing recognizes the importance of educating its students about the problems of substance abuse because this significant health risk, and in many cases, criminal matter, is unfortunately prevalent among healthcare providers. Aside from impacting upon the personal and psychological integrity of the abusers, substance abuse may significantly impact the ability of healthcare providers to administer safe, competent patient care. Recognizing that substance abuse is both a disease and a professional hazard, the School of Nursing has incorporated substance abuse topical content areas into its curriculum. The School of Nursing has likewise established this substance abuse policy.

This policy impacts upon and augments the student’s ability to maintain personal and professional integrity, and facilitates the student’s success both clinically and didactically. It promotes a healthy learning environment for the student. In the clinical setting, this policy enhances patient safety. It also fosters the development of professional nurses who are well educated about the prevalence and adverse outcomes of substance abuse.
THE WHARTON SCHOOL

In 1881, American entrepreneur and industrialist Joseph Wharton established the world’s first collegiate school of business at the University of Pennsylvania.

Wharton’s pioneering vision was to produce graduates who would become “pillars of the state, whether in private or in public life.” The Wharton School maintains a long tradition of educating visionary business leaders in academia, business, government, and not-for-profit organizations.

Today, Wharton has expanded the scope of this vision to become the most comprehensive source of business knowledge in the world — with over 225 faculty members, 95,000 alumni, 5,000 students across 10 academic departments, 20 research centers, and more than 9,000 executive education participants annually.

Learn more about our history: https://www.wharton.upenn.edu/about-wharton/

Learn more about our school leadership: https://www.wharton.upenn.edu/senior-leadership/

Founded in 1881 as the first collegiate business school, the Wharton School (https://www.wharton.upenn.edu) of the University of Pennsylvania is recognized globally for intellectual leadership and ongoing innovation across every major discipline of business education. With a broad global community and one of the most published business school faculties, Wharton creates economic and social value around the world. The School has 5,000 undergraduate (https://undergrad.wharton.upenn.edu), MBA (https://mba.wharton.upenn.edu), executive MBA (https://executivemba.wharton.upenn.edu), and doctoral (https://doctoral.wharton.upenn.edu) students; more than 9,000 participants in executive education (http://executiveeducation.wharton.upenn.edu) programs annually and a powerful alumni network (https://alumni.wharton.upenn.edu) of 95,000 graduates.

Research provides an individualized method of learning and an in-depth treatment of a topic of personal interest with input from a faculty expert. Research experience is helpful if applying for distinguished international fellowships and is important if going on to graduate studies in an analytical discipline. Research skills are useful for decision-making in the private and public sectors and are required in academic positions. Below you can find a variety of research opportunities and scholarship programs.

• Courses (https://undergrad-inside.wharton.upenn.edu/research/courses)—Create “tools” in a research-methods course.
• Research assistantships (https://undergrad-inside.wharton.upenn.edu/research/assistantships)—Learn by executing research-related tasks while working on a project for a faculty member.
• Summer programs (https://undergrad-inside.wharton.upenn.edu/research/summer-programs)—Gain hands-on experience from proposal to presentation through a project commensurate with program duration.
• Scholars programs (https://undergrad-inside.wharton.upenn.edu/scholars-programs)—Gain hands-on, in-depth experience from proposal to presentation via a senior thesis and other activities.

• Wharton PhD Submatriculation Program (http://doctoral-inside.wharton.upenn.edu/submatriculation)—Submatriculate into a PhD program in Accounting, Finance, Health Care Systems, Insurance and Risk Management, Management, Marketing, Operations and Information Management, Business and Public Policy, or Statistics.

For more information, visit: https://undergrad-inside.wharton.upenn.edu/research/.

The University of Pennsylvania Wharton School is accredited by AACSB – the International Association for Management Education.

1916: AACSB founded initially as the Association of Collegiate Schools of Business (ACSB); constitution is adopted June 17, 1916. Founding members include the following: Columbia University • Cornell University • Dartmouth College • Harvard University • New York University • Northwestern University • Ohio State University • Tulane University • University of California, Berkeley • University of Chicago • University of Illinois • University of Nebraska • University of Pennsylvania • University of Pittsburgh • University of Texas • University of Wisconsin—Madison • Yale University

For more information, visit: http://www.aacsb.edu/.

The goal of the Wharton Undergraduate Division academic advising team is to help students make informed decisions about their educational plans and professional/life goals that are consistent with their interests, abilities, and values.

Advising by appointment, walk-in advising, and specialized advising (https://undergrad-inside.wharton.upenn.edu/advising-services/#specialized_advising) are services available in G95 Huntsman Hall to current Wharton undergraduate students.

Professional advisors (https://undergrad-inside.wharton.upenn.edu/advising-services), concentration advisors (https://undergrad-inside.wharton.upenn.edu/concentration-advisors), and peer advising fellows (https://undergrad-inside.wharton.upenn.edu/peer-advising) are available to assist students.

For more information, visit: https://undergrad-inside.wharton.upenn.edu/advising-services/.

Curriculum

All Wharton single-degree undergraduate students must complete a minimum of 37 course units and meet the curricular requirements described below. Students enrolled in a coordinated dual-degree (https://undergrad-inside.wharton.upenn.edu/coordinate-dual-degree) program should check with their program advisor to learn about their unique requirements. For a Wharton single-degree undergraduate student, the standard course load is 4 to 5 CUs per semester (see a sample course sequence (https://undergrad-inside.wharton.upenn.edu/sample-curriculum-2017)).

The requirements of the Wharton single-degree curriculum are delineated on the academic planning worksheet (https://undergrad-inside.wharton.upenn.edu/download/academic-planning-worksheet-2017/?wpdmdl=3785). Details about these requirements are available via the links below.

Students are encouraged to see an academic advisor (https://undergrad-inside.wharton.upenn.edu/advising-services) for any questions about the requirements of their academic program.
First-Year Foundations

Economics
- Select 1 of the following: MATH 104 or MATH 110

Math

Business Leadership Journey
- 3 required courses: WH 101, WH 201, WH 301
- 1 senior capstone course or project

Business Fundamentals
- 11 required courses: ACCT 101, ACCT 102, BEPP 250, STAT 101, STAT 102, FNCE 100, FNCE 101, LGST 100 or LGST 101, MGMT 101, MKTG 101, OIDD 101

Business Breadth

Concentration (Business Depth)
- 4 required course units

Global Economy, Business, and Society
- 1 required course unit

Technology, Innovation, and Analytics
- 1 required course unit

Liberal Arts & Sciences

Cross-Cultural Perspectives
- 3 required course units

Foreign Language Requirement

General Education Distribution
- 6 required course units with at least 1 course unit in each of the following categories:
  - Humanities
  - Natural Science, Math, and Engineering
  - Social Science

Writing
- 1 required course: Critical Writing Seminar

Unrestricted Electives
- 5 required course units

Concentrations

All students graduate from Wharton with a Bachelor of Science in Economics; however, each student is required to choose a concentration, which consists of four upper-level courses that explore a particular area of business in depth.

- Accounting, BS (p. 206)
- Actuarial Science, BS (p. 206)
- Behavioral Economics, BS (p. 207)
- Business Analytics, BS (p. 208)
- Business Economics and Public Policy, BS (p. 209)
- Environmental Policy & Management, BS (p. 210)
- Finance, BS (p. 211)
- Global Analysis, BS (p. 212)
- Health Care Management and Policy, BS (p. 213)
- Individualized, BS (p. 214)
- Legal Studies & Business Ethics, BS (p. 215)
- Management
  - Entrepreneurship and Innovation Track, BS (p. 217)
  - General Track, BS (p. 218)
  - Multinational Management Track, BS (p. 219)
  - Organizational Effectiveness Track, BS (p. 220)
  - Strategic Management Track, BS (p. 221)
- Managing E-Commerce, BS (p. 222)
- Marketing & Communication, BS (p. 223)
- Marketing & Operations Management, BS (p. 224)
- Marketing, BS (p. 225)
- Operations, Information & Decisions
  - Decision Processes Track, BS (p. 226)
  - General Track, BS (p. 227)
  - Information Systems Track, BS (p. 228)
• Operations Management/Management Science Track, BS (p. 229)
• Real Estate, BS (p. 230)
• Retailing, BS (p. 231)
• Social Impact & Responsibility, BS (p. 232)
• Statistics, BS (p. 233)

**Accounting, BS**

Although strong quantitative skills and attention to detail are important qualities for an accounting concentration, students need to acquire other skills as well. Many students find the accounting concentration to be useful preparation for careers in consulting, investment banking, general management, public accounting, and securities analysis.

For more information: https://accounting.wharton.upenn.edu/

### Accounting Concentration

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Course Units</th>
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<tbody>
<tr>
<td>ACCT 201</td>
<td>Financial Accounting I</td>
<td>1</td>
</tr>
<tr>
<td>ACCT 202</td>
<td>Financial Accounting II</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Select two of the following:</td>
<td>2</td>
</tr>
<tr>
<td>ACCT 208</td>
<td>Auditing</td>
<td></td>
</tr>
<tr>
<td>ACCT 242</td>
<td>Financial Statements: Analysis &amp; Reporting</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Incentives</td>
<td></td>
</tr>
<tr>
<td>ACCT 243</td>
<td>Accounting for Mergers, Acquisitions, and Complex Financial Structures</td>
<td></td>
</tr>
<tr>
<td>ACCT 297</td>
<td>Taxes and Business Strategy</td>
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<tr>
<td>FNCE 207</td>
<td>Corporate Valuation</td>
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Other Wharton Requirements

<table>
<thead>
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<th>Title</th>
<th>Course Units</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Other Wharton Requirements</td>
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</table>

**Total Course Units**

### Other Wharton Requirements

**First Year Foundations**

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Course Units</th>
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<tbody>
<tr>
<td>ECON 010</td>
<td>Introduction to Economics for Business ¹</td>
<td>1</td>
</tr>
<tr>
<td>MATH 104</td>
<td>Calculus, Part I</td>
<td>1</td>
</tr>
<tr>
<td>or MATH 110</td>
<td>Calculus for Wharton Students</td>
<td></td>
</tr>
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</table>

**Business Leadership Journey**

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Course Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>WH 101</td>
<td>Business and You</td>
<td>0.5</td>
</tr>
<tr>
<td>WH 201</td>
<td>Management Communication: Persuasive Speaking and Writing for Business</td>
<td>0.5</td>
</tr>
<tr>
<td>WH301</td>
<td>Teamwork/Interpersonal Dynamics</td>
<td>0.5</td>
</tr>
<tr>
<td></td>
<td>Capstone Course/Project</td>
<td>0.5</td>
</tr>
</tbody>
</table>

**Fundamentals**

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Course Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACCT 101</td>
<td>Principles of Accounting I</td>
<td>1</td>
</tr>
<tr>
<td>ACCT 102</td>
<td>Managerial Accounting</td>
<td>1</td>
</tr>
<tr>
<td>BEPP 250</td>
<td>Managerial Economics</td>
<td>1</td>
</tr>
<tr>
<td>FNCE 100</td>
<td>Corporate Finance</td>
<td>1</td>
</tr>
<tr>
<td>FNCE 101</td>
<td>Monetary Economics and the Global Economy</td>
<td>1</td>
</tr>
</tbody>
</table>

**Global Economy, Business & Society**

Select one course

**Technology, Innovation & Analytics**

Select one course

**Liberal Arts & Sciences**

**General Education Distribution**

Select 6 courses with at least 1 course unit in each of the following categories:

- Humanities
- Natural Science, Math & Engineering
- Social Science
- Cross-Cultural Perspectives
- Select 3 courses ²

**Writing**

Critical Writing Seminar

**Unrestricted Electives**

Select five courses

**Additional Requirements**

- Second semester-level Foreign Language
- PennSTART

**Business Breadth (non-concentration courses)**

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Course Units</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Business Breadth (non-concentration courses)</td>
<td>3</td>
</tr>
</tbody>
</table>

**Total Course Units**

1 For students who take ECON 001 Introduction to Micro Economics and ECON 002 Introductory Economics: Macro in place of ECON 010 Introduction to Economics for Business of these courses can be slotted for ECON 010 on the worksheet. The second course may be used to fulfill a General Education Distribution or Unrestricted Elective requirement.

2 Two can double-count as General Education Distribution courses.

The degree and major requirements displayed are intended as a guide for students entering in the Fall of 2017 and later. Students should consult with their academic program regarding final certifications and requirements for graduation.

**Actuarial Science, BS**

Actuarial science stands at the intersection of risk and money. Actuaries are experts in evaluating the likelihood and financial consequences of future events, designing creative ways to reduce the cost of undesirable events, and decreasing the impact of tragic events that do occur. They are in great demand by insurance companies, consulting firms, and financial institutions.
This concentration provides an intriguing blend of mathematics and business management for students with a strong mathematics aptitude. Ideally, students graduating from Wharton with an actuarial science concentration will be prepared to pass or will have passed many of the professional examinations given by the Society of Actuaries or the Casualty Actuarial Society.

For more information: https://statistics.wharton.upenn.edu/programs/actuarialprogram/

### Actuarial Science Concentration

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Course Units</th>
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</thead>
<tbody>
<tr>
<td>BEPP/STAT 451</td>
<td>Fundamentals of Actuarial Science.</td>
<td>1</td>
</tr>
<tr>
<td>BEPP/STAT 452</td>
<td>Fundamentals of Actuarial Science I.</td>
<td>1</td>
</tr>
<tr>
<td>BEPP/STAT 453</td>
<td>Actuarial Statistics.</td>
<td>1</td>
</tr>
<tr>
<td>Select one ASCI elective</td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>Other Wharton Requirements</td>
<td></td>
<td>33</td>
</tr>
</tbody>
</table>

Total Course Units: 37

Students should take MATH 104 Calculus, Part I and MATH 114 Calculus, Part II before starting the ASCI concentration. STAT 430 Probability/STAT 431 Statistical Inference recommended in lieu of STAT 101 Introductory Business Statistics/STAT 102 Introductory Business Statistics.

### Other Wharton Requirements

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Course Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>ECON 010</td>
<td>Introduction to Economics for Business</td>
<td>1</td>
</tr>
<tr>
<td>MATH 104</td>
<td>Calculus, Part I</td>
<td>1</td>
</tr>
<tr>
<td>or MATH 110</td>
<td>Calculus for Wharton Students</td>
<td></td>
</tr>
</tbody>
</table>

#### Business

**Leadership Journey**
- WH 101 Business and You: 0.5
- WH 201 Management Communication: Persuasive Speaking and Writing for Business: 0.5
- WH 301 Teamwork/Interpersonal Dynamics: 0.5
- Capstone Course/Project: 0.5

#### Fundamentals

- ACCT 101 Principles of Accounting I: 1
- ACCT 102 Managerial Accounting: 1
- BEPP 250 Managerial Economics: 1
- FNCE 100 Corporate Finance: 1
- FNCE 101 Monetary Economics and the Global Economy: 1
- LGST 100 Ethics and Social Responsibility: 1
- or LGST 101 Law and Social Values: 1
- MGMT 101 Introduction To Management: 1
- MKTG 101 Introduction to Marketing: 1
- OIDD 101 An Introduction to Operations, Information, and Decisions: 1
- STAT 101 Introductory Business Statistics: 1
- STAT 102 Introductory Business Statistics: 1

**Global Economy, Business & Society**
- Select one course: 1

**Technology, Innovation & Analytics**
- Select one course: 1

**Liberal Arts & Sciences**

**General Education Distribution**
- Select 6 courses with at least 1 course unit in each of the following categories: 6
  - Humanities
  - Natural Science, Math & Engineering
  - Social Science

**Cross-Cultural Perspectives**
- Select 3 courses: 3

**Writing**
- Critical Writing Seminar: 1

**Unrestricted Electives**
- Select five courses: 5

**Additional Requirements**
- Second semester-level Foreign Language: 1
- PennSTART: 1

**Business Breadth (non-concentration courses):** 3

Total Course Units: 33

1 For students who take ECON 001 Introduction to Micro Economics and ECON 002 Introductory Economics: Macro in place of ECON 010 Introduction to Economics for Business of these courses can be slotted for ECON 010 on the worksheet. The second course may be used to fulfill a General Education Distribution or Unrestricted Elective requirement.

2 Two can double-count as General Education Distribution courses.

The degree and major requirements displayed are intended as a guide for students entering in the Fall of 2017 and later. Students should consult with their academic program regarding final certifications and requirements for graduation.

### Behavioral Economics, BS

This new collaborative field, behavioral economics, has provided an understanding of how people’s decisions deviate from “optimal” choices and the consequences of such deviations for consumers, managers, firms, and policy. This joint concentration between the Operations, Information, and Decisions Department and the Business Economics and Public Policy Department explores the behavioral aspects of economics and decision making.

This concentration provides students with the opportunity to develop an understanding of (a) the rational actor model, (b) modifications to that model that reflect the psychology of human behavior, and (c) implications of those modifications for decision-makers, markets, and public policy.

For more information: https://bepp.wharton.upenn.edu/programs/undergraduate/program-information1/behavioral-economics/
# Behavioral Economics Concentration

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Course Units</th>
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</thead>
<tbody>
<tr>
<td>OIDD 290</td>
<td>Decision Processes</td>
<td>1</td>
</tr>
<tr>
<td>BEPP 220</td>
<td>Behavioral Economics, Markets, and Public Policy</td>
<td>1</td>
</tr>
</tbody>
</table>

Select two BHEC courses: 2

Other Wharton Requirements: 33

Total Course Units: 37

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# Other Wharton Requirements

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Course Units</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>First Year Foundations</td>
<td></td>
</tr>
<tr>
<td>ECON 010</td>
<td>Introduction to Economics for Business</td>
<td>1</td>
</tr>
<tr>
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</tr>
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</tr>
</tbody>
</table>

**Business Leadership Journey**

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Course Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>WH 101</td>
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<td>0.5</td>
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</tr>
<tr>
<td>WH301</td>
<td>Teamwork/Interpersonal Dynamics</td>
<td>0.5</td>
</tr>
</tbody>
</table>

Capstone Course/Project: 0.5

**Fundamentals**

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
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<td>ACCT 101</td>
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</tr>
<tr>
<td>ACCT 102</td>
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<td>1</td>
</tr>
<tr>
<td>BEPP 250</td>
<td>Managerial Economics</td>
<td>1</td>
</tr>
<tr>
<td>FNCE 100</td>
<td>Corporate Finance</td>
<td>1</td>
</tr>
<tr>
<td>FNCE 101</td>
<td>Monetary Economics and the Global Economy</td>
<td>1</td>
</tr>
<tr>
<td>LGST 100</td>
<td>Ethics and Social Responsibility</td>
<td>1</td>
</tr>
<tr>
<td>or LGST 101</td>
<td>Law and Social Values</td>
<td></td>
</tr>
<tr>
<td>MGMT 101</td>
<td>Introduction To Management</td>
<td>1</td>
</tr>
<tr>
<td>MKTG 101</td>
<td>Introduction to Marketing</td>
<td>1</td>
</tr>
<tr>
<td>OIDD 101</td>
<td>An Introduction to Operations, Information and Decisions</td>
<td>1</td>
</tr>
<tr>
<td>STAT 101</td>
<td>Introductory Business Statistics</td>
<td>1</td>
</tr>
<tr>
<td>STAT 102</td>
<td>Introductory Business Statistics</td>
<td>1</td>
</tr>
</tbody>
</table>

**Global Economy, Business & Society**

Select one course: 1

**Technology, Innovation & Analytics**

Select one course: 1

**Liberal Arts & Sciences**

**General Education Distribution**

Select 6 courses with at least 1 course unit in each of the following categories:

- Humanities: 2
- Natural Science, Math & Engineering: 1
- Social Science: 1
- Cross-Cultural Perspectives: 1
- Select 3 courses: 3

Other Wharton Requirements: 33

Total Course Units: 37

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# Business Analytics, BS

The Business Analytics joint concentration between the OID and STAT departments is designed to build deep competency in the skills needed to implement and oversee data-driven business decisions, including (i) collecting, managing, and describing datasets, (ii) forming inferences and predictions from data, and (iii) making optimal and robust decisions. Business analytics makes extensive use of statistical analysis, and the applications of business analytics span all functional areas.

Students choosing the Business Analytics concentration are ideally suited for the growing set of careers broadly defined under the header of “data science” with responsibilities for managing and analyzing data. In addition, the concentration provides an excellent complement to students who choose to focus on one of the functional areas of business (e.g., accounting, finance, marketing, operations).

For more information: [https://oid.wharton.upenn.edu/programs/undergraduate/business-analytics-joint-concentration/](https://oid.wharton.upenn.edu/programs/undergraduate/business-analytics-joint-concentration/)

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# Business Analytics Concentration

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Course Units</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>Critical Writing Seminar</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Unrestricted Electives</td>
<td>5</td>
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</table>

Select five courses

**Additional Requirements**

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Course Units</th>
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<tbody>
<tr>
<td></td>
<td>Second semester-level Foreign Language</td>
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<tr>
<td>PennSTART</td>
<td></td>
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</tbody>
</table>

**Business Breadth (non-concentration courses)**

Select 3 courses

For students who take ECON 001 Introduction to Micro Economics and ECON 002 Introductory Economics: Macro in place of ECON 010 Introduction to Economics for Business of these courses can be slotted for ECON 010 on the worksheet. The second course may be used to fulfill a General Education Distribution or Unrestricted Elective requirement.

Two can double-count as General Education Distribution courses.

The degree and major requirements displayed are intended as a guide for students entering in the Fall of 2017 and later. Students should consult with their academic program regarding final certifications and requirements for graduation.
### Other Wharton Requirements

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Units</th>
</tr>
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<tbody>
<tr>
<td><strong>First Year Foundations</strong></td>
<td></td>
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</tr>
<tr>
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<tr>
<td>or MATH 110</td>
<td>Calculus for Wharton Students</td>
<td></td>
</tr>
<tr>
<td><strong>Business</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>WH 101</td>
<td>Business and You</td>
<td>0.5</td>
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</tr>
<tr>
<td>Capstone Course/Project</td>
<td>0.5</td>
<td></td>
</tr>
<tr>
<td><strong>Fundamentals</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ACCT 101</td>
<td>Principles of Accounting I</td>
<td>1</td>
</tr>
<tr>
<td>ACCT 102</td>
<td>Managerial Accounting</td>
<td>1</td>
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<tr>
<td>BEPP 250</td>
<td>Managerial Economics</td>
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<tr>
<td>FNCE 100</td>
<td>Corporate Finance</td>
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<td>FNCE 101</td>
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<td>STAT 101</td>
<td>Introductory Business Statistics</td>
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<td><strong>Global Economy, Business &amp; Society</strong></td>
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<td><strong>Liberal Arts &amp; Sciences</strong></td>
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<tr>
<td><strong>General Education Distribution</strong></td>
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<tr>
<td>Select 6 courses with at least 1 course unit in each of the following categories:</td>
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<tr>
<td>Humanities</td>
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<td>Social Science</td>
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<tr>
<td><strong>Cross-Cultural Perspectives</strong></td>
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<tr>
<td>Select 3 courses ²</td>
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<tr>
<td><strong>Writing</strong></td>
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<td>Critical Writing Seminar</td>
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<td><strong>Unrestricted Electives</strong></td>
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<td>Select five courses</td>
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<tr>
<td><strong>Business Breadth (non-concentration courses)</strong></td>
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<td>3</td>
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</table>

Total Course Units: 33

¹ For students who take ECON 001 Introduction to Micro Economics and ECON 002 Introductory Economics: Macro in place of ECON 010 Introduction to Economics for Business these courses can be slotted for ECON 010 on the worksheet. The second course may be used to fulfill a General Education Distribution or Unrestricted Elective requirement.

² Two can double-count as General Education Distribution courses.

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### Business Economics and Public Policy, BS

The Business Economics and Public Policy concentration offers a wide range of courses for students interested in the role of economics in business, competition and public policy. Our courses specialize in market structure and competition, insurance and risk management, behavioral economics, energy, public finance, business & international politics, and business and development. A concentration in Business Economics and Public Policy is vital for students planning a career in consulting, the public sector, industries with a high social impact factor, and anyone with a general interest in how economics interacts with law, policy, and politics.

For more information: https://bepp.wharton.upenn.edu/programs/undergraduate/program-information1/bepp-program/

### BEPP Concentration

<table>
<thead>
<tr>
<th>Code</th>
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<td>BEPP 201</td>
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<tr>
<td>BEPP 284</td>
<td>Game Theory for Business and Life</td>
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<tr>
<td>BEPP 305</td>
<td>Risk Management</td>
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<tr>
<td>BEPP 203</td>
<td>Business in the Global Political Environment.</td>
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<td>BEPP 208</td>
<td>Housing Markets</td>
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<td>BEPP 210</td>
<td>Firms, Markets and Public Policy.</td>
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<td>BEPP 212</td>
<td>Economic Analysis of Law</td>
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<td>BEPP 214</td>
<td>Nonprofit Sector: Economic Challenges and Strategic Responses.</td>
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<td>BEPP 220</td>
<td>Behavioral Economics, Markets, and Public Policy.</td>
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<td>BEPP 230</td>
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<td>BEPP 233</td>
<td>Consumers, Firms and Markets in Developing Countries</td>
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<tr>
<td>BEPP 236</td>
<td>International Housing Comparisons</td>
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</table>

¹ For students who take ECON 001 Introduction to Micro Economics and ECON 002 Introductory Economics: Macro in place of ECON 010 Introduction to Economics for Business these courses can be slotted for ECON 010 on the worksheet. The second course may be used to fulfill a General Education Distribution or Unrestricted Elective requirement.
BEPP 261  Risk Analysis and Environmental Management
BEPP 263  Environmental & Energy Economics and Policy
BEPP 280  Applied Data Analysis.
BEPP 289  Nations, Politics, and Market
BEPP 322  Business Insurance and Estate Planning.
HCMG 202  The Economics and Financing of Health Care Delivery
HCMG 215  Management and Economics of Pharmaceutical, Biotech, and Medical Device Industries
HCMG 250  Health Policy: Health Care Reform and the Future of the American Health System
HCMG 352  Health Services Delivery: A Managerial Economic Approach
FNCE 205  Investment Management
FNCE 206  Financial Derivatives
FNCE 219  International Financial Markets
OIDD 290  Decision Processes
OIDD 314  Enabling Technologies
Other Wharton Requirements 33
Total Course Units 37

1 At least two of the electives need to be BEPP courses and could include the remaining two BEPP Fundamentals. Additional course substitutions require the approval of the BEPP department's undergraduate advisor.

Other Wharton Requirements

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Course Units</th>
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<td><strong>First Year Foundations</strong></td>
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<td>ECON 010</td>
<td>Introduction to Economics for Business 1</td>
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<tr>
<td>MATH 104</td>
<td>Calculus, Part I</td>
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<tr>
<td>or MATH 110</td>
<td>Calculus for Wharton Students</td>
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</tr>
<tr>
<td></td>
<td><strong>Business</strong></td>
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<tr>
<td></td>
<td><strong>Leadership Journey</strong></td>
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<td>WH 101</td>
<td>Business and You</td>
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<td>WH 201</td>
<td>Management Communication: Persuasive Speaking and Writing for Business</td>
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<td>WH 301</td>
<td>Teamwork/Interpersonal Dynamics</td>
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<td>ACCT 101</td>
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<td>ACCT 102</td>
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<td>LGST 100</td>
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<td>or LGST 101</td>
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<td>MKTG 101</td>
<td>Introduction to Marketing</td>
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<tr>
<td>OIDD 101</td>
<td>An Introduction to Operations, Information and Decisions</td>
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<td>STAT 101</td>
<td>Introductory Business Statistics</td>
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<td>Global Economy, Business &amp; Society</td>
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<td>Natural Science, Math &amp; Engineering</td>
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<td>Social Science</td>
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<tr>
<td>Cross-Cultural Perspectives</td>
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<td>Select 3 courses 2</td>
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<td>Writing</td>
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<td>Select five courses</td>
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<td><strong>Additional Requirements</strong></td>
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<td>Total Course Units</td>
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</table>

1 For students who take ECON 001 Introduction to Micro Economics and ECON 002 Introductory Economics: Macro in place of ECON 010 Introduction to Economics for Business of these courses can be slotted for ECON 010 on the worksheet. The second course may be used to fulfill a General Education Distribution or Unrestricted Elective requirement.

2 Two can double-count as General Education Distribution courses.

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Environmental Policy & Management, BS

The concentration in environmental policy and management examines the relationship between business and the natural environment, including human health and safety as well as addressing a range of policy issues. This concentration provides an in-depth foundation for those interested in pursuing careers in the growing environmental sector of the economy, whether in private business, government, or environmental consulting. It takes an interdisciplinary approach, drawing on faculty and courses from several Wharton departments.
Students are encouraged to pursue additional coursework on environmental and technological risks in parallel with the Wharton program through the School of Arts and Sciences and the School of Engineering and Applied Science.

For more information: https://igel.wharton.upenn.edu/education/wharton-undergrad-concentration/

### Environmental Policy & Management Concentration

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<thead>
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<th>Title</th>
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### Other Wharton Requirements

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<tr>
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<th>Title</th>
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<tbody>
<tr>
<td></td>
<td>First Year Foundations</td>
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</tr>
<tr>
<td>ECON 010</td>
<td>Introduction to Economics for Business</td>
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<tr>
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<td>Calculus, Part I</td>
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<tr>
<td></td>
<td>Business Leadership Journey</td>
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<tr>
<td>WH 101</td>
<td>Business and You</td>
<td>0.5</td>
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<td>ACCT 101</td>
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<td></td>
<td>Global Economy, Business &amp; Society</td>
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<td></td>
<td>Technology, Innovation &amp; Analytics</td>
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<td>Liberal Arts &amp; Sciences</td>
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<td>General Education Distribution</td>
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<tr>
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<td>Select 6 courses with at least 1 course unit in each of the following categories:</td>
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</table>

### Additional Requirements
- Second semester-level Foreign Language
- PennSTART

| Business Breadth (non-concentration courses) | 3 |

### Total Course Units
33

1. For students who take ECON 001 Introduction to Micro Economics and ECON 002 Introductory Economics: Macro in place of ECON 010 Introduction to Economics for Business of these courses can be slotted for ECON 010 on the worksheet. The second course may be used to fulfill a General Education Distribution or Unrestricted Elective requirement.

2. Two can double-count as General Education Distribution courses.

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### Finance, BS

The finance concentration develops the skills necessary to work at a high level of expertise in all areas of finance, including:

- Asset management
- Commercial and investment banking in an international context
- The financial management ("treasury function") of commercial and industrial enterprises and of financial institutions
- The financial aspects of venture capital, mergers, and acquisitions
- Most aspects of management consulting in both domestic and international sectors

Concentrating in finance also equips students well for careers in law and government in addition to the private sector.

For more information: finance.wharton.upenn.edu

### Finance Concentration

<table>
<thead>
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<th>Code</th>
<th>Title</th>
<th>Course Units</th>
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<td>FNCE 207</td>
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<td>FNCE 208</td>
<td>International Corporate Finance</td>
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</tbody>
</table>
Global Analysis, BS

FNCE 209  Real Estate Investment: Analysis and Financing
FNCE 219  International Financial Markets
FNCE 220  International Banking
FNCE 230  Urban Fiscal Policy
FNCE 235  Fixed Income Securities
FNCE 238  Capital Markets
FNCE 239  Behavioral Finance
FNCE 250  Venture Capital and the Finance of Innovation
FNCE 251  The Finance of Buyouts and Acquisitions
FNCE 254  Impact Investing
FNCE 256  Finance Energy
FNCE 383  Strategic Equity Finance
FNCE 385  ASP - Fin-Tech
FNCE 386  ASP - Hedge Funds
FNCE 387  ASP - Shareholder Activism
FNCE 397  Finance In The Middle East & North Africa
FNCE 399  Supervised Study in Finance

Other Wharton Requirements

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Course Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>ECON 010</td>
<td>Introduction to Economics for Business ¹</td>
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</tr>
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<td>or MATH 104</td>
<td>Calculus, Part I</td>
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</tr>
<tr>
<td>or MATH 110</td>
<td>Calculus for Wharton Students</td>
<td></td>
</tr>
</tbody>
</table>

Business Leadership Journey

| WH 101   | Business and You                                         | 0.5          |
| WH 201   | Management Communication: Persuasive Speaking and Writing for Business | 0.5 |
| WH301    | Teamwork/Interpersonal Dynamics                           | 0.5          |
| Capstone Course/Project                         | 0.5          |

Fundamentals

| ACCT 101 | Principles of Accounting I                               | 1            |
| ACCT 102 | Managerial Accounting                                    | 1            |
| BEPP 250 | Managerial Economics                                     | 1            |
| FNCE 100 | Corporate Finance                                        | 1            |
| FNCE 101 | Monetary Economics and the Global Economy                | 1            |
| LGST 100 | Ethics and Social Responsibility                         | 1            |
| or LGST 101 | Law and Social Values                                    |              |
| MGMT 101 | Introduction To Management                               | 1            |
| MKTG 101 | Introduction to Marketing                                | 1            |
| OIDD 101 | An Introduction to Operations, Information and Decisions | 1            |
| STAT 101 | Introductory Business Statistics                         | 1            |
| STAT 102 | Introductory Business Statistics                         | 1            |

Global Economy, Business & Society

Select one course

Technology, Innovation & Analytics

Select one course

Liberal Arts & Sciences

General Education Distribution

Select 6 courses with at least 1 course unit in each of the following categories:

- Humanities
- Natural Science, Math & Engineering
- Social Science

Cross-Cultural Perspectives

Select 3 courses ²

Writing

Critical Writing Seminar

Unrestricted Electives

Select five courses

Additional Requirements

- Second semester-level Foreign Language

PennSTART

Business Breadth (non-concentration courses)

Select five courses

Total Course Units

1  For students who take ECON 001 Introduction to Micro Economics and ECON 002 Introductory Economics: Macro in place of ECON 010 Introduction to Economics for Business of these courses can be slotted for ECON 010 on the worksheet. The second course may be used to fulfill a General Education Distribution or Unrestricted Elective requirement.

2  Two can double-count as General Education Distribution courses.

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Global Analysis, BS

The global analysis (GLAN) secondary concentration permits Wharton students to extend their understanding of the global economy as it applies to firms. One may think of it as a broad concentration in international business.

For more information: https://undergrad-inside.wharton.upenn.edu/concentrations/glan/

Global Analysis Concentration

Secondary concentration only.

Study Abroad for at least one semester.

Select one Upper Level Language course

Select three GLAN courses

Primary Concentration

Select one course

Secondary Concentration Requirements ¹

Select one Upper Level Language course

Select three GLAN courses
Other Wharton Requirements

Total Course Units 33

1 One course unit from the secondary concentration will double count as a Business Breadth Requirement.
Three course units from the secondary concentration will double count as Unrestricted Electives.

Other Wharton Requirements

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
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</tr>
</thead>
<tbody>
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<td></td>
<td>ECON 010 Introduction to Economics for Business</td>
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<td></td>
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<td></td>
<td>or LGST 101 Law and Social Values</td>
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<td>MKTG 101 Introduction To Marketing</td>
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<tr>
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<td>OIDD 101 An Introduction To Operations, Information and Decisions</td>
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<tr>
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<td>STAT 101 Introductory Business Statistics</td>
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<td>STAT 102 Introductory Business Statistics</td>
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Additional Requirements

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<td>Business Breadth (non-concentration courses)</td>
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Total Course Units 33

1 For students who take ECON 001 Introduction to Micro Economics and ECON 002 Introductory Economics: Macro in place of ECON 010 Introduction to Economics for Business of these courses can be slotted for ECON 010 on the worksheet. The second course may be used to fulfill a General Education Distribution or Unrestricted Elective requirement.
2 Two can double-count as General Education Distribution courses.

The degree and major requirements displayed are intended as a guide for students entering in the Fall of 2017 and later. Students should consult with their academic program regarding final certifications and requirements for graduation.

Health Care Management and Policy, BS

The concentration in health care management and policy focuses on the management, financing, and economics of the health care sector. Students learn about health care markets and factors that significantly influence decision making both at the policy level and at the level of the firm or organization. The health care sector includes government agencies, non-profit institutions, major private corporations, medical practices and partnerships, and many small and early-stage health care service and product firms.

This concentration prepares students for careers as managers in health care companies or health care service firms such as consulting, banking or health care IT companies, or government agencies. Students planning careers in the health professions such as medicine, nursing, or dentistry have found the concentration very useful in understanding the context in which they will be working.

For more information: hcmg.wharton.upenn.edu

Health Care Management and Policy Concentration

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<td>HCMG 203 Clinical Issues in Health Care Management: Doctors, Patients and Managers in Modern Society</td>
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<td>HCMG 211 Legal Aspects of Health Care</td>
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<td>HCMG 212 Health Care Quality and Outcomes: Measurement and Management</td>
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### Other Wharton Requirements

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<td>Calculus, Part I</td>
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<td>or MATH 110</td>
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<td>BEPP 250</td>
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<td>FNCE 100</td>
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<td>FNCE 101</td>
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<td>LGST 100</td>
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<td>or LGST 101</td>
<td>Law and Social Values</td>
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<td>An Introduction to Operations, Information and Decisions</td>
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<td>STAT 101</td>
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<td>STAT 102</td>
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<td><strong>Technology, Innovation &amp; Analytics</strong></td>
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### Additional Requirements

- **Second semester-level Foreign Language**
- **PennSTART**

### Business Breadth (non-concentration courses)

Total Course Units: 33

1. For students who take ECON 001 Introduction to Micro Economics and ECON 002 Introductory Economics: Macro in place of ECON 010 Introduction to Economics for Business of these courses can be slotted for ECON 010 on the worksheet. The second course may be used to fulfill a General Education Distribution or Unrestricted Elective requirement.

2. Two can double-count as General Education Distribution courses.

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### Individualized, BS

Students have the option to design an individualized concentration if they cannot find a standard concentration that aligns with their interests. An individualized concentration consists of four CUs that are united by a common theme. An established concentration may also be tailored, with approval from the concentration advisor, to specific student interests by replacing a required course with one not on the list of courses that traditionally defines the concentration.

Students should note that (1) at least three of the courses must be business courses, and (2) a faculty member from the Wharton academic department most closely associated with the individualized concentration must sign off on the proposal.

Students who wish to pursue an individualized concentration should complete the following steps:

1. Consult with an academic adviser in the Undergraduate Division to discuss your proposal prior to submission.
2. Fill out the Individualized Concentration Proposal form.
3. Submit the completed form to the front desk in the Wharton Undergraduate Division (G95 Huntsman Hall).

For more information: http://undergrad.wharton.upenn.edu/academics/
Individualized Concentration (WIDV)

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¹ WIDV must be approved by faculty member and Wharton Undergraduate Division.

Other Wharton Requirements

<table>
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<td>or MATH 110</td>
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Unrestricted Electives

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¹ For students who take ECON 001 Introduction to Micro Economics and ECON 002 Introductory Economics: Macro in place of ECON 010 Introduction to Economics for Business of these courses can be slotted for ECON 010 on the worksheet. The second course may be used to fulfill a General Education Distribution or Unrestricted Elective requirement.

² Two can double-count as General Education Distribution courses.

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Legal Studies & Business Ethics, BS

The Legal Studies and Business Ethics Concentration focuses on the social values, moral concerns, and legal considerations that are essential aspects of business decision making in our global market system. The courses students take in this program help them explore how responsible business leaders can engage ethically and effectively with diverse cultures, corporate stakeholders, government regulators, and legal systems. Of special value to students seeking to broaden their business education, this concentration will help them acquire essential, non-quantitative reasoning skills that are required when leaders face difficult choices under conditions of empirical uncertainty and/or moral ambiguity – a frequent occurrence in fast-moving market economies.

Students pursuing this concentration will gain a number of analytic skills, including:

- Identifying moral and legal issues hidden within complex, culturally rich fact patterns
- Reasoning from moral principles to specific ethical and legal conclusions
- Reasoning by analogy between like cases and situations
- Arguing from authoritative rules and precedents to specific, logically consistent recommendations for action

For more information: https://lgst.wharton.upenn.edu/programs/undergraduate/

Legal Studies & Business Ethics Concentration

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LGST 204  Real Estate Law
LGST 205  Law of Marketing and Antitrust
LGST 206  Negotiations
LGST 207  The Sports Industry: Business and Legal Aspects
LGST 208  The Law at Work: Employment Law for Managers
LGST 211  Legal Aspects of Health Care
LGST 212  Economic Analysis of Law
LGST 213  Legal Aspect of Entrepreneurship
LGST 214  International Business Transactions
LGST 215  Environmental Management: Law & Policy
LGST 216  Emerging Economies
LGST 218  Diversity and the Law
LGST 219  Law and Policy in International Business
LGST 220  International Business Ethics
LGST 221  Constitutional Law and Free Enterprise
LGST 222  Internet Law & Policy
LGST 223  Securities Regulation
LGST 224  Human Rights and Globalization
LGST 226  Markets, Morality & the Future of Capitalism
LGST 227  Literature of Success
LGST 228  Sports Law
LGST 229  Women Law & Politics Mena
LGST 230  Social Impact and Responsibility: Foundations
LGST 231  Sports Ventures & Social Impact
LGST 240  Gamification for Business
LGST 241  Theories of the Business Enterprise
LGST 292  Advanced Negotiations
LGST 299  Seminar in Law and Society

Other Wharton Requirements

<table>
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<td>MATH 104</td>
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| or MATH 110 | Calculus for Wharton Students | |}

Total Course Units: 37

For students who take ECON 001 Introduction to Micro Economics and ECON 002 Introductory Economics: Macro in place of ECON 010 Introduction to Economics for Business of these courses can be slotted for ECON 010 on the worksheet. The second course may be used to fulfill a General Education Distribution or Unrestricted Elective requirement.

1 Two can double-count as General Education Distribution courses.

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Management: Entrepreneurship and Innovation Track, BS

The Management–Entrepreneurship and Innovation concentration combines theory with practice, providing you with the skills and analytic tools to test theories, models, and strategies learned in the classroom on real ventures. Whether you want to start your own business, join a startup, scale a growing venture, or pursue a career in innovation management, the concentration prepares you for a variety of exciting options. Entrepreneurial and innovative skills are actively sought by competitive and profitable growing businesses.

For more information: https://mgmt.wharton.upenn.edu/programs/undergraduate/management-specializations/entrepreneurship-and-innovation/

Management Concentration - Entrepreneurship and Innovation Track

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<td>Market Dynamics and Technical Change</td>
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<td>MGMT 231</td>
<td>Entrepreneurial Venture Initiation</td>
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<td>MGMT 233</td>
<td>Strategies and Practices of Family-Controlled Companies</td>
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</tbody>
</table>

1 MGMT 235 Technological Innovation and Entrepreneurship is open to M&T students only.

2 Students may petition to substitute other courses toward the requirements of the major. Such requests will be expected to demonstrate that the student is pursuing a coherent plan of entrepreneurship and innovation studies at Wharton. Petitions should be sent in writing to the Entrepreneurship and Innovation academic advisor, Nellie Gaynor at nelliebk@wharton.upenn.edu. Other courses cannot exceed 1.0 cu equivalent of Wharton coursework. Only 1 cu of Independent Study Project or Advanced Student Project including Global Modular Courses or MKTG890, Global Consulting Practicum, can be counted toward the major and must have approval by the department.

Other Wharton Requirements

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Course Units</th>
</tr>
</thead>
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<tr>
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<td>or MATH 110</td>
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<td>1</td>
</tr>
<tr>
<td>or MATH 104</td>
<td>Calculus for Wharton Students</td>
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</tr>
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<td>ACCT 101</td>
<td>Principles of Accounting I</td>
<td>1</td>
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<tr>
<td>ACCT 102</td>
<td>Managerial Accounting</td>
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<tr>
<td>BEPP 250</td>
<td>Managerial Economics</td>
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<tr>
<td>FNCE 100</td>
<td>Corporate Finance</td>
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<tr>
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<td>Monetary Economics and the Global Economy</td>
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<tr>
<td>LGST 100</td>
<td>Ethics and Social Responsibility</td>
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<td>or LGST 101</td>
<td>Law and Social Values</td>
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<tr>
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<td>Introduction To Management</td>
<td>1</td>
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<tr>
<td>MKTG 101</td>
<td>Introduction to Marketing</td>
<td>1</td>
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<tr>
<td>OIDD 101</td>
<td>An Introduction to Operations, Information and Decisions</td>
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<tr>
<td>STAT 101</td>
<td>Introductory Business Statistics</td>
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<td>STAT 102</td>
<td>Introductory Business Statistics</td>
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<td>OIDD 236</td>
<td>SCALING OPERATIONS IN TECHNOLOGY VENTURES: Linking Strategy and Execution</td>
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<td>OIDD 314</td>
<td>Enabling Technologies</td>
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<td>OIDD 415</td>
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<td>REAL 396</td>
<td>Real Estate Entrepreneur</td>
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<td>Select one course</td>
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<tr>
<td>Select one course</td>
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<tr>
<td>Select 6 courses with at least 1 course unit in each of the following categories:</td>
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<td>Humanities</td>
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<tr>
<td>Natural Science, Math &amp; Engineering</td>
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<td>Social Science</td>
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<tr>
<td>Cross-Cultural Perspectives</td>
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<tr>
<td>Select 3 courses 2</td>
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</table>
Management: General Track, BS

The Management Department offers courses and experience to students who want careers in management or to take on major challenges and responsibilities in private, public, and not-for-profit organizations.

For more information: https://mgmt.wharton.upenn.edu/programs/undergraduate/management-concentration/

Management Concentration - General Track

<table>
<thead>
<tr>
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<td>MGMT 230</td>
<td>Entrepreneurship</td>
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<td>Technological Innovation and Entrepreneurship</td>
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<td>MGMT 238</td>
<td>Organizational Behavior</td>
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<td>or MGMT 27</td>
<td>Power and Politics in Organizations</td>
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Select two electives: 2

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<thead>
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<td>MGMT 205</td>
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<tr>
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<td>Competitive Strategy</td>
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The degree and major requirements displayed are intended as a guide for students entering in the Fall of 2017 and later. Students should consult with their academic program regarding final certifications and requirements for graduation.

Other Wharton Requirements

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<td>First Year Foundations</td>
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<td>Introduction to Economics for Business 1</td>
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<td>or MATH 110</td>
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<td></td>
<td>Business</td>
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<tr>
<td></td>
<td>Leadership Journey</td>
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<td>WH 101</td>
<td>Business and You</td>
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<tr>
<td>WH 201</td>
<td>Management Communication: Persuasive Speaking and Writing for Business</td>
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<tr>
<td>WH 301</td>
<td>Teamwork/Interpersonal Dynamics</td>
<td>0.5</td>
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<tr>
<td></td>
<td>Fundamentals</td>
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<tr>
<td>ACCT 101</td>
<td>Principles of Accounting I</td>
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</tr>
<tr>
<td>ACCT 102</td>
<td>Managerial Accounting</td>
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<tr>
<td>BEPP 250</td>
<td>Managerial Economics</td>
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<td>FNCE 100</td>
<td>Corporate Finance</td>
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</table>
FNCE 101 Monetary Economics and the Global Economy 1
LGST 100 Ethics and Social Responsibility 1
or LGST 101 Law and Social Values 1
MKTG 101 Introduction To Management 1
MKTG 101 Introduction to Marketing 1
OIDD 101 An Introduction to Operations, Information and Decisions 1
STAT 101 Introductory Business Statistics 1
STAT 102 Introductory Business Statistics 1

Global Economy, Business & Society
Select one course 1

Technology, Innovation & Analytics
Select one course 1

Liberal Arts & Sciences
General Education Distribution
Select 6 courses with at least 1 course unit in each of the following categories: 6

- Humanities
- Natural Science, Math & Engineering
- Social Science

Cross-Cultural Perspectives
Select 3 courses 2

Writing
Critical Writing Seminar 1

Unrestricted Electives
Select five courses 5

Additional Requirements
Second semester-level Foreign Language
PennSTART

Business Breadth (non-concentration courses) 3

Total Course Units 33

1 For students who take ECON 001 Introduction to Micro Economics and ECON 002 Introductory Economics: Macro in place of ECON 010 Introduction to Economics for Business of these courses can be slotted for ECON 010 on the worksheet. The second course may be used to fulfill a General Education Distribution or Unrestricted Elective requirement.

2 Two can double-count as General Education Distribution courses.

For more information: https://mgmt.wharton.upenn.edu/programs/undergraduate/management-specializations/multinational-management/

Management - Multinational Management Track

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<thead>
<tr>
<th>Code</th>
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<tbody>
<tr>
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<td>Multinational Management</td>
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Select one MGMT Core course from the following: 1

- MGMT 104 Industrial Relations and Human Resource Management
- MGMT 111 Multinational Management
- MGMT 223 Business Strategy
- MGMT 230 Entrepreneurship
- MGMT 235 Technological Innovation and Entrepreneurship
- MGMT 238 Organizational Behavior
- MGMT 239 Power and Politics in Organizations

Select two of the following: 2

- MGMT 205 Multinational Corporate Strategies
- MGMT 208 Globalization and International Political Economy
- MGMT 209 The Political Environment of the Multinational Firm
- MGMT 234 International Comparative Management: The Challenge of Diversity and Integration

Other Wharton Requirements 33

Total Course Units 37

Other Wharton Requirements

<table>
<thead>
<tr>
<th>Code</th>
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<tr>
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<td>or MATH 110</td>
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Business

Leadership Journey

<table>
<thead>
<tr>
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<th>Title</th>
<th>Course Units</th>
</tr>
</thead>
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<td>Business and You</td>
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<td>WH 201</td>
<td>Management Communication: Persuasive Speaking and Writing for Business</td>
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<td>WH301</td>
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<td>Capstone Course/Project</td>
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Fundamentals

<table>
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<tr>
<th>Code</th>
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<tbody>
<tr>
<td>ACCT 101</td>
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</tr>
<tr>
<td>BEPP 250</td>
<td>Managerial Economics</td>
<td>1</td>
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</tbody>
</table>

Management: Multinational Management Track, BS

The specialization in Multinational Management provides students with the toolkit to understand how global economic, political, and social forces influence the competitive environment of the firm. Topics include international trade, foreign investment and acquisitions, stakeholder engagement, political risk, foreign market entry, global teams, and global strategy. Students will learn how to evaluate the international environment and to operate in an increasingly complex global business landscape that shapes a variety of industries (e.g., consulting, financial services, real estate, social enterprise) and functions (e.g. strategic, technological, general or project management, business development, communications or marketing) at companies both large and small.

The degree and major requirements displayed are intended as a guide for students entering in the Fall of 2017 and later. Students should consult with their academic program regarding final certifications and requirements for graduation.
Management: Organizational Effectiveness Track, BS

A concentration in management prepares students to take on major managerial challenges and responsibilities in private, public, and nonprofit organizations. Students can pursue a general management concentration or choose from specialized tracks in strategic management, multinational management, organizational effectiveness, and entrepreneurship and innovation.

For more information: https://mgmt.wharton.upenn.edu/programs/undergraduate/management-specializations/organizational-effectiveness/

Management Concentration - Organizational Effectiveness Track

<table>
<thead>
<tr>
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<th>Title</th>
<th>Course Units</th>
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<tbody>
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<td>MGMT 238</td>
<td>Organizational Behavior</td>
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<tr>
<td>or MGMT 272</td>
<td>Power and Politics in Organizations</td>
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<tr>
<td>Select two of the following:</td>
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<tr>
<td>MGMT 240</td>
<td>Group Dynamics</td>
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<td>MGMT 242</td>
<td>Corporate Governance, Executive Compensation and the Board</td>
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<td>MGMT 244</td>
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<td>MGMT 291</td>
<td>Negotiations</td>
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<td>Total Course Units</td>
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Other Wharton Requirements

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<td>ACCT 101</td>
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<td>or LGST 101</td>
<td>Law and Social Values</td>
<td>1</td>
</tr>
<tr>
<td>MGMT 101</td>
<td>Introduction To Management</td>
<td>1</td>
</tr>
<tr>
<td>MKTG 101</td>
<td>Introduction to Marketing</td>
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<tr>
<td>OIDD 101</td>
<td>An Introduction to Operations, Information and Decisions</td>
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<td>STAT 101</td>
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<td>STAT 102</td>
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</table>

The degree and major requirements displayed are intended as a guide for students entering in the Fall of 2017 and later. Students should consult with their academic program regarding final certifications and requirements for graduation.
Global Economy, Business & Society
Select one course 1

Technology, Innovation & Analytics
Select one course 1

Liberal Arts & Sciences

General Education Distribution
Select 6 courses with at least 1 course unit in each of the following categories:

- Humanities
- Natural Science, Math & Engineering
- Social Science

Cross-Cultural Perspectives
Select 3 courses 2

Writing
Critical Writing Seminar
Unrestricted Electives
Select five courses 5

Additional Requirements
- Second semester-level Foreign Language
- PennSTART

Business Breadth (non-concentration courses) 3

Total Course Units 33

1 For students who take ECON 001 Introduction to Micro Economics and ECON 002 Introductory Economics: Macro in place of ECON 010 Introduction to Economics for Business of these courses can be slotted for ECON 010 on the worksheet. The second course may be used to fulfill a General Education Distribution or Unrestricted Elective requirement.  

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The degree and major requirements displayed are intended as a guide for students entering in the Fall of 2017 and later. Students should consult with their academic program regarding final certifications and requirements for graduation.

Management Concentration - Strategic Management Track

<table>
<thead>
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<td>MGMT 230</td>
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<td>MGMT 238</td>
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<td>or MGMT 273</td>
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Select two of the following:

<table>
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<tbody>
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<td>MGMT 211</td>
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<tr>
<td>MGMT 225</td>
<td>Value Creation and Value Capture in American Business History</td>
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<td>MGMT 237</td>
<td>Management of Technology</td>
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<td>MGMT 242</td>
<td>Corporate Governance, Executive Compensation and the Board</td>
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<td>MGMT 249</td>
<td>Mergers and Acquisitions</td>
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<tr>
<td>MGMT 251</td>
<td>Consulting to Growth Companies</td>
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Other Wharton Requirements 33

Total Course Units 36

Other Wharton Requirements

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<th>Code</th>
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<th>Course Units</th>
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<tr>
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Business Leadership Journey

<table>
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<tr>
<td>WH 201</td>
<td>Management Communication: Persuasive Speaking and Writing for Business</td>
<td>0.5</td>
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Fundamentals

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<td>FNCE 100</td>
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Ethics and Social Responsibility

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Introduction To Management

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</table>

An Introduction to Operations, Information and Decisions

For more information: https://mgmt.wharton.upenn.edu/programs/undergraduate/management-specializations/strategic-management/
Managing E-Commerce, BS

The secondary concentration in electronic commerce is intended to complement primary concentrations by providing students with an additional capability to understand, analyze, and participate in electronic commerce and electronic business activities in new and established firms. To pursue the concentration in electronic commerce, students must have also declared a primary concentration.

For more information: https://undergrad-inside.wharton.upenn.edu/concentrations/ecom/

Managing E-Commerce Concentration
Secondary concentration only.

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Course Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>OIDD 311</td>
<td>Business Computer Languages</td>
<td></td>
</tr>
<tr>
<td>OIDD 469</td>
<td>Information Strategy and Economics</td>
<td></td>
</tr>
<tr>
<td>MGMT 223</td>
<td>Business Strategy</td>
<td></td>
</tr>
<tr>
<td>MGMT 264</td>
<td>Venture Capital and Entrepreneurial Management</td>
<td></td>
</tr>
<tr>
<td>FNCE 250</td>
<td>Venture Capital and the Finance of Innovation</td>
<td></td>
</tr>
<tr>
<td>LGST 222</td>
<td>Internet Law &amp; Policy</td>
<td></td>
</tr>
<tr>
<td>MGMT 223</td>
<td>Business Strategy</td>
<td></td>
</tr>
<tr>
<td>MGMT 237</td>
<td>Management of Technology</td>
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</tr>
<tr>
<td>MGMT 264</td>
<td>Venture Capital and Entrepreneurial Management</td>
<td></td>
</tr>
<tr>
<td>MKTG 227</td>
<td>Digital Marketing and Electronic Commerce</td>
<td></td>
</tr>
<tr>
<td>OIDD 314</td>
<td>Enabling Technologies</td>
<td></td>
</tr>
<tr>
<td>OIDD 316</td>
<td>Systems Analysis, Design, and Implementation</td>
<td></td>
</tr>
</tbody>
</table>

1 One course unit from the secondary concentration will double count as a Business Breadth Requirement.
Three course units from the secondary concentration will double count as Unrestricted Electives.

Other Wharton Requirements

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Course Units</th>
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<tbody>
<tr>
<td>ECON 010</td>
<td>Introduction to Economics for Business</td>
<td>1</td>
</tr>
<tr>
<td>MATH 104</td>
<td>Calculus, Part I</td>
<td>1</td>
</tr>
<tr>
<td>or MATH 110</td>
<td>Calculus for Wharton Students</td>
<td></td>
</tr>
<tr>
<td>WH 101</td>
<td>Business and You</td>
<td>0.5</td>
</tr>
<tr>
<td>WH 201</td>
<td>Management Communication: Persuasive Speaking and Writing for Business</td>
<td>0.5</td>
</tr>
<tr>
<td>WH301</td>
<td>Teamwork/Interpersonal Dynamics</td>
<td>0.5</td>
</tr>
<tr>
<td>Capstone Course/Project</td>
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</tbody>
</table>

Fundamentals

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Course Units</th>
</tr>
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<tbody>
<tr>
<td>ACCT 101</td>
<td>Principles of Accounting I</td>
<td>1</td>
</tr>
<tr>
<td>ACCT 102</td>
<td>Managerial Accounting</td>
<td>1</td>
</tr>
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<td>BEPP 250</td>
<td>Managerial Economics</td>
<td>1</td>
</tr>
<tr>
<td>FNCE 100</td>
<td>Corporate Finance</td>
<td>1</td>
</tr>
<tr>
<td>FNCE 101</td>
<td>Monetary Economics and the Global Economy</td>
<td>1</td>
</tr>
<tr>
<td>LGST 100</td>
<td>Ethics and Social Responsibility</td>
<td>1</td>
</tr>
<tr>
<td>or LGST 101</td>
<td>Law and Social Values</td>
<td></td>
</tr>
<tr>
<td>MGMT 101</td>
<td>Introduction To Management</td>
<td>1</td>
</tr>
<tr>
<td>MKTG 101</td>
<td>Introduction to Marketing</td>
<td>1</td>
</tr>
</tbody>
</table>
Students who wish to pursue a second concentration in communication must first declare a primary concentration in marketing. The concentration in communication may not be used as a primary or sole concentration.

For more information: https://undergrad-inside.wharton.upenn.edu/concentrations/mkcm/

### Marketing & Communication - Dual Concentration

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Course Units</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>Marketing &amp; Communication - Dual Concentration Requirements 1</td>
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<tr>
<td>COMM 125</td>
<td>Introduction to Communication Behavior</td>
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</tr>
<tr>
<td>COMM 130</td>
<td>Media Industries and Society</td>
<td></td>
</tr>
</tbody>
</table>

Select two of the following electives:

- COMM 230 Advertising and Society
- COMM 237 Health Communication
- COMM 262 Visual Communication
- COMM 275 Communication and Persuasion
- COMM 299 Communications Internship
- COMM 339 Critical Perspectives in Journalism
- COMM 350 Non-Verbal Communication
- COMM 399 Independent Study

Primary Marketing Concentration 2 4

Other Wharton Requirements 33

Total Course Units 37

1. One course unit from the Dual Concentration will double count as a General Education Requirement.
3. Three course units from the Dual Concentration will double count as Unrestricted Electives.
2. The Primary Marketing Concentration Requirements (p. 225) can be found here.

### Other Wharton Requirements

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Course Units</th>
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<td>First Year Foundations</td>
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<td>ECON 010</td>
<td>Introduction to Economics for Business 1</td>
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<td>MATH 104</td>
<td>Calculus, Part I</td>
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<tr>
<td>or MATH 110</td>
<td>Calculus for Wharton Students</td>
<td></td>
</tr>
</tbody>
</table>

**Business**

**Leadership Journey**

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Course Units</th>
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</thead>
<tbody>
<tr>
<td>WH 101</td>
<td>Business and You</td>
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<td>WH 201</td>
<td>Management Communication: Persuasive Speaking and Writing for Business</td>
<td>0.5</td>
</tr>
<tr>
<td>WH 301</td>
<td>Teamwork/Interpersonal Dynamics</td>
<td>0.5</td>
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</table>

**Capstone Course/Project**

0.5

**Fundamentals**

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Course Units</th>
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<td>ACCT 101</td>
<td>Principles of Accounting I</td>
<td>1</td>
</tr>
<tr>
<td>ACCT 102</td>
<td>Managerial Accounting</td>
<td>1</td>
</tr>
<tr>
<td>BEPP 250</td>
<td>Managerial Economics</td>
<td>1</td>
</tr>
</tbody>
</table>

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The degree and major requirements displayed are intended as a guide for students entering in the Fall of 2017 and later. Students should consult with their academic program regarding final certifications and requirements for graduation.

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### Marketing & Communication, BS

Marketing professionals must understand the communication process and the most effective methods of conveying information, regardless of whether they intend to focus on advertising, the development of web-based initiatives, or the conduct of market research. Students in this dual concentration will augment their understanding of the core concepts taught in their marketing courses and be better prepared for employment or graduate study. The dual concentration in marketing and communication allows Wharton students concentrating in marketing to take four courses in the Annenberg School of Communication and have this cluster of courses recognized on their transcript as a second concentration.
The degree and major requirements displayed are intended as a guide for students entering in the Fall of 2017 and later. Students should consult with their academic program regarding final certifications and requirements for graduation.

Marketing & Operations Management, BS

The Marketing and Operations Management joint concentration emphasizes the importance of partnership between marketing and operations for new product development (NPD) in light of the fact that NPD is a critical company effort highly dependent on internal innovation processes. Given the complexity of these processes, the insights provided by cross-disciplinary collaboration can be particularly beneficial in many efforts, including:

- Creativity-based new product development
- Innovation in service manufacturing and new service development
- Customer response to next-generation products
- The use of conjoint analysis in engineering designs
- Platform-owner market entry
- Design-intensive innovation

For more information: https://marketing.wharton.upenn.edu/programs/undergraduate/marketing-and-operations-management-joint-concentration/

### Marketing & Operations Management Concentration

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Course Units</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>Required OIDD Courses</td>
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<tr>
<td>OIDD 220</td>
<td>Introduction to Operations Management</td>
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<tr>
<td>OIDD 224</td>
<td>Analytics for Service Operations</td>
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<tr>
<td>OIDD 240</td>
<td>Gamification for Business</td>
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<tr>
<td>OIDD 314</td>
<td>Enabling Technologies</td>
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</tr>
<tr>
<td>OIDD 415</td>
<td>Product Design</td>
<td></td>
</tr>
<tr>
<td>OIDD 416</td>
<td>Design and Development of Web-Based Products and Services</td>
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<tr>
<td></td>
<td>Required MKTG Courses</td>
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<tr>
<td>MKTG 221</td>
<td>New Product Management</td>
<td></td>
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<tr>
<td>MKTG 225</td>
<td>Principles of Retailing</td>
<td></td>
</tr>
<tr>
<td>MKTG 227</td>
<td>Digital Marketing and Electronic Commerce</td>
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<tr>
<td>MKTG 234</td>
<td>Idea Generation &amp; the Systematic Approach for Creativity</td>
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<tr>
<td>MKTG 251</td>
<td>Sales Force Management</td>
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</tr>
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<td>MKTG 254</td>
<td>Pricing Policy</td>
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<tr>
<td>MKTG 262</td>
<td>New Product Development</td>
<td></td>
</tr>
<tr>
<td>MKTG 270</td>
<td>Digital Marketing, Social Media and E-Commerce</td>
<td></td>
</tr>
<tr>
<td>MKTG 271</td>
<td>Models for Marketing Strategy</td>
<td></td>
</tr>
<tr>
<td>MKTG 277</td>
<td>Marketing Strategy</td>
<td></td>
</tr>
<tr>
<td>MKTG 288</td>
<td>Pricing Strategies</td>
<td></td>
</tr>
<tr>
<td>MKTG 292</td>
<td>Creativity</td>
<td></td>
</tr>
<tr>
<td>MKTG 476</td>
<td>Applied Probability Models for Marketing</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Other Wharton Requirements</td>
<td>33</td>
</tr>
<tr>
<td></td>
<td>Total Course Units</td>
<td>37</td>
</tr>
</tbody>
</table>

1. For students who take ECON 001 Introduction to Micro Economics and ECON 002 Introductory Economics: Macro in place of ECON 010 Introduction to Economics for Business of these courses can be slotted for ECON 010 on the worksheet. The second course may be used to fulfill a General Education Distribution or Unrestricted Elective requirement.

2. Two can double-count as General Education Distribution courses.
You may not take both the mini course version (0.5 cu) and full term version (1.0 cu) of the same course topic for credit. Specifically, if you take MKTG 221 New Product Management, you may not also take MKTG 262 New Product Development. If you take MKTG 254 Pricing Policy you may not also take MKTG 288 Pricing Strategies. If you take MKTG 227 Digital Marketing and Electronic Commerce, you may not also take MKTG 270 Digital Marketing, Social Media and E-Commerce. If you take MKTG 292 Creativity you may not also take MKTG 234 Idea Generation & the Systematic Approach for Creativity.

Other Wharton Requirements

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Course Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>ECON 010</td>
<td>Introduction to Economics for Business</td>
<td>1</td>
</tr>
<tr>
<td>MATH 104</td>
<td>Calculus, Part I</td>
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</tr>
<tr>
<td>or MATH 110</td>
<td>Calculus for Wharton Students</td>
<td></td>
</tr>
</tbody>
</table>

Business Leadership Journey

| WH 101 | Business and You                             | 0.5          |
| WH 201 | Management Communication: Persuasive Speaking and Writing for Business | 0.5          |
| WH301  | Teamwork/Interpersonal Dynamics              | 0.5          |
| Capstone Course/Project                      | 0.5          |

Fundamentals

<table>
<thead>
<tr>
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</thead>
<tbody>
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<tr>
<td>ACCT 102</td>
<td>Managerial Accounting</td>
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<td>BEPP 250</td>
<td>Managerial Economics</td>
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<td>FNCE 100</td>
<td>Corporate Finance</td>
<td>1</td>
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<td>FNCE 101</td>
<td>Monetary Economics and the Global Economy</td>
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<tr>
<td>LGST 100</td>
<td>Ethics and Social Responsibility</td>
<td>1</td>
</tr>
<tr>
<td>or LGST 101</td>
<td>Law and Social Values</td>
<td></td>
</tr>
<tr>
<td>MGMT 101</td>
<td>Introduction To Management</td>
<td>1</td>
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<tr>
<td>MKTG 101</td>
<td>Introduction to Marketing</td>
<td>1</td>
</tr>
<tr>
<td>OIDD 101</td>
<td>An Introduction to Operations, Information and Decisions</td>
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<tr>
<td>STAT 101</td>
<td>Introductory Business Statistics</td>
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</tr>
<tr>
<td>STAT 102</td>
<td>Introductory Business Statistics</td>
<td>1</td>
</tr>
</tbody>
</table>

Global Economy, Business & Society

Select one course

Technology, Innovation & Analytics

Select one course

Liberal Arts & Sciences

General Education Distribution

Select 6 courses with at least 1 course unit in each of the following categories:

- Humanities
- Natural Science, Math & Engineering
- Social Science

Cross-Cultural Perspectives

Select 3 courses

Writing

Critical Writing Seminar

Unrestricted Electives

Select five courses

Additional Requirements

Second semester-level Foreign Language

PennSTART

Business Breadth (non-concentration courses)

Total Course Units

1

For students who take ECON 001 Introduction to Micro Economics and ECON 002 Introductory Economics: Macro in place of ECON 010 Introduction to Economics for Business of these courses can be slotted for ECON 010 on the worksheet. The second course may be used to fulfill a General Education Distribution or Unrestricted Elective requirement.

2 Two can double-count as General Education Distribution courses.

The degree and major requirements displayed are intended as a guide for students entering in the Fall of 2017 and later. Students should consult with their academic program regarding final certifications and requirements for graduation.

Marketing, BS

Students pursuing a concentration in marketing acquire a solid grounding in applying the basic disciplines (e.g., psychology, economics, statistics) essential for understanding consumer and organizational buying patterns and developing successful marketing strategies. They also gain practical experience applying these concepts and methods via half-semester mini-courses (e.g., new product development, advertising, retailing). Many students with a marketing concentration have gone on to work in brand management, advertising, sales, marketing research, consulting, and entrepreneurial ventures.

For more information: marketing.wharton.upenn.edu

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Course Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>MKTG 211</td>
<td>Consumer Behavior</td>
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<tr>
<td>Select one of the following:</td>
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<tr>
<td>MKTG 212</td>
<td>Data and Analysis for Marketing Decisions</td>
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</tr>
<tr>
<td>MKTG 271</td>
<td>Models for Marketing Strategy</td>
<td></td>
</tr>
<tr>
<td>MKTG 309</td>
<td>Special Topics: Experiments for Business Decision Making</td>
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</tr>
<tr>
<td>MKTG 476</td>
<td>Applied Probability Models for Marketing</td>
<td></td>
</tr>
<tr>
<td>MKTG 940 &amp; MKTG 941</td>
<td>Measurement and Data Analysis in Marketing - Part A</td>
<td></td>
</tr>
<tr>
<td>&amp; MKTG 943 &amp; MKTG 944</td>
<td>and Measurement and Data Analysis in Marketing - Part B</td>
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</tr>
<tr>
<td>MKTG 942 &amp; MKTG 943</td>
<td>Research Methods in Marketing - Part A</td>
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</tr>
<tr>
<td>&amp; MKTG 944 &amp; MKTG 945</td>
<td>and Research Methods in Marketing - Part B</td>
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<tr>
<td>Select two course units from the following:</td>
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</tr>
<tr>
<td>MKTG 221</td>
<td>New Product Management</td>
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<tr>
<td>MKTG 224</td>
<td>Advertising Management</td>
<td></td>
</tr>
<tr>
<td>MKTG 225</td>
<td>Principles of Retailing</td>
<td></td>
</tr>
<tr>
<td>MKTG 227</td>
<td>Digital Marketing and Electronic Commerce</td>
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</tr>
</tbody>
</table>

The degree and major requirements displayed are intended as a guide for students entering in the Fall of 2017 and later. Students should consult with their academic program regarding final certifications and requirements for graduation.
### Operations, Information & Decisions: Decision Processes Track, BS

The Decision Processes (DP) track establishes rigorous scientific foundations for describing, predicting, and improving the processes through which individuals and groups collect data and information, form decisions, and make choices that result in outcomes of interest. Students build the mathematical and statistical skills needed to analyze data and make decisions, and they learn about the technology and data management systems used in the workplace. Students also learn how to work in teams and in interdisciplinary ways to make decisions that are of value to both the business community and society.

**Other Wharton Requirements**

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Course Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>MKTG 241</td>
<td>Entrepreneurial Marketing</td>
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<tr>
<td>MKTG 242</td>
<td>Multinational Marketing</td>
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</tr>
<tr>
<td>MKTG 251</td>
<td>Sales Force Management</td>
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</tr>
<tr>
<td>MKTG 254</td>
<td>Pricing Policy</td>
<td></td>
</tr>
<tr>
<td>MKTG 260</td>
<td>Law of Marketing and Antitrust</td>
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</tr>
<tr>
<td>MKTG 262</td>
<td>New Product Development</td>
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<tr>
<td>MKTG 265</td>
<td>Principles of Advertising</td>
<td></td>
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<tr>
<td>MKTG 266</td>
<td>Marketing for Social Impact</td>
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<tr>
<td>MKTG 268</td>
<td>Contagious: How Products, Ideas, and Behaviors Catch On</td>
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<td>Digital Marketing, Social Media and E-Commerce</td>
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<td>MKTG 274</td>
<td>Forecasting Methods for Marketing</td>
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<td>MKTG 277</td>
<td>Marketing Strategy</td>
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<td>MKTG 278</td>
<td>Strategic Brand Management</td>
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<td>Pricing Strategies</td>
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<tr>
<td>MKTG 292</td>
<td>Creativity</td>
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<tr>
<td>MKTG 302</td>
<td>SPECIAL TOPICS: Visual Aesthetics and Style in Retail Merchandising</td>
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<tr>
<td>MKTG 306</td>
<td>Special Topics: Retail Merchandising</td>
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<td>MKTG 307</td>
<td>Special Topics: Retail Designscape</td>
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<td>MKTG 309</td>
<td>Special Topics: Experiments for Business Decision Making</td>
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<td>MKTG 350</td>
<td>Special Topics - Consumer Neuroscience</td>
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<td>MKTG 351</td>
<td>Special Topics: Introduction to Brain Science for Business</td>
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<td>MKTG 352</td>
<td>Special Topics - Strategic Brand Management</td>
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<td>MKTG 353</td>
<td>Special Topics: Technology and Strategy</td>
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<td>MKTG 399</td>
<td>Independent Study</td>
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<td>Monetary Economics and the Global Economy</td>
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<td>Ethics and Social Responsibility</td>
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<tr>
<td>MKTG 101</td>
<td>Introduction to Marketing</td>
<td>1</td>
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<tr>
<td>OIDD 101</td>
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<td>STAT 101</td>
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<td>STAT 102</td>
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<tr>
<td>Global Economy, Business &amp; Society</td>
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<td>Select one course</td>
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<tr>
<td>Technology, Innovation &amp; Analytics</td>
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<td>Liberal Arts &amp; Sciences</td>
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<td>Select 6 courses with at least 1 course unit in each of the following categories:</td>
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<tr>
<td>Humanities</td>
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<tr>
<td>Natural Science, Math &amp; Engineering</td>
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<td>Social Science</td>
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<td>Cross-Cultural Perspectives</td>
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<td>Select 3 courses</td>
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<td>Unrestricted Electives</td>
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---

1. For students who take ECON 001 Introduction to Micro Economics and ECON 002 Introductory Economics: Macro in place of ECON 010 Introduction to Economics for Business of these courses can be slotted for ECON 010 on the worksheet. The second course may be used to fulfill a General Education Distribution or Unrestricted Elective requirement.

2. Two can double-count as General Education Distribution courses.

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---

**Other Wharton Requirements**

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<th>Code</th>
<th>Title</th>
<th>Course Units</th>
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<td>or MATH 110</td>
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**Business**

**Leadership Journey**

<table>
<thead>
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<th>Course Units</th>
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<tr>
<td>WH 101</td>
<td>Business and You</td>
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<tr>
<td>WH 201</td>
<td>Management Communication: Persuasive Speaking and Writing for Business</td>
<td>0.5</td>
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<tr>
<td>WH 301</td>
<td>Teamwork/Interpersonal Dynamics</td>
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**Fundamentals**

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<td>ACCT 101</td>
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</tr>
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<td>ACCT 102</td>
<td>Managerial Accounting</td>
<td>1</td>
</tr>
<tr>
<td>BEPP 250</td>
<td>Managerial Economics</td>
<td>1</td>
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</table>
judgments, and make decisions. This program examines descriptive theories and empirical research on human behavior that identify systematic biases in judgment and heuristics, or rules of thumb, that individuals and groups use to cope with complex decision-making and negotiations environments. It also examines the ways in which individuals and groups can make better decisions given their biases and information-processing limitations.

For more information: https://oid.wharton.upenn.edu/programs/undergraduate/decision-processes-track/

Operations, Information & Decisions - Decision Processes Track

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<thead>
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<td>Negotiations</td>
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Other Wharton Requirements

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<td>MATH 104</td>
<td>Calculus, Part I</td>
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<td>or MATH 110</td>
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<tr>
<td></td>
<td>Business</td>
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</tr>
<tr>
<td>WH 101</td>
<td>Business and You</td>
<td>0.5</td>
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<td>WH301</td>
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<td>Capstone Course/Project</td>
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<td>or LGST 101</td>
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<td>MKTG 101</td>
<td>Introduction to Marketing</td>
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<td>OIDD 101</td>
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<td>STAT 101</td>
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<tr>
<td>STAT 102</td>
<td>Introductory Business Statistics</td>
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Liberal Arts & Sciences

General Education Distribution

Select 6 courses with at least 1 course unit in each of the following categories: 6

- Humanities
- Natural Science, Math & Engineering
- Social Science

Cross-Cultural Perspectives

Select 3 courses 2 3

Writing

Critical Writing Seminar 1

Unrestricted Electives

Select five courses 5

Additional Requirements

- Second semester-level Foreign Language
- PennSTART

Business Breadth (non-concentration courses) 3

Total Course Units 33

1 For students who take ECON 001 Introduction to Micro Economics and ECON 002 Introductory Economics: Macro in place of ECON 010 Introduction to Economics for Business of these courses can be slotted for ECON 010 on the worksheet. The second course may be used to fulfill a General Education Distribution or Unrestricted Elective requirement.

2 Two can double-count as General Education Distribution courses.

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Operations, Information & Decisions: General Track, BS

Computer-based management systems and analytic approaches to decision making are increasingly vital to effective management in a range of industries across public and private sectors. As organizations develop and implement sophisticated decision-support systems, they increase the demand for managers who have the expertise to understand, create, and profitably exploit rapidly developing management technology. There is also a growing demand for skilled professionals who can effectively manage the operations encompassing the manufacturing and distribution of products and services.

The Operations and Information Management curriculum prepares students to meet these challenges by providing a rigorous foundation of coursework across different but complementary disciplines, including decision processes, information systems, and operations management/management science.

For more information: oid.wharton.upenn.edu
### Operations, Information & Decisions - General Track

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<td>Operations Strategy and Process Management</td>
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<td>OIDD 222</td>
<td>Internet Law &amp; Policy</td>
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<td>OIDD 223</td>
<td>Service Operations Management</td>
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<td>OIDD 224</td>
<td>Analytics for Service Operations</td>
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<td>OIDD 236</td>
<td>SCALING OPERATIONS IN TECHNOLOGY VENTURES: Linking Strategy and Execution</td>
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<td>OIDD 240</td>
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<td>OIDD 261</td>
<td>Risk Analysis and Environmental Management</td>
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<td>Environmental &amp; Energy Economics and Policy</td>
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<td>OIDD 290</td>
<td>Decision Processes</td>
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<td>OIDD 292</td>
<td>Adv Topics Negotiation</td>
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<tr>
<td>OIDD 299</td>
<td>Judg &amp; Dec Making Res Im</td>
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Other Wharton Requirements: 
- Select four of the following: 4
- Other Wharton Requirements: 33
- Total Course Units: 37

### Other Wharton Requirements

<table>
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<th>Code</th>
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<td>Introduction to Economics for Business</td>
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<tr>
<td>MATH 104</td>
<td>Calculus, Part I</td>
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<tr>
<td>or MATH 110</td>
<td>Calculus for Wharton Students</td>
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#### First Year Foundations

- Business
  - Leadership Journey
    - WH 101 Business and You 0.5
    - WH 201 Management Communication: Persuasive Speaking and Writing for Business 0.5
    - WH301 Teamwork/Interpersonal Dynamics 0.5
  - Fundamentals
    - ACCT 101 Principles of Accounting I 1
    - ACCT 102 Managerial Accounting 1
    - BEPP 250 Managerial Economics 1
    - FNCE 100 Corporate Finance 1
    - FNCE 101 Monetary Economics and the Global Economy 1
    - LGST 100 Ethics and Social Responsibility 1
    - or LGST 101 Law and Social Values 1
    - MGMT 101 Introduction To Management 1
    - MKTG 101 Introduction to Marketing 1
    - OIDD 101 An Introduction to Operations, Information and Decisions 1

#### Global Economy, Business & Society
- Select one course 1

#### Technology, Innovation & Analytics
- Select one course 1

#### Liberal Arts & Sciences

#### General Education Distribution
- Select 6 courses with at least 1 course unit in each of the following categories:
  - Humanities
  - Natural Science, Math & Engineering
  - Social Science
  - Cross-Cultural Perspectives
  - Select one course 1

#### Writing
- Critical Writing Seminar 1

#### Unrestricted Electives
- Select five courses 5

#### Additional Requirements
- Second semester-level Foreign Language 1
- PennSTART 1

Business Breadth (non-concentration courses): 3
- Total Course Units: 33

---

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2. Two can double-count as General Education Distribution courses.

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### Operations, Information & Decisions: Information Systems Track, BS

The Information Systems track is designed to provide the necessary understanding of both technical and business issues relating to information systems. The program is ideal for students interested in managing information technology, either as a technologist, a general manager, or a consultant in technology-intensive industries. The program also provides a good supplement to engineering or other technologically-sophisticated students who wish to obtain greater exposure to managerial issues or students in finance or management who wish to better understand the role of technology in their core disciplines.

For more information: https://oid.wharton.upenn.edu/programs/undergraduate/information-systems-track/
### Operations, Information & Decisions - Information Systems Track

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### Other Wharton Requirements

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<td>Introduction to Economics for Business 1</td>
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<td>MATH 104</td>
<td>Calculus, Part I</td>
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<td>or MATH 110</td>
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<td></td>
<td>Business Leadership Journey</td>
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<td>WH 101</td>
<td>Business and You</td>
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<tr>
<td>WH 201</td>
<td>Management Communication: Persuasive</td>
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<td>Speaking and Writing for Business</td>
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<td>ACCT 101</td>
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<td>Monetary Economics and the Global Economy</td>
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<td>or LGST 101</td>
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<td>MGMT 101</td>
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<td>MKTG 101</td>
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<td>Cross-Cultural Perspectives</td>
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<td>Select 3 courses 2</td>
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<td></td>
<td>Writing</td>
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</table>

Critical Writing Seminar 1

Unrestricted Electives 5

Additional Requirements

Second semester-level Foreign Language

PennSTART 3

Business Breadth (non-concentration courses) 3

Total Course Units 33

1 For students who take ECON 001 Introduction to Micro Economics and ECON 002 Introductory Economics: Macro in place of ECON 010 Introduction to Economics for Business of these courses can be slotted for ECON 010 on the worksheet. The second course may be used to fulfill a General Education Distribution or Unrestricted Elective requirement.

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### Operations, Information & Decisions: Operations Management/Management Science Track, BS

The Operations Management / Management Science track addresses central issues necessary to understand production and service operations in today's global economy. This program provides a rigorous foundation for immediate careers in consulting and analytic strategy support for companies, as well as future graduate studies in economics and business. The courses allow students to build a fundamental understanding of the tradeoffs to consider when managing the development of products and services, as well as the operations used to produce them and fulfill customer requirements.

The need to effectively manage the production of goods and services has also sparked the development of a number of useful mathematical tools. Besides their direct application to operational problems, these management science techniques have been broadly applied to a wide variety of other economic activities, from the pricing of financial instruments to decisions concerning markdown policies in retailing. For more information: https://oid.wharton.upenn.edu/programs/undergraduate/operations-management-management-science-track/

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### Operations, Information & Decisions - Operations Management/Management Science Track

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Other Wharton Requirements

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<th>Title</th>
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<td>An Introduction to Operations, Information and Decisions</td>
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</tr>
<tr>
<td>STAT 101</td>
<td>Introductory Business Statistics</td>
<td>1</td>
</tr>
<tr>
<td>STAT 102</td>
<td>Introductory Business Statistics</td>
<td>1</td>
</tr>
<tr>
<td><strong>Global Economy, Business &amp; Society</strong></td>
<td></td>
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</tr>
<tr>
<td>Select one course</td>
<td></td>
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</tr>
<tr>
<td><strong>Technology, Innovation &amp; Analytics</strong></td>
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<tr>
<td>Select one course</td>
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</tr>
<tr>
<td><strong>Liberal Arts &amp; Sciences</strong></td>
<td></td>
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</tr>
<tr>
<td>General Education Distribution</td>
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</tr>
<tr>
<td>Select 6 courses with at least 1 course unit in each of the following categories:</td>
<td></td>
<td>6</td>
</tr>
<tr>
<td>Humanities</td>
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<tr>
<td>Natural Science, Math &amp; Engineering</td>
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<tr>
<td>Social Science</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cross-Cultural Perspectives</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Select 3 courses ²</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td><strong>Writing</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Critical Writing Seminar</td>
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<td>1</td>
</tr>
<tr>
<td><strong>Unrestricted Electives</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Select five courses</td>
<td></td>
<td>5</td>
</tr>
<tr>
<td><strong>Additional Requirements</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Second semester-level Foreign Language</td>
<td></td>
<td></td>
</tr>
<tr>
<td>PennSTART</td>
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</tbody>
</table>

Total Course Units: 37

Business Breadth (non-concentration courses)

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Course Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>REAL/FNCE 209</td>
<td>Real Estate Investment: Analysis and Financing ¹</td>
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</tbody>
</table>

Select three course units from the following:

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Course Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>REAL/LGST 204</td>
<td>Real Estate Law</td>
<td>3</td>
</tr>
<tr>
<td>REAL/BEPP 206</td>
<td>Urban Public Policy &amp; Private Economic Development</td>
<td></td>
</tr>
<tr>
<td>REAL/BEPP 208</td>
<td>Housing Markets</td>
<td></td>
</tr>
<tr>
<td>REAL 215</td>
<td>Urban Real Estate Economics</td>
<td></td>
</tr>
<tr>
<td>REAL/FNCE/BEPP 230</td>
<td>Urban Fiscal Policy</td>
<td></td>
</tr>
<tr>
<td>REAL/BEPP 236</td>
<td>International Housing Comparisons</td>
<td></td>
</tr>
<tr>
<td>REAL 240</td>
<td>Advanced Real Estate Investment and Analysis</td>
<td></td>
</tr>
<tr>
<td>REAL 399</td>
<td>Student Research Seminar/Independent Study</td>
<td></td>
</tr>
<tr>
<td>REAL 321</td>
<td>Real Estate Development, (see REAL 821) ²</td>
<td></td>
</tr>
<tr>
<td>REAL 390</td>
<td>International Real Estate Comparisons</td>
<td></td>
</tr>
<tr>
<td>REAL 396</td>
<td>Real Estate Entrepreneur</td>
<td></td>
</tr>
<tr>
<td>Other Wharton Requirements</td>
<td></td>
<td>33</td>
</tr>
</tbody>
</table>

Total Course Units: 37

¹ For students who take ECON 001 Introduction to Micro Economics and ECON 002 Introductory Economics: Macro in place of ECON 010 Introduction to Economics for Business of these courses can be slotted for ECON 010 on the worksheet. The second course may be used to fulfill a General Education Distribution or Unrestricted Elective requirement.

² Two can double-count as General Education Distribution courses.

The degree and major requirements displayed are intended as a guide for students entering in the Fall of 2017 and later. Students should consult with their academic program regarding final certifications and requirements for graduation.

Real Estate, BS

The real estate concentration consists of one required course (REAL 209: Real Estate Investment: Analysis and Financing) and three electives. While the required course focuses on real estate finance, the electives allow students to explore a variety of issues related to real estate. These include real estate development, the legal aspects of real estate investment and financing, and the relationship between government policy and real estate development.

For more information: https://real-estate.wharton.upenn.edu/programs/undergraduate/undergraduate-concentration/

Real Estate Concentration

<table>
<thead>
<tr>
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<th>Title</th>
<th>Course Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>REAL/FNCE 209</td>
<td>Real Estate Investment: Analysis and Financing ¹</td>
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</table>

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</tr>
<tr>
<td>Other Wharton Requirements</td>
<td></td>
<td>33</td>
</tr>
</tbody>
</table>

Total Course Units: 37
If the student pursues concentrations in both Finance and Real Estate and elects to use REAL209/FNCE 209 towards their Finance concentration, the student must then complete an additional REAL elective (in place of REAL 209) from the approved concentration courses to complete the Real Estate concentration requirements.

Faculty permission required.

Other Wharton Requirements

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Course Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>First Year Foundations</td>
<td></td>
<td></td>
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<tr>
<td>ECON 010</td>
<td>Introduction to Economics for Business</td>
<td>1</td>
</tr>
<tr>
<td>MATH 104</td>
<td>Calculus, Part I</td>
<td>1</td>
</tr>
<tr>
<td>or MATH 110</td>
<td>Calculus for Wharton Students</td>
<td></td>
</tr>
<tr>
<td>Business Leadership Journey</td>
<td></td>
<td></td>
</tr>
<tr>
<td>WH 101</td>
<td>Business and You</td>
<td>0.5</td>
</tr>
<tr>
<td>WH 201</td>
<td>Management Communication: Persuasive Speaking and Writing for Business</td>
<td>0.5</td>
</tr>
<tr>
<td>WH301</td>
<td>Teamwork/Interpersonal Dynamics</td>
<td>0.5</td>
</tr>
<tr>
<td>Capstone Course/Project</td>
<td></td>
<td>0.5</td>
</tr>
<tr>
<td>Fundamentals</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ACCT 101</td>
<td>Principles of Accounting I</td>
<td>1</td>
</tr>
<tr>
<td>ACCT 102</td>
<td>Managerial Accounting</td>
<td>1</td>
</tr>
<tr>
<td>BEPP 250</td>
<td>Managerial Economics</td>
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<tr>
<td>FNCE 100</td>
<td>Corporate Finance</td>
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<td>FNCE 101</td>
<td>Monetary Economics and the Global Economy</td>
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</tr>
<tr>
<td>LGST 100</td>
<td>Ethics and Social Responsibility</td>
<td>1</td>
</tr>
<tr>
<td>or LGST 101</td>
<td>Law and Social Values</td>
<td></td>
</tr>
<tr>
<td>MGMT 101</td>
<td>Introduction To Management</td>
<td>1</td>
</tr>
<tr>
<td>MKTG 101</td>
<td>Introduction to Marketing</td>
<td>1</td>
</tr>
<tr>
<td>OIDD 101</td>
<td>An Introduction to Operations, Information and Decisions</td>
<td>1</td>
</tr>
<tr>
<td>STAT 101</td>
<td>Introductory Business Statistics</td>
<td>1</td>
</tr>
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<td>STAT 102</td>
<td>Introductory Business Statistics</td>
<td>1</td>
</tr>
<tr>
<td>Global Economy, Business &amp; Society</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Select one course</td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>Technology, Innovation &amp; Analytics</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Select one course</td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>Liberal Arts &amp; Sciences</td>
<td></td>
<td></td>
</tr>
<tr>
<td>General Education Distribution</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Select 6 courses with at least 1 course unit in each of the following categories:</td>
<td></td>
<td>6</td>
</tr>
<tr>
<td>Humanities</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Natural Science, Math &amp; Engineering</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Social Science</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cross-Cultural Perspectives</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>Select 3 courses</td>
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<td>2</td>
</tr>
<tr>
<td>Writing</td>
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<tr>
<td>Critical Writing Seminar</td>
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<tr>
<td>Unrestricted Electives</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Select five courses</td>
<td></td>
<td>5</td>
</tr>
</tbody>
</table>

Additional Requirements

- Second semester-level Foreign Language
- PennSTART
- Business Breadth (non-concentration courses) | 3 |

Total Course Units | 33 |

For students who take ECON 001 Introduction to Micro Economics and ECON 002 Introductory Economics: Macro in place of ECON 010 Introduction to Economics for Business of these courses can be slotted for ECON 010 on the worksheet. The second course may be used to fulfill a General Education Distribution or Unrestricted Elective requirement.

Two can double-count as General Education Distribution courses.

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Retailing, BS

The secondary concentration in retailing provides an interdisciplinary overview of the retailing industry, combining courses in core retailing skills with industry-relevant electives from Wharton and the College of Arts & Sciences.

For more information: https://marketing.wharton.upenn.edu/programs/undergraduate/retailing-secondary-concentration/

Retailing Concentration

Secondary concentration only.

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Course Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>Secondary Concentration Requirements</td>
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<td>Principles of Retailing</td>
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<td>Retail Supply Chain Management</td>
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<td>Select one Marketing Component</td>
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<tr>
<td>Select one Operations Component</td>
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<td>Select one Design Component</td>
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<td>Other Wharton Requirements</td>
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<tr>
<td>Total Course Units</td>
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<td>37</td>
</tr>
</tbody>
</table>

One course unit from the secondary concentration will double count as a Business Breadth Requirement.

Three course units from the secondary concentration will double count as Unrestricted Electives.

Other Wharton Requirements

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Course Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>First Year Foundations</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ECON 010</td>
<td>Introduction to Economics for Business</td>
<td>1</td>
</tr>
<tr>
<td>MATH 104</td>
<td>Calculus, Part I</td>
<td>1</td>
</tr>
</tbody>
</table>
or MATH 110 Calculus for Wharton Students

**Business**

*Leadership Journey*

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>WH 101</td>
<td>Business and You</td>
<td>0.5</td>
</tr>
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<tr>
<td>Capstone Course/Project</td>
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**Fundamentals**

<table>
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<tr>
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<tr>
<td>STAT 102</td>
<td>Introductory Business Statistics</td>
<td>1</td>
</tr>
</tbody>
</table>

**Global Economy, Business & Society**

Select one course 1

**Technology, Innovation & Analytics**

Select one course 1

**Liberal Arts & Sciences**

Select 6 courses with at least 1 course unit in each of the following categories: 6

- Humanities
- Natural Science, Math & Engineering
- Social Science
- Cross-Cultural Perspectives
- Select 3 courses 2
- Writing
- Critical Writing Seminar 1
- Unrestricted Electives
- Select five courses 5

**Additional Requirements**

Second semester-level Foreign Language 1

PennSTART 1

**Business Breadth (non-concentration courses)** 3

Total Course Units 33

---

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### Social Impact & Responsibility, BS

The social impact & responsibility (SIR) concentration seeks to examine the question: “How should business enterprises and business thinking be engaged to improve society in areas not always associated with business?” SIR is an interdisciplinary field that encourages students to approach their core courses and primary concentration courses from a socially oriented perspective.

**For more information:** lgst.wharton.upenn.edu

#### Social Impact & Responsibility Concentration

Secondary concentration only.

A 2.5 minimum concentration GPA is required.

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Course Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>LGST 230</td>
<td>Social Impact and Responsibility. Foundations</td>
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</tbody>
</table>

Select one Focus Course 1

Select one Application Course 1

Select one Elective Course 1

**Experiential Component** 2

**Primary Concentration** 4

**Other Wharton Requirements** 33

Total Course Units 37

1. One course unit from the secondary concentration will double count as a Business Breadth Requirement.

2. Three course units from the secondary concentration will double count as Unrestricted Electives.

2. Approved by concentration advisor.

### Other Wharton Requirements

<table>
<thead>
<tr>
<th>Code</th>
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</tr>
</thead>
<tbody>
<tr>
<td>ECON 010</td>
<td>Introduction to Economics for Business 1</td>
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</tr>
<tr>
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**Business**

*Leadership Journey*

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1. For students who take ECON 001 Introduction to Micro Economics and ECON 002 Introductory Economics: Macro in place of ECON 010 Introduction to Economics for Business of these courses can be slotted for ECON 010 on the worksheet. The second course may be used to fulfill a General Education Distribution or Unrestricted Elective requirement.

2. Two can double-count as General Education Distribution courses.
Statistics, BS

A key challenge facing managers is the interpretation of the vast amount of data generated by computing systems. As these data do not directly answer important business questions, managers must use data analysis and statistics to interpret them. Statistics courses develop the skills and insights required to make effective use of quantitative methods, select and apply techniques, and communicate statistical results. All courses provide skills that augment substantive managerial abilities, along with exposure to computer software that implements key techniques.

For more information: statistics.wharton.upenn.edu

### Statistics Concentration

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Course Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>STAT 430</td>
<td>Probability</td>
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<td>Select three STAT Electives 1</td>
<td></td>
<td>3</td>
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<tr>
<td>Other Wharton Requirements</td>
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<td>33</td>
</tr>
<tr>
<td><strong>Total Course Units</strong></td>
<td></td>
<td><strong>37</strong></td>
</tr>
</tbody>
</table>

1 Only one math course permitted in concentration.

### Other Wharton Requirements

<table>
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<tr>
<th>Code</th>
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</tr>
</thead>
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2 Two can double-count as General Education Distribution courses.

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Minors

For Wharton Students

Students who wish to study a subject of interest in greater depth may choose to pursue a minor. Minors generally require six to eight courses in a particular field of study. A carefully planned program of study allows a Wharton student to complete a minor within the Wharton curriculum, capitalizing on potential overlap with General Education, Non-Business Elective, and Unrestricted Elective requirements. Students are encouraged to begin planning as early as possible to ensure the minor can be completed in a timely manner and without taking extra courses.

Wharton students have the option of pursuing either a departmental minor or a University Minor (https://undergrad-inside.wharton.upenn.edu/university-minors).

For Non-Wharton Students

- Statistics for Non-Wharton Students, Minor (p. 234)

Statistics for Non-Wharton Students, Minor

The aim of statistical modeling is to empower effective decision making, and the field's unique contribution is its ability to incorporate multiple levels of uncertainty in the framing of wise decisions. Over the last few years, the development of new computational tools and the unprecedented evolution of "big data" have propelled statistical modeling to new levels. Today, statistical modeling and machine learning have reached a level of impact that no large organization can afford to ignore. The information landscape is changing as it has never changed before.

Students interested in this minor must have the prior approval of the Statistics Undergraduate Program Director, Professor Abraham Wyner (ajw@wharton.upenn.edu), to develop a curriculum for the minor that is appropriate for their interests. Wharton students are not eligible for this minor.

For more information: https://statistics.wharton.upenn.edu/programs/university-minors/

Statistics for Non-Wharton Students, Minor

This minor is for students outside of Wharton. Single-degree and Dual Degree students with Wharton may pursue a statistics concentration instead.

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Course Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>MATH 114</td>
<td>Calculus, Part II</td>
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Select one of the following: 2

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<tr>
<th>Code</th>
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<tbody>
<tr>
<td>STAT 101</td>
<td>Introductory Business Statistics &amp; STAT 102</td>
<td>2</td>
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<tr>
<td>STAT 111</td>
<td>Introductory Statistics &amp; STAT 112</td>
<td>2</td>
</tr>
<tr>
<td>STAT 430</td>
<td>Probability &amp; STAT 431</td>
<td>2</td>
</tr>
<tr>
<td>ESE 301</td>
<td>Engineering Probability &amp; ESE 302</td>
<td>2</td>
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Core Course

<table>
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<tr>
<th>Code</th>
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<tbody>
<tr>
<td>STAT 430</td>
<td>Probability or STAT 471</td>
<td>1</td>
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</table>

Electives

Select 2 course units of STAT courses 2

Select 1 course unit of STAT or other approved course 1

Additional Elective 2

Total Course Units 7

1 The statistics pre-req may also be satisfied with 2 course units of Economic Statistics.
2 If the statistics pre-req was satisfied by Economic Statistics or STAT 430 Probability satisfied both pre-req and core.

The degree and major requirements displayed are intended as a guide for students entering in the Fall of 2017 and later. Students should consult with their academic program regarding final certifications and requirements for graduation.
consult with their academic program regarding final certifications and requirements for graduation.

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**Academic Opportunities**

Students at Wharton have many on-campus curricular opportunities to enrich their academic experience. As a Wharton student, you can pursue specialized interdisciplinary studies through four different coordinated dual-degree programs (p. 237). If the coordinated dual-degree programs do not meet your needs, you can pursue a dual degree (p. 236) with the College of Arts and Sciences, the School of Engineering and Applied Science or the School of Nursing. In addition to undergraduate degree options, submatriculation programs (p. 262) offer Wharton students the chance to accelerate their graduate pursuits while satisfying their undergraduate curriculum.

Academic opportunities are also available for single-degree Wharton students. Minors (p. 234) allow students to explore a topic of interest in-depth, while independent study (p. 266) options encourage students to tailor their academic experience to their intellectual interests. Additional opportunities like the Wharton Field Challenge (https://undergrad-inside.wharton.upenn.edu/field-challenge) and the Quaker Consortium (https://undergrad-inside.wharton.upenn.edu/quaker-consortium) only further enrich the academic experience at Wharton. Take time to learn more about all the academic opportunities available to you!

For more information, visit: https://undergrad-inside.wharton.upenn.edu/academic-opportunities/.

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**Wharton Industry Exploration Program** (https://undergrad-inside.wharton.upenn.edu/wiep)

These short-term, half-credit courses focus on various industries and cities and take place during school breaks.

**Wharton International Programs** (https://undergrad-inside.wharton.upenn.edu/wip)

WIP (WH 298) is a short-term international business course that is fully escorted by the Wharton Undergraduate Division. The program gives undergraduate students an amazing global opportunity featuring business site visits, lectures at our partner schools, cultural excursions, and networking opportunities with undergraduate students and business contacts from the destination countries.

In addition to learning about another country’s business environment and culture, students earn 0.5 course units that can be used towards business-breadth or elective credits. Three WIP courses are offered each year.

**Senior Capstone** (https://undergrad-inside.wharton.upenn.edu/senior-capstone)

The Wharton Senior Capstone (WH 398) is a for-credit, interactive business simulation that provides Wharton seniors with the opportunity to draw on their business knowledge—finance, management, marketing, leadership, and social responsibility—while formulating and executing business strategy in a competitive, team-based environment.

Utilizing real-time problem solving within a dynamic simulation environment, teams design and implement strategic plans, integrate feedback from the consequences of those decisions, and interact with other teams to create shareholder and social value.

**Wharton Research Scholars** (https://undergrad-inside.wharton.upenn.edu/wrs)

Wharton Research Scholars is an intensive one-year research program for a select group of students who are interested in conducting research under the supervision of some of Wharton’s preeminent faculty members. As part of the program, participants complete an honors thesis.

Students apply to work on a specific project they propose in consultation with a Wharton faculty member who agrees to act as their faculty mentor. Students are allowed to have more than one faculty mentor provided at least one is a member of the Wharton faculty.

Throughout the year, students convene to discuss progress, strategies, and challenges within their projects. This interaction fosters a strong scholarly community where students can learn from each other’s experience. The research scholars also meet regularly with their faculty mentors who advise the students throughout the year. The program culminates with final presentations and publication of research papers on the University of Pennsylvania Libraries’ ScholarlyCommons (http://repository.upenn.edu/wharton_research_scholars).
INTERDISCIPLINARY STUDIES

Interdisciplinary opportunities at Penn allow students to explore their academic interests and discover new ways of integrating knowledge.

Dual Degree

Undergraduates can receive two Bachelor's Degrees by completing the requirements for any two of the four undergraduate schools at the same time. A dual degree program has no prescribed course of study, and the student does not have to choose to participate prior to matriculation.

The application process for a dual degree varies among the undergraduate schools. Contact the advising office (p. 245) for the school to which you are applying for details on how to submit an application.

Coordinated Dual Degree Programs (p. 237)

Penn's specialized dual degree programs offer students the opportunity to pursue an integrated curriculum jointly offered by two schools within the University. Program participants graduate from Penn with two degrees.

University Minors (p. 239)

In addition to minors completed within one school, several interdisciplinary minors combine coursework from the four undergraduate schools.

Coordinated Submatriculation Programs (p. 238)

Penn offers students many opportunities to begin a graduate program while completing an undergraduate degree. Students may apply for admission as submatriculants to a variety of the University's graduate and professional areas of study. Submatriculation programs exist in the four undergraduate schools and in several of Penn's graduate schools.

Featured Interdisciplinary Programs

Penn offers a number of opportunities for students to pursue an integrated curriculum jointly offered by two or more schools within the University, and graduate with a single degree. Examples of such programs include:

Digital Media Design

The Digital Media Design (DMD) program is an interdisciplinary major in the School of Engineering and Applied Science at Penn. As a full-fledged Bachelors in Engineering and Science (BSE) degree, it combines major coursework in computer graphics within the Computer & Information Science Department with Fine Arts courses from Penn's School of Design. The program is designed for students who have an interest in the computer programming, mathematics, and design behind computer graphics, animation, games, virtual reality environments, and interactive technologies.

View Program Requirements (p. 179)

For more information, visit: http://cg.cis.upenn.edu/dmd_program.html.

Integrated Studies Program

The Integrated Studies Program (ISP) (https://www.college.upenn.edu/integrated-studies) is the freshman curriculum for Benjamin Franklin Scholars pursuing degrees in the College of Arts and Sciences.

Deeply rooted in the liberal arts tradition of acquiring and applying expansive knowledge, this residential academic program invites highly-motivated students to examine complex themes through the integration of multiple academic disciplines and methodologies. Students are guided through the semester by some of Penn's leading faculty. By investigating the same ideas under three distinct lenses, drawing simultaneously from the humanities, social sciences, and sciences, students sharpen their focus on the similarities—and differences—between the disciplines' habits of mind.

For more information, visit: https://www.college.upenn.edu/integrated-studies/.

Moelis Advance Access Program

The Moelis Advance Access Program is a deferred admission program that gives Penn undergraduates a guaranteed pathway to the Wharton MBA while they pursue work experience. Moelis Fellows access Wharton resources and network during their deferment period and can be considered for a $10,000 fellowship per year during the 2-year full-time MBA program. Beginning in 2018, the program will accept a highly selective cohort of Penn seniors whose academic and career interests expand traditional notions of business education. The program was established with a $10 million gift from Ken Moelis, W'80, WG'81, and Julie Taffet Moelis, W'81. The program is open to all Penn undergraduates, beginning with the Class of 2018, who aspire to set the stage early for their advanced education and highly successful careers. Seniors in the College of Arts and Sciences, School of Engineering and Applied Science, School of Nursing, the Wharton School, and all coordinated dual degrees may apply.

For more information, visit: https://mba.wharton.upenn.edu/moelis-advance-access-program/.

Networked & Social Systems Engineering

The Rajendra and Neera Singh Program in Networked and Social Systems Engineering (NETS), formerly called Market and Social Systems Engineering (MKSE), is the world's first course of study to fully integrate the disciplines needed to design and analyze the complex networks reshaping our society. This program prepares students to shape the technologies that underpin internet-based search and electronic commerce, financial networks, social networks, and even such exchanges as the power grid. Graduates of this program will be prepared to engineer networks that work for both end-users and investors. Other graduates may become the policy-makers urgently needed to regulate these networks for the protection of commercial property and societal good.

View Program Requirements (p. 184)

For more information, visit: http://www.nets.upenn.edu/.

Nutrition

The Nutrition major is an interdisciplinary collaboration between the School of Nursing and the School of Arts & Sciences, and it builds on a student's basic science skills with a deep dive into the science of nutrition. Linkages of nutritional compounds and dietary approaches with health and disease, novel approaches to the study of nutritional impact on health, and future avenues of exploration in the field are examined.

View Program Requirements (p. 186)

For more information, visit: http://www.nuts.upenn.edu/.
Elective courses in anthropology, biology, economics, physiology, psychology, health care, and public policy provide a rounded context for the study of nutrition science.

For more information, visit: https://www.nursing.upenn.edu/nutrition-major/.

Penn offers many opportunities for interdisciplinary study in global contexts. Here are some of the opportunities available to undergraduates.

Penn offers the opportunity to study more than 40 languages at the Penn Language Center. (p. 250) For more information, visit Foreign Language Study Opportunities (p. 250).

School-based Global Opportunities
- College of Arts and Sciences (http://www.college.upenn.edu/study-abroad)
- School of Engineering and Applied Science (http://www.seas.upenn.edu/community/international-opps.php)
- School of Nursing (http://www.nursing.upenn.edu/global-health)
- The Wharton School (https://global.wharton.upenn.edu/audience/undergraduate-students)

Global Health Opportunities
- Penn Nursing Global Health (https://www.nursing.upenn.edu/global-health)
- Center for Global Health (http://www.med.upenn.edu/globalhealth)
- Global Health Minor (p. 200) (School of Nursing only)
- Health and Societies: Global Health, BA (p. 74)

School of Arts and Sciences Departments
- Africana Studies (https://africana.sas.upenn.edu/department)
- East Asian Languages & Civilizations (http://www.sas.upenn.edu/ealc)
- Germanic Languages and Literatures (http://ccat.sas.upenn.edu/german)
- Near Eastern Languages & Civilizations (http://www.sas.upenn.edu/nelc)
- Romance Languages (http://ccat.sas.upenn.edu/roml)
- Slavic Languages and Literatures (http://ccat.sas.upenn.edu/slavic)
- South Asia Studies (http://www.southasia.upenn.edu)

Regional Interdisciplinary Centers and Programs
- Africa Center (http://www.africa.upenn.edu)
- Center for Africana Studies (http://www.sas.upenn.edu/africana)
- Center for East Asian Studies (http://ccat.sas.upenn.edu/ceas)
- Center for the Advanced Study of India (http://www.sas.upenn.edu/casi)
- Center for Italian Studies (http://ccat.sas.upenn.edu/~italians)
- James Joo-Jin Kim Program in Korean Studies (http://www.sas.upenn.edu/koreanstudies)
- South Asia Center (http://www.southasiacenter.upenn.edu)

Coordinated Dual Degree Programs
Penn's specialized dual degree programs offer students the opportunity to pursue an integrated curriculum jointly offered by two schools within the University. Program participants graduate from Penn with two degrees.

Computer and Cognitive Science
School of Arts & Sciences/School of Engineering & Applied Science
Bachelor of Science in Engineering (BSE)/BAS and Bachelor of Arts (BA)

This program combines studies in computer science and engineering with linguistics, mathematics, philosophy, or psychology, and students receive a BSE or BAS degree from Penn Engineering and Bachelor of Arts from the College of Arts and Sciences. Requirements for the program are guided by the degree sought (BAS or BSE) and include 12-16 course units in Linguistics, Mathematics, Philosophy, or Psychology and 4 course units in a Foreign Language.

For more information, visit: http://www.cis.upenn.edu/current-students/undergraduate/dual.php.

Huntsman Program in International Studies and Business
School of Arts & Sciences/The Wharton School
BA in International Studies/BS in Economics

This innovative four-year joint degree program between the School of Arts and Sciences and the Wharton School combines a business education, liberal arts, and advanced language training in one of eleven languages of focus. It prepares students for global leadership in career paths around the world in diverse areas such as consulting, finance, medicine, politics, diplomacy, the non-profit sector, and entrepreneurship. Students must apply to the program when they apply to Penn; they cannot transfer into the program. Admission is highly competitive.

For more information, visit: http://huntsman.upenn.edu/.

Jerome Fisher Program in Management & Technology
School of Engineering & Applied Science/The Wharton School
BAS/BSE and BS in Economics

The Jerome Fisher Program in Management & Technology (M&T) is sponsored jointly by the School of Engineering and the Wharton School. The impetus for this joint-degree program came from the Board of Overseers of the School of Engineering and Applied Science. The Board of Overseers, a distinguished group of corporate executives and academicians, emphasized that an understanding the engineering and technology fundamentals is as essential to the background of future leaders in business and industry as a sound knowledge of management principles. They pointed to the growing need for people who can bridge the management and technical disciplines.

Undergraduate students enrolled in the M&T Program pursue degrees from both schools concurrently, creating a truly interdisciplinary learning experience. This combination enables students not only to understand
engineering and business concepts but also the integration of the two and how this intersection distinctively shapes our world. M&T students pursue a Bachelor of Science in Economics from the Wharton School and either a Bachelor of Science in Engineering (BSE) or a Bachelor of Applied Science in Engineering (BAS) from Penn Engineering. The curriculum includes two special M&T linking courses that allow for added interdisciplinary learning opportunities. The common goal for all M&T students is the mastery of the technical and managerial skills necessary to define and solve problems in today’s complex technological society. The structure of the joint-degree program gives each student considerable flexibility in meeting this goal. Particular attention is directed to the importance and processes of innovation in our technology-based industries.

For more information, visit: http://www.upenn.edu/fisher/.

**Nursing and Health Care Management Program (NHCM)**

**School of Nursing/The Wharton School**

Bachelor of Science in Economics/Bachelor of Science in Nursing (BSN)

Nurses with excellent clinical and administrative skills are in higher demand than ever. Our Nursing and Health Care Management Program (NHCM) gives you the chance to combine two of Penn’s greatest assets: Penn Nursing and The Wharton School. In the NHCM program, you’ll study simultaneously in both schools and graduate with a Bachelor of Science in Nursing and a Bachelor of Science in Economics. Your work will include science and clinical courses along with general education courses in the Arts and Sciences. We designed the curriculum to boost expertise in patient care and deepen your knowledge of how to manage the way that care is delivered. We also use a multidisciplinary approach that integrates nursing, business, and liberal arts. Students enrolled in the program have advisors at both Nursing and Wharton and complete this integrated academic and clinical program in five years.

For more information, visit: http://www.nursing.upenn.edu/nhcm/.

**Roy and Diana Vagelos Program in Life Sciences and Management (LSM)**

**School of Arts & Sciences/The Wharton School**

Bachelor of Arts (BA)/Bachelor of Science in Economics

On the surface, bioscience and business may seem like unrelated fields. But if the full benefits of science are to be realized, discoveries made at the laboratory bench must be taken to market and made accessible to society at large—a process that demands great skill both scientifically and managerially. Given the pace of recent advances in bioscience and biotechnology, never before has the need been so great for decision makers who can understand and advance scientific innovations as well as manage and promote them. It is with this in mind that the University of Pennsylvania launched the Vagelos Life Sciences & Management (LSM) program.

LSM is an undergraduate dual-degree program administered jointly between Penn’s College of Arts & Sciences and the Wharton School. Each year, the program enrolls approximately 25 exceptional students and offers them the opportunity to pursue an interdisciplinary curriculum combining bioscience and business, leading to the completion of two degrees: a Bachelor of Arts in a life science major and a Bachelor of Science in Economics. To ensure that every student learns how to apply their knowledge, the program provides the means for them to find two required, paid internships, one centered in scientific research and the other in business or public policy. Completion of the LSM program is an ideal starting point for students intent on careers in the life sciences sector by preparing them for advanced training, and we anticipate they will then go on to pursue through MD, PhD, MBA, JD, and/or other graduate programs. LSM is suited to students with interests in health care; biomedical, agricultural, and environmental research and development; public policy; and the financial and strategic management of life science organizations.

For more information, visit: https://lsm.upenn.edu/.

**Vagelos Integrated Program in Energy Research (VIPER)**

**School of Arts & Sciences/School of Engineering & Applied Science**

BA/BSE

The Vagelos Integrated Program in Energy Research (VIPER) enrolls talented, prepared, and motivated students interested in energy science and engineering. VIPER students receive instruction and state-of-the-art research experiences, enabling them to pursue advanced degrees in these fields and establish high-caliber research careers as innovators in the discovery and development of sustainable ways to harness, convert, and use energy. Candidates for the program apply as they seek admission to the University. A joint program of Penn’s School of Arts and Sciences (SAS) and the School of Engineering and Applied Science (SEAS), VIPER leads to dual Bachelor of Arts (BA) and Bachelor of Science in Engineering (BSE) degrees by combining majors from each school. Possible combinations include: Physics and Astronomy, Chemistry, Biology, or Mathematics from SAS and Chemical and Biomolecular Engineering, Electrical Engineering, Materials Science and Engineering, or Mechanical Engineering and Applied Mechanics from SEAS. Some students may also apply for a master’s degree through a fifth year of study.

For more information, visit: https://www.viper.upenn.edu.

**Coordinated Submatriculation Programs**

The University offers a number of coordinated, interdisciplinary submatriculation programs to undergraduate students.

For more information about submatriculation, click here (p. 261).

**BA/JD Program in Arts & Sciences and Law**

This rigorous program offers an opportunity for highly qualified and motivated students to apply to Penn Law School during what is generally the first semester of a student’s junior year (between 16 and 23.99 c.u.). If accepted, the student will submatriculate into the J.D. program in their senior year. Applicants must be committed to the study of law in its theoretical and practical aspects.

For more information, visit: https://www.college.upenn.edu/node/2398.
Bio-Dental Program

Bio-Dental submatriculation is a seven-year joint program of the College and Penn’s School of Dental Medicine for students who will major in Biology and wish to enroll in the Dental School during their senior year in the College. Students must apply to the program when they apply to Penn, and applicants will be notified of their conditional acceptance into the program when they are notified of their admission to Penn. Full acceptance into the program is made after the student’s junior year and is based on academic performance during those three years and meeting the admissions standards of the Dental School.

For more information, visit: http://www.bio.upenn.edu/https%3A/%252Fwww.bio.upenn.edu/accelerated-dental-program.

BSN/JD Program

Submatriculation allows students in traditional and accelerated BSN programs to formally enroll in the JD program (https://www.law.upenn.edu/academics/degrees.php) at Penn Law School while still undergraduates. The current climate of healthcare litigation and malpractice suits is well suited for professionals who combine nursing education and experience with legal expertise. A background in both nursing and law gives students a powerful and marketable skillset and prepares them to make an impact on the medical and legal professions. To submatriculate into Penn Law, students should take the LSAT and apply (https://www.law.upenn.edu/admissions/jd) during their junior year. If a student is admitted, they will begin taking courses at the law school during their fourth year, completing both the BSN and JD degrees in six years instead of the usual seven.

For more information, visit https://www.nursing.upenn.edu/live/files/56-submatriculation-law2015.

Penn Engineering/Penn Law Program

Penn’s Law School offers an opportunity for qualified juniors in Penn Engineering to apply early to the Law School and submatriculate into the JD program beginning their fourth year. The program is designed as a 3-year + 3-year accelerated program for highly qualified Engineering undergraduates either in the Bachelor of Applied Science (BAS) or Bachelor of Science in Engineering (BSE) degree programs.

For more information, visit: http://www.seas.upenn.edu/undergraduate/degrees/submatriculation-law.php.

Roy and Diana Vagelos Program in Molecular Life Sciences

Ambitious and highly motivated students interested in the molecular view of life should consider the Vagelos Scholars Program in Molecular Life Sciences. Students begin as freshmen and major in two sciences or submatriculate for a Master of Science degree in the standard four years. Students in this program plan to pursue scientific research careers. Scholars are invited from the admitted pool of high school seniors at the beginning of April at the discretion of the faculty director and the admissions committee.

For more information, visit: http://www.sas.upenn.edu/biochem/vspmls.html.

Wharton Law School Submatriculation Program

During the junior year, qualified Wharton undergraduate students may apply for admission to the Penn Law School and submatriculate into the Juris Doctor (JD) program. In this 3-year + 3-year accelerated program, the student’s fourth year of study is spent entirely at the Law School completing the first-year law curriculum. The remaining undergraduate and/or graduate degree requirements are then completed in the student’s fifth and sixth years of study.

For more information, visit: https://undergrad-inside.wharton.upenn.edu/submatriculation/.

University Minors

In addition to minors completed within one school, several interdisciplinary minors combine coursework from the four undergraduate schools.

Actuarial Mathematics
School of Arts & Sciences/The Wharton School

Actuarial Science stands at the intersection of risk and money. Actuaries use their knowledge of mathematics and probability theory to define, analyze, and solve complex business, financial, and social problems. Actuaries evaluate individual and corporate risks and design financially sound insurance and pension plans. Graduates from the University of Pennsylvania with an Actuarial Mathematics Minor are expected to be in great demand by the insurance and banking industry.

For more information, visit: https://www.math.upenn.edu/undergraduate/math-majors-and-minors/minor-actuarial-mathematics.

American Public Policy
School of Arts & Sciences/The Wharton School

This program enables undergraduates interested in American public policy to construct an integrated program between the School of Arts and Sciences and the Wharton School.

For more information, visit: https://bepp.wharton.upenn.edu/programs/undergraduate/program-information1/american-public-policy-minor/.

Biological Basis of Behavior and Health Services Management
School of Arts & Sciences/The Wharton School

The Biological Basis of Behavior Program and the Health Care Management Department of the Wharton School have jointly sponsored this effort. The objective is to provide students with exposure to two related areas: study in neuroscience and behavioral biology as a leading example of the bioscience enterprise, and health services management as the environment in which science innovation must be developed and managed. The minor consists of eight courses, four from the Biological Basis of Behavior Program and four from Wharton. Students must earn a minimum grade of C- in courses taken to fulfill the minor requirements.
Students must have a minimum of 3 courses that they count towards the minor and not towards any other major of minor.

View Program Requirements (p. 148)

For more information, visit: https://www.sas.upenn.edu/bbb/requirements/bbbhsmminor.

**Consumer Psychology**  
**School of Arts & Sciences/The Wharton School**

The goal of the interschool Consumer Psychology Minor is to create a program that fosters the natural link between Psychology in the College and Marketing in Wharton. To fulfill the minor, students must complete four courses from the Psychology Department in the College, four courses from the Marketing Department in Wharton, and the stats requirement. Both College and Wharton requirements will consist of core courses along with a set of elective courses. College students who wish to minor in Consumer Psychology must count two of the four required psychology (PSYC) courses towards only the Consumer Psychology minor (and towards no other major or minor).

View Program Requirements (p. 141)

For more information, visit: https://psychology.sas.upenn.edu/more-information-minors.

**Nursing and Health Services Management**  
**School of Nursing/The Wharton School**

Increasingly, the delivery of health care involves decisions that entail considerations beyond clinical or medical issues. With the rise of managed care in the United States, it is critical for health professionals to understand not only the clinical factors that affect patients but also the business environment in which healthcare institutions function. This program, a partnership between the School of Nursing and The Wharton School, helps students understand both the nature of the economic and managerial constraints that healthcare organizations face, as well as how these constraints can be effectively managed to provide the best possible health care for patients.

View Program Requirements (p. 201)

For more information, visit: http://www.nursing.upenn.edu/nursing-and-health-services-management-minor/.

**Nutrition**  
**School of Arts & Sciences/School of Nursing**

Jointly sponsored by the Schools of Nursing and Arts and Sciences, the Nutrition Minor presents a broad view of the field, and illustrates the pervasiveness of nutrition-related issues in such diverse fields as anthropology, economics, folklore, history, physiology, psychology, health care, and public policy.

View Program Requirements (p. 201)

For more information, visit: http://www.nursing.upenn.edu/nutrition-minor/.

**Sustainability and Environmental Management**  
**School of Arts & Sciences/School of Engineering & Applied Science/The Wharton School**

The Sustainability and Environmental Management Minor is focused on sustainability and designed to help students understand the nature of environmental constraints that face organizations and individuals in the modern world, and to understand how these constraints can be effectively considered as part of the decision-making process in for-profit and non-profit organizations.

View Program Requirements (p. 161)

For more information, visit: https://www.sas.upenn.edu/earth/minors/sustainability-and-environmental-management-minor.

**Urban Education**  
**School of Arts & Sciences/Graduate School of Education**

The crisis in American education continues to confound major sectors of American life. National attention has engaged various constituencies - non-profit business organizations; local, state and federal governments; teachers' unions; and universities - in trying to understand and improve public education. At Penn, students and faculty have become deeply involved in local schools through community service, research, teaching, and coursework. In response to student interest in community and education issues, the College of Arts and Sciences and the Graduate School of Education sponsor an interdisciplinary minor in Urban Education. This seven-course undergraduate minor offers students a unique opportunity to bridge learning between the classroom and community, and it features:

- Academically-based community service in local schools
- Deeper understanding of the complex factors affecting urban education
- Field-based research in an area of interest
- Hands-on opportunity to investigate a career in education
- Credit toward Pennsylvania teacher certification requirements

This minor is open to undergraduates in all disciplines. Students choose from among three concentrations depending on interest in pursuing urban teaching certification immediately or developing a strong foundation the issues of urban schools: Policy, Research, and Practice (p. 165); Elementary /Middle Years Education (p. 165); or Secondary Education (p. 162).

View Program Requirements:

- Elementary Education (p. 165)
- Secondary Education (p. 162)
- Policy, Research, and Practice (p. 165)

For more information, visit: http://www.sas.upenn.edu/urban/students/urban-education-minor.

**Urban Real Estate and Development**  
**School of Arts & Sciences/The Wharton School**

This minor, co-sponsored by Real Estate (Wharton) and Urban Studies (Arts and Sciences), is designed to enable students to combine an interest in Urban Studies and Real Estate Development. Students take
a total of seven Urban Studies and Real Estate courses, in consultation with the minor advisor.

View Program Requirements (p. 162)

For more information, visit: http://www.sas.upenn.edu/urban/students/real-estate-development-minor.
ACADEMIC RESOURCES

Penn offers a wide variety of resources, offices, and programs for undergraduate students to support them in all aspects of their Penn experience. The following list highlights some of the most commonly used resources and areas of interest relating to academics and educational opportunities. For more information about campus resources available to students, visit the Division of the Vice Provost for University Life (http://www.vpul.upenn.edu).

This list of academic resources is under construction. Please submit suggestions for additional resources or improvements to existing resources to catalog@lists.upenn.edu.

- Academic Calendar (p. 242)
- Advising (p. 245)
- Career Services (p. 246)
- Community Engagement (p. 246)
- Enrollment & Degree Verification (p. 246)
- Fellowships and Prizes (p. 246)
- Financial Aid (p. 248)
- Foreign Language Study Opportunities (p. 250)
- Global Programs (p. 251)
- Information for Athletes (p. 251)
- Information for First-Generation, Low Income Students (p. 254)
- Information for International Students (p. 255)
- Learning Resources (p. 255)
- Libraries (p. 256)
- Quaker Consortium (p. 256)
- Registrar’s Office (p. 256)
- Research (p. 257)
- Scholars Programs (p. 260)
- Submatriculation (p. 261)
- Summer Sessions (p. 263)
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- Wellness (p. 263)

Academic Calendar

2017 Summer Term

<table>
<thead>
<tr>
<th>Event</th>
<th>Date</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Move-in for First-Year Students</td>
<td>Wednesday</td>
<td>August 23</td>
</tr>
<tr>
<td>New Student Orientation</td>
<td>Wednesday-Monday</td>
<td>August 23-28</td>
</tr>
<tr>
<td>Opening Exercises and Freshman Convocation</td>
<td>Monday</td>
<td>August 28</td>
</tr>
<tr>
<td>First Day of Classes</td>
<td>Tuesday</td>
<td>August 29</td>
</tr>
<tr>
<td>Labor Day (no classes)</td>
<td>Monday</td>
<td>September 4</td>
</tr>
<tr>
<td>Course Selection Period ends</td>
<td>Monday</td>
<td>September 18</td>
</tr>
<tr>
<td>Fall Term Break</td>
<td>Thursday-Sunday</td>
<td>October 5-8</td>
</tr>
<tr>
<td>Drop Period ends</td>
<td>Monday</td>
<td>October 9</td>
</tr>
<tr>
<td>Classes Resume</td>
<td>Monday</td>
<td>October 9</td>
</tr>
<tr>
<td>Family Weekend</td>
<td>Friday-Sunday</td>
<td>October 27-29</td>
</tr>
<tr>
<td>Advance Registration for Spring Term</td>
<td>Monday-Sunday</td>
<td>October 30-November 12</td>
</tr>
<tr>
<td>Homecoming</td>
<td>Saturday</td>
<td>November 4 (Princeton)</td>
</tr>
<tr>
<td>Last day to withdraw from a course</td>
<td>Friday</td>
<td>November 10</td>
</tr>
<tr>
<td>Thur-Fri Class Schedule on Tue-Wed</td>
<td>November</td>
<td>November 21-22</td>
</tr>
<tr>
<td>Thanksgiving Break</td>
<td>Thursday-Sunday</td>
<td>November 23-26</td>
</tr>
<tr>
<td>Classes Resume</td>
<td>Monday</td>
<td>November 27</td>
</tr>
<tr>
<td>Last day of Classes</td>
<td>Monday</td>
<td>December 11</td>
</tr>
<tr>
<td>Final Examinations</td>
<td>Thursday-Thurs.</td>
<td>December 14-21</td>
</tr>
<tr>
<td>Fall Term ends</td>
<td>Thursday</td>
<td>December 21</td>
</tr>
</tbody>
</table>

2018 Spring Term

<table>
<thead>
<tr>
<th>Event</th>
<th>Date</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>First Day of Classes</td>
<td>January 10</td>
<td>(Monday classes)</td>
</tr>
<tr>
<td>Martin Luther King, Jr. Day Observed</td>
<td>Monday</td>
<td>January 15</td>
</tr>
<tr>
<td>Event</td>
<td>Date/Time</td>
<td></td>
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<tr>
<td>-------</td>
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<td></td>
</tr>
<tr>
<td>Course Selection Period ends</td>
<td>Monday January 29</td>
<td></td>
</tr>
<tr>
<td>Drop Period ends</td>
<td>Friday February 16</td>
<td></td>
</tr>
<tr>
<td>Spring Term Break</td>
<td>Saturday-Sunday March 3-11</td>
<td></td>
</tr>
<tr>
<td>Classes Resume</td>
<td>Monday March 12</td>
<td></td>
</tr>
<tr>
<td>Advance Registration for Fall Term and Summer Sessions</td>
<td>Monday-Sunday March 19-April 1</td>
<td></td>
</tr>
<tr>
<td>Last day to withdraw from a course</td>
<td>Friday March 30</td>
<td></td>
</tr>
<tr>
<td>Last day of Classes</td>
<td>Wednesday April 25</td>
<td></td>
</tr>
<tr>
<td>Reading Days</td>
<td>Thursday-Friday April 26-27</td>
<td></td>
</tr>
<tr>
<td>Final Examinations</td>
<td>Monday-Tuesday April 30-May 8</td>
<td></td>
</tr>
<tr>
<td>Spring Term Ends</td>
<td>Tuesday May 8</td>
<td></td>
</tr>
<tr>
<td>Alumni Day</td>
<td>Saturday May 12</td>
<td></td>
</tr>
<tr>
<td>Baccalaureate</td>
<td>Sunday May 13</td>
<td></td>
</tr>
<tr>
<td>Commencement</td>
<td>Monday May 14</td>
<td></td>
</tr>
<tr>
<td>2018 Summer Term</td>
<td></td>
<td></td>
</tr>
<tr>
<td>11-Week Session Classes begin</td>
<td>Monday May 21</td>
<td></td>
</tr>
<tr>
<td>Session I Classes begin</td>
<td>Monday May 21</td>
<td></td>
</tr>
<tr>
<td>Memorial Day Observed (no classes)</td>
<td>Monday May 28</td>
<td></td>
</tr>
<tr>
<td>Session I Classes end</td>
<td>Wednesday June 27</td>
<td></td>
</tr>
<tr>
<td>Session II Classes begin</td>
<td>Thursday June 28</td>
<td></td>
</tr>
<tr>
<td>Independence Day Observed (no classes)</td>
<td>Wednesday July 4</td>
<td></td>
</tr>
<tr>
<td>Session II &amp; 11-Week Session Classes end</td>
<td>Friday August 3</td>
<td></td>
</tr>
<tr>
<td>2018 Fall Term</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Move-in for First-Year Students</td>
<td>Wednesday August 22</td>
<td></td>
</tr>
<tr>
<td>New Student Orientation</td>
<td>Wednesday-Monday August 22-27</td>
<td></td>
</tr>
<tr>
<td>Opening Exercises and Freshman Convocation</td>
<td>Monday August 27</td>
<td></td>
</tr>
<tr>
<td>First Day of Classes</td>
<td>Tuesday August 28</td>
<td></td>
</tr>
<tr>
<td>Labor Day (no classes)</td>
<td>Monday September 3</td>
<td></td>
</tr>
<tr>
<td>Course Selection Period ends</td>
<td>Monday September 17</td>
<td></td>
</tr>
<tr>
<td>Fall Term Break</td>
<td>Thursday-Sunday October 4-7</td>
<td></td>
</tr>
<tr>
<td>Drop Period ends</td>
<td>Monday October 8</td>
<td></td>
</tr>
<tr>
<td>Classes Resume</td>
<td>Monday October 8</td>
<td></td>
</tr>
<tr>
<td>Family Weekend</td>
<td>Friday-Sunday October 19-21 (Yale)</td>
<td></td>
</tr>
<tr>
<td>Advance Registration for Spring Term</td>
<td>Monday-Sunday October 29-November 11</td>
<td></td>
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<tr>
<td>Last day to withdraw from a course</td>
<td>Friday November 9</td>
<td></td>
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<tr>
<td>Homecoming</td>
<td>Saturday November 10 (Harvard)</td>
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<tr>
<td>Thur-Fri Class Schedule on Tue-Wed</td>
<td>November 20-21 (<a href="http://provost.upenn.edu/education/calendar">http://provost.upenn.edu/education/calendar</a>)</td>
<td></td>
</tr>
<tr>
<td>Thanksgiving Break</td>
<td>Thursday-Sunday November 22-25</td>
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<tr>
<td>Classes Resume</td>
<td>Monday November 26</td>
<td></td>
</tr>
<tr>
<td>Last day of Classes</td>
<td>Monday December 10</td>
<td></td>
</tr>
<tr>
<td>Reading Days</td>
<td>Tuesday-Wednesday December 11-12</td>
<td></td>
</tr>
<tr>
<td>Final Examinations</td>
<td>Thursday-Thursday December 13-20</td>
<td></td>
</tr>
<tr>
<td>Fall Term ends</td>
<td>Thursday December 20</td>
<td></td>
</tr>
<tr>
<td>Martin Luther King, Jr. Day Observed (no classes)</td>
<td>Monday January 21</td>
<td></td>
</tr>
<tr>
<td>Course Selection Period ends</td>
<td>Monday February 4</td>
<td></td>
</tr>
<tr>
<td>Drop Period ends</td>
<td>Friday February 22</td>
<td></td>
</tr>
<tr>
<td>Spring Term Break</td>
<td>Saturday-Sunday March 2-10</td>
<td></td>
</tr>
<tr>
<td>Classes Resume</td>
<td>Monday March 11</td>
<td></td>
</tr>
<tr>
<td>Advance Registration for Fall Term and Summer Sessions</td>
<td>Monday-Sunday March 18-31</td>
<td></td>
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<tr>
<td>Last day to withdraw from a course</td>
<td>Friday April 5</td>
<td></td>
</tr>
<tr>
<td>Event</td>
<td>Start Date</td>
<td>End Date</td>
</tr>
<tr>
<td>--------------------------------------</td>
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<td>------------</td>
</tr>
<tr>
<td>Last day of Classes</td>
<td>Wednesday</td>
<td>May 1</td>
</tr>
<tr>
<td>Reading Days</td>
<td>Thursday-Friday</td>
<td>May 2-3</td>
</tr>
<tr>
<td>Final Examinations</td>
<td>Monday-Tuesday</td>
<td>May 6-14</td>
</tr>
<tr>
<td>Spring Term Ends</td>
<td>Tuesday</td>
<td>May 14</td>
</tr>
<tr>
<td>Alumni Day</td>
<td>Saturday</td>
<td>May 18</td>
</tr>
<tr>
<td>Baccalaureate (<a href="http://www.upenn.edu/commencement">http://www.upenn.edu/commencement</a>)</td>
<td>Sunday</td>
<td>May 19</td>
</tr>
<tr>
<td>Commencement</td>
<td>Monday</td>
<td>May 20</td>
</tr>
</tbody>
</table>

### 2019 Summer Term

**11-Week Session**

- Classes begin: Tuesday, May 28
- Session I Classes begin: Tuesday, May 28
- Memorial Day Observed: Monday, May 27 (no classes)
- Session I Classes end: Wednesday, July 3
- Session II Classes begin: Friday, July 5
- Independence Day: Thursday, July 4 (no classes)
- Session II & 11-Week Session Classes end: Friday, August 9

### 2019 Fall Term

- Move-in for First Year Students (http://www.business-services.upenn.edu/housing/assignments/move/arriving.html): Wednesday, August 21
- New Student Orientation (http://www.upenn.edu/nso): Wednesday-Monday, August 21-August 26
- Freshman Convocation: Monday, August 26
- First day of classes: Tuesday, August 27
- Labor Day (no classes): Monday, September 2
- Course Selection Period ends: Monday, September 16
- Drop Period ends: Monday, October 7
- Fall term break: Thursday-Sunday, October 10-13
- Classes resume: Monday, October 14
- Advance Registration for Spring Term (http://www.upenn.edu/registrar): Monday-Sunday, October 28-November 10

### Family Weekend (http://www.vpul.upenn.edu/osa/fw)

- Friday-Sunday, November 1-3 (Brown)

### Last Day to withdraw from a course

- Friday, November 8

### Homecoming

- Saturday, November 9 (Cornell)

### Thursday/Friday class schedule on Tuesday/ Wednesday

- Tuesday/Wednesday, November 26-27 (Thursday/Friday classes)

### Thanksgiving break

- Thursday-Sunday, November 28-December 1

### Classes resume

- Monday, December 2

### Fall term classes end

- Friday, December 13

### Advance Registration for Spring Term

- Monday-Sunday, March 23-April 5

### Martin Luther King, Jr. Day Observed (no classes) (http://www.upenn.edu/aarc/mlk)

- Monday, January 20

### Course Selection Period ends

- Monday, February 3

### Drop Period ends

- Friday, February 21

### Spring term classes end

- Saturday-Sunday, March 1

### Classes resume

- Monday, March 16

### Advance Registration for Fall Term and Summer Sessions (http://www.upenn.edu/registrar)

- Monday-Sunday, March 23-April 5

### Last Day to withdraw from a course

- Friday, April 3

### Spring term classes end

- Wednesday, April 29

### Reading days

- Thursday-Friday, April 30-May 1

### Final examinations (http://www.upenn.edu/registrar)

- Monday-Tuesday, May 4-12

### Spring semester ends

- Tuesday, May 12

### 2020 Spring Term

- First day of classes (Monday class schedule on Wednesday) (http://provost.upenn.edu/education/calendar)

- Wednesday (Monday classes), January 15

### Martin Luther King, Jr. Day Observed (no classes) (http://www.upenn.edu/aarc/mlk)

- Monday, January 20

### Course Selection Period ends

- Monday, February 3

### Drop Period ends

- Friday, February 21

### Spring term classes end

- Saturday-Sunday, March 7-15

### Classes resume

- Monday, March 16

### Advance Registration for Fall Term and Summer Sessions (http://www.upenn.edu/registrar)

- Monday-Sunday, March 23-April 5

### Last Day to withdraw from a course

- Friday, April 3

### Spring term classes end

- Wednesday, April 29

### Reading days

- Thursday-Friday, April 30-May 1

### Final examinations (http://www.upenn.edu/registrar)

- Monday-Tuesday, May 4-12

### Spring semester ends

- Tuesday, May 12
Alumni Day (http://www.alumni.upenn.edu)  Saturday  May 16
Baccalaureate (http://www.upenn.edu/commencement)  Sunday  May 17
Commencement (http://www.upenn.edu/commencement)  Monday  May 18

**2020 Summer Term**

<table>
<thead>
<tr>
<th>Event</th>
<th>Day</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Memorial Day (no classes)</td>
<td>Monday</td>
<td>May 25</td>
</tr>
<tr>
<td>11-week Session classes begin</td>
<td>Tuesday</td>
<td>May 26</td>
</tr>
<tr>
<td>Session I classes begin</td>
<td>Tuesday</td>
<td>May 26</td>
</tr>
<tr>
<td>Session I Classes end</td>
<td>Wednesday</td>
<td>July 1</td>
</tr>
<tr>
<td>Session II Classes begin</td>
<td>Thursday</td>
<td>July 2</td>
</tr>
<tr>
<td>Independence Day Observed (no classes)</td>
<td>Friday</td>
<td>July 3</td>
</tr>
<tr>
<td>Session II &amp; 11-Week Session classes end</td>
<td>Friday</td>
<td>August 7</td>
</tr>
</tbody>
</table>

*Updated May 9, 2017*

**Notes:**

Graduate and professional programs follow their own calendars with different registration/drop deadlines, which are typically available on the website of the school or program.

The College of Liberal and Professional Studies may have different registration/drop deadlines. Please visit the LPS website, www.sas.upenn.edu/lps/, for more information.

Rosh Hashanah, Yom Kippur, the first two days of Passover and Good Friday are religious holidays that affect large numbers of University community members and that fall during the academic year. View the University's policy regarding these and other holidays (p. 295).

The University’s Three-Year Academic Calendar is subject to change.

**Advising**

Each school has its own advising office with a network of academic advisors available to assist students. The structure of the advising varies by school; you can find the links to your school’s advising office below.

**School of Arts and Sciences**

College students need to choose courses, declare a major and define career goals. They will need to examine their performance in different courses, identify their skills and those they wish to develop, and decide what really matters to them. Much of this assessment they will do themselves, but faculty members, academic advisors, career counselors and peers can help.

Students in the College have a strong network of academic advisors available to assist them throughout their undergraduate careers.

- Pre-major advisors help first- and second-year students navigate their entrance into academic and intellectual life in the College beginning with the issues of incoming freshmen and continuing through the student’s exploration of a potential major.
- Peer advisors work with the pre-major advisor and are one of the first points of contact for incoming College students. They provide the perspective of an upperclass student in the College and assist first-year students in making the transition from high school to Penn by sharing their strategies for academic success and knowledge of campus resources.
- After declaring a major, students are assigned an academic advisor affiliated with the major department or program.
- All students are welcome and encouraged to speak with assistant deans for advising in the College Office. These advisors can help students explore the many options and opportunities available to College students, and are available by appointment or on a walk-in basis throughout the year.

For more information, visit: https://www.college.upenn.edu/academic-advising.

**School of Engineering and Applied Science**

Each student is assigned a faculty advisor with whom they are required to meet at least twice per year. No student is permitted to register for classes in any semester without first meeting with an advisor and a review of their Permission to Register form (https://www.seas.upenn.edu/undergraduate/pdf/ug-advisor-signoff.pdf). Students who take the time to prepare for these meetings generally find them beneficial and informative. Faculty advisors are the best source of information about electives within the major, research opportunities, and options for graduate study.

For more information, visit: https://www.seas.upenn.edu/undergraduate/advising/.

**School of Nursing**

Penn Nursing students benefit from a dual advising structure. All students are assigned a faculty advisor and have access to the professional staff advisors in the Office of Student Affairs.

For more information, visit: http://www.nursing.upenn.edu/student-services/advising/.

**The Wharton School**

The goal of the Wharton Undergraduate Division academic advising team is to help students make informed decisions about their educational plans and professional/life goals that are consistent with their interests, abilities, and values.

Advising by appointment, walk-in advising, and specialized advising (https://undergrad-inside.wharton.upenn.edu/advising-services/#specialized_advising) are services available in G95 Huntsman Hall to current Wharton undergraduate students.

Professional advisors (https://undergrad-inside.wharton.upenn.edu/advising-services), concentration advisors (https://undergrad-inside.wharton.upenn.edu/concentration-advisors), and peer advising fellows (https://undergrad-inside.wharton.upenn.edu/peer-advising) are available to assist students.
Career Services

Career Services helps students define their career goals and learn how to achieve them. The office helps students and alumni obtain permanent and short-term career-related employment and graduate and professional school admission through counseling sessions, workshops, alumni networks, a large career resource library and on-line information. Career Services also establishes and promotes contact between employers, graduate/professional schools, and the University; and hosts employer interviews through the on-campus recruiting program.

- Career Services Contacts for Undergraduates (http://www.vpul.upenn.edu/careerservices/undergrad/connectwithus.php)
- Undergraduate Career Workshops and Events (http://www.vpul.upenn.edu/careerservices/undergrad/events.php)
- Information about Graduate School Study (http://www.vpul.upenn.edu/careerservices/gradprof)

For more information, visit: http://www.vpul.upenn.edu/careerservices/.

Community Engagement

The Barbara and Edward Netter Center for Community Partnerships (https://www.nettercenter.upenn.edu) is Penn's central administrative office for community partnership programs, including academically based community service, direct traditional service, and community development.

Penn's hub for civic engagement, Civic House (http://www.admissions.upenn.edu/academics/civic-house) supports student service and advocacy groups while providing resources, information, and meeting space for service-oriented efforts throughout campus and beyond.

The Robert A. Fox Leadership Program (http://www.admissions.upenn.edu/academics/fox-leadership-program) prepares students for present and future leadership through hands-on experience, service, course work, and mentorship from successful leaders.

Enrollment & Degree Verification

The University Registrar's office provides verification of dates a student attended Penn and degrees awarded by the Schools of the University. Details concerning Academic Certification may be found on the University Registrar web page (http://www.upenn.edu/registrar/student-services/academic-certification.html).

Fellowships and Prizes

The Center for Undergraduate Research and Fellowships (CURF) (https://www.curf.upenn.edu) serves as the University of Pennsylvania's information clearinghouse and primary support office for Penn students and alumni considering applying for major grants and fellowships.

CURF's Fellowships Team educates Penn students and alumni about fellowships and assists potential applicants in creating their strongest possible application through information sessions, conversations with fellowship recipients, and individual advising. CURF also supports and manages selection committees consisting of leading Penn faculty that evaluate applications and select applicants to endorse.

Fellowships provide funding for a wide range of activities:
- full tuition, fees, and a living stipend to earn a graduate degree abroad
- undergraduate or graduate study in the US
- conducting a research project abroad
- teaching English abroad
- internships abroad
- social engagement projects in the US or abroad

CURF aims to demystify these opportunities to help students determine the most appropriate awards for which to apply.

Helpful links:
- Fellowships Advising (https://www.curf.upenn.edu/fellowships-advising)
- Information Sessions and Workshops (https://www.curf.upenn.edu/information-sessions-and-workshops)
- Finding a Fellowship (https://www.curf.upenn.edu/finding-fellowship)
- Fellowships Directory (https://www.curf.upenn.edu/fellowships-directory)
- Major Fellowships (https://www.curf.upenn.edu/major-fellowships)
- Developing Your Candidacy (https://www.curf.upenn.edu/developing-your-candidacy)
- Fellowship Recommendation Letters (https://www.curf.upenn.edu/fellowship-recommendation-letters)
- Recent Penn Recipients (https://www.curf.upenn.edu/recent-penn-recipients)
- Applicant Responsibilities and Penn Policies (https://www.curf.upenn.edu/applicant-responsibilities-and-penn-policies)

School-based Awards

In addition to departmental awards, there are a variety of awards available to undergraduate students within a particular school.

College of Arts and Sciences
- Abraham D. Cohn Prize
- Charles W. Burr Book Prize
- College Alumni Society 250th Commemoration Award
- Phi Beta Kappa Awards (https://www.college.upenn.edu/pbk_awards)
- Vagelos Challenge Award (https://www.college.upenn.edu/vagelos-challenge)

For more information, visit: https://www.college.upenn.edu/senior-awards.

School of Engineering and Applied Science

Undergraduate Awards
- C. N. Weygandt Award (Student Choice Award)

Departmental Awards
- Bioengineering
• Chemical and Biomolecular Engineering
• Computer and Information Science
• Electrical and Systems Engineering
• Materials Science and Engineering
• Mechanical Engineering and Applied Mechanics

Awards From Additional Sources
• From the Moore School
  • John Grist Brainerd Award
  • Stuart Eichert, Jr. Memorial Prize
  • Atwater Kent Prize in Electrical Engineering
  • Walter Korn Award
  • Moore School Council Cwikla Award

• From Advancing Women in Engineering
  • Jaros Baum and Bolles Award

• From the Undergraduate Affairs Committee
  • Penn Engineering Exceptional Service Award
  • Manfred Altman Memorial Award
  • Ben and Bertha Gomberg Kirsch Prize (Applied Science Prize)
  • Engineering Alumni Society E. Stuart Eichert, Jr. Award
  • Engineers’ Club of Philadelphia Young Engineer Award
  • Albert P. Godsho Engineering Prize
  • Wolf-Hallac Award
  • Hugo Otto Wolf Memorial Prize

• Management and Technology Awards
  • Management and Technology Scholarship Award
  • Michele Huber and Brian D. Giles Memorial Award
  • Naren Udayagiri Scholarship Award

For more information, visit: http://www.seas.upenn.edu/undergraduate/student-life/awards.php.

School of Nursing
• Claire M. Fagin Award
• Dean’s Award
• Dorothy Mereness Award
• Ellen D. Baer Award
• Jeanne Frances Hopkins Award
• Mary D. Naylor Undergraduate Research Award
• Norma Lang Award
• Penn Nursing Alumni Student Award
• Sigma Theta Tau Award
• Theresa I. Lynch Award

For more information, visit: https://www.nursing.upenn.edu/live/files/172-bsn-handbookpdf.

The Wharton School
• Beverly Virany Memorial Prize
• Class of 1975 Management Award
• Dean’s Awards (https://undergrad-inside.wharton.upenn.edu/deans-awards)
  • The Dean’s Award for Excellence
  • The Dean’s Award for Innovation
  • The Dean’s Award for Service to the Wharton School
  • The Dean’s Award for Service to the University of Pennsylvania and the Philadelphia Community

• Delta Sigma Pi Scholarship Key
• Financial Executives Institute Award
• Herbert S. Steuer Memorial Prize
• John J. Holahan Memorial Prize
• Louis Rudolph Accounting Award
• William D. Gordon Award
• Vice Dean’s Award for Service

University Prizes
The following academic prizes are awarded at the University level:

President’s Engagement Prizes (https://www.curf.upenn.edu/presidents-engagement-prizes)
Competitively awarded on an annual basis, the President’s Engagement Prizes empower Penn seniors to design and undertake local, national or global engagement projects during the first year after they graduate.

President’s Innovation Prize (https://www.curf.upenn.edu/presidents-innovation-prize)
Unique at both Penn and across higher education, the President’s Innovation Prize underscores the University’s considerable commitment to encouraging students to put their knowledge to work for the betterment of humankind.

Senior Awards
The University of Pennsylvania grants numerous undergraduate awards to outstanding graduating seniors, in addition to some sophomores and juniors. Eligibility and criteria vary by award.

The Senior Honor Awards (Spoon, Bowl, Cane and Spade for those who identify as men; Hottel, Harnew, Goddard and Brownlee Awards for those who identify as women) (http://www.vpul.upenn.edu/osa/seniors.php)
Nominees must be members in good academic standing who have actively contributed to campus life through activities and leadership. All nominees are placed on a ballot (one for men, one for women) which is distributed to a committee of staff members and the Senior Class Board. This committee votes and narrows the candidate pool to 15 men and 15 women, who are then voted upon by the entire Senior Class. The top 4 men and 4 women receive the awards on Ivy Day.

Granted to graduating students of color who demonstrate leadership, advance diversity at Penn through student activities or community service, and exemplify excellence.

The James Howard Weiss Memorial Award and The Penn Student Agencies Award (http://www.vpul.upenn.edu/osa/seniors.php)
Both awards recognize distinguished academic achievement (minimum G.P.A. of 3.7) and significant leadership in undergraduate activities by members of the senior class. A committee of students, faculty and staff makes the final selection from the list of candidates. Ideally, nominees should be the most outstanding members of group (1) above.
The Sol Feinstone Undergraduate Awards (http://www.dolphin.upenn.edu/oslaf/feinstone.html)

These awards may be presented to a sophomore, junior or senior who has contributed to "orderly and constructive social and educational change within or outside the University community." Past recipients have included the undergraduate who established the first mental health student group in the nation; the creators of a Saturday African-centered enrichment program for local children; the organizers of a pre-orientation leadership program for first-year students; and the founder of the first and the only youth-led LGBT statewide organization in the nation. Finalists are chosen by the same committee as in (2) above. (Keep in mind the fact that there must be a specific contribution, not just a list of activities).

Student Award of Merit (http://www.dolphin.upenn.edu/oslaf/alumni.html)

This award, sponsored by Penn Alumni, is presented to members of the Senior Class on the May graduation roster in recognition of their service to the University of Pennsylvania, which, in combination with other activities/endeavors, strengthens and enhances the University. The selection committee recognizes that University service takes many different forms, including but not limited to academic, co-curricular, athletic, and community service. Alumni relations and/or advancement experience is not required. Applicants are asked to use the brief essay portion of this application to describe the nature of their contributions to the Penn community and provide meaningful examples of the same. This award will be given to no fewer than one and no more than five members of the senior class. A committee comprised of alumni makes the final selection from the list of candidates. There is no minimum G.P.A. requirement.

For more information, visit: http://www.vpul.upenn.edu/osa/seniors.php.

Financial Aid

The Office of Student Registration and Financial Services (SRFS) provides solutions to students' concerns and encompasses the offices of the University Registrar and Student Financial Services.

- Information about Paying for a Penn Education (http://www.sfs.upenn.edu/paying)
- Information about Applying for Financial Aid (http://www.sfs.upenn.edu/finaid)
- Information about Loans (http://www.sfs.upenn.edu/loans)
- Information about Billing and Payment (http://www.sfs.upenn.edu/billing)

Academic Year 2017-2018

<table>
<thead>
<tr>
<th>Budget Items</th>
<th>Living On/Off Campus</th>
<th>Living at Home with Family</th>
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<tr>
<td>Tuition and Fees</td>
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<td>Fees</td>
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<td>Total Budget</td>
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<td>$59,318</td>
</tr>
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</table>

Tuition and fees are fixed costs. These mandatory fees include the general fee, the educational technology fee, and the student health clinical fee.

The housing allowance is based on the median room rate in the University College Houses. To stay within the allowance, be conscious of your room selection and choose it by the Penn Housing deadline. Residential freshmen are required to live on-campus housing during their first year of enrollment.

The meal allowance represents the cost of one of the first year dining plans through Penn Dining. If you live at home with your family, an allowance for meals away from home is included. Freshmen are required to participate in a meal plan during their first year of enrollment.

The book and supplies allowance provides for the expected annual cost for textbooks and supplies.

The transportation allowance provides for standard commuting. The approximate cost of two round-trips home may be added on a case-by-case basis.

Personal expenses include allowances for clothing, laundry, recreation, etc.

Married Students and Students with Dependents

Your basic cost of attendance includes tuition, fees, books and supplies. It is expected that living and personal expenses are covered by your spouse's income. If you are not married, or if your spouse is a student, a supplement may be added to the basic budget to assist you with living expenses. Penn has limited funds to support the individual non-educational financial needs of married students and students with dependents. Students in need of such funding may be eligible for additional Direct Loan.

College of Liberal and Professional Studies Students

Because your financial aid eligibility is based on the number of courses in which you are enrolled, your budget will vary. SFS will determine your budget based on the number of credits you will be taking for a particular term. Most importantly, this will be based on LPS tuition rates. If you change your registration plans, e-mail our office, or submit a revised Registration Form so we can adjust your budget and aid.

For more information, visit: http://www.sfs.upenn.edu/paying/cost-of-attendance.htm.

Financial Policies

Payment of Tuition, Fees, and Other Charges

All amounts billed to students are due on the due date indicated on the bill. You will receive an email notification each month when a new billing statement is available on Penn.Pay (Penn's electronic billing service). Students whose parents or other payers are making payments are reminded that you (the student) must invite them to be an 'other payer' on Penn.Pay so that they can both view and pay your bill. Payments must be made on or before the due date. Payments can be made online, by check, wire transfer or in person. Please refer to the Student Financial Services web site at http://www.sfs.upenn.edu/paymybill/index.htm. Balances remaining beyond the due date are subject to a late payment penalty of 1.5% per month, which will appear on the next statement. A student could be placed on Financial Hold if bills remain unpaid which will jeopardize continuing enrollment and future registration.
Failure to Pay
The University reserves the right to withhold registration, transcripts, diplomas and all other information regarding the record of any student who is in arrears in the payment of tuition, fees, or any other charges, including student loans. The enforcement of this policy shall not relieve the student of the obligation to pay any outstanding fees and charges.

Withdrawal/Leave of Absence: Reduction of Tuition and Fees
A student who withdraws from the University (or who is requested to withdraw for failure to maintain a satisfactory scholastic standing) or who is granted a leave of absence from a full-time division of the University during either term of the academic year will be eligible for a reduction in tuition and fees in accordance with the conditions set forth below.

The effective date of separation from the University is the date the student files a written request for withdrawal or leave of absence.

A student who is required to withdraw because of a violation of University regulations shall receive no tuition refund.

For all other students, term charges will be adjusted as follows:

- **First two weeks of class**: 100%
- **Third and fourth weeks of class**: 50%
- **Thereafter**: 0%

In the case of students receiving financial aid, eligibility for the term will be determined based on actual charges and prorated allowances for living expenses.

For rules regarding reductions in residence and meal contract charges, see the current year’s Residential Handbook (http://www.business-services.upenn.edu/housing/assets/pdf/handbook0910.pdf) and the terms and conditions of meal plans (http://www.business-services.upenn.edu/dining).

**Note:** Please contact your home school representative regarding rules for Graduate, Professional, LPS and other Special Programs.

Policy on Military Leave
If a student who has not received full academic credit for the term is called to service through enrollment in a military reserve unit, or through enlistment in the military service, the student’s tuition and mandatory fees for the term shall be cancelled, provided a request, substantiated by the proper evidence, is filed with the dean of the school in which he or she is registered.


The Higher Education Opportunity Act of 2008 requires the University to provide a list of student-related disclosures and policies, as well as information about how to obtain the required information. This information is provided below in a list format with links to the appropriate information.

I. NON-LOAN RELATED DISCLOSURE REQUIREMENTS

A. Availability of Institutional Financial Aid Information
2. Contact information for assistance in obtaining institutional or financial aid information: http://www.sfs.upenn.edu/contacts/index.htm

B. Student Financial Assistance
1. Student financial aid information: http://www.sfs.upenn.edu/paying/index.htm

C. General Institutional Information
1. Consumer information on College Navigator website: http://nces.ed.gov/collegenavigator/?q=university+of+pennsylvania&s=all&pg=2&id=215062
2. Price of attendance
   - Undergraduate: http://www.sfs.upenn.edu/paying/cost-of-attendance.htm
   - Graduate*: Each graduate/professional school has its own cost of attendance structure. See listing below for links directly to their sites.
3. Net Price Calculator:
   b. http://netpricecalculator.collegeboard.org/participating-schools
4. Refund policy, requirements for withdrawal and for the return of Title IV, HEA financial aid: https://provost.upenn.edu/policies/pennbook/2013/02/13/financial-policies
5. Banking Relationship Disclosures
Penn complies with the U.S. Department of Education’s guidelines in making information on its marketing relationships with financial institutions publically available. Here are the contracts outlining the banking relationships with PNC Bank (https://provost.upenn.edu/uploads/media_items/pnc-and-penn-2015-and-2016-amendment-original.original.pdf) and the Student Federal Credit Union at the University of Pennsylvania (https://provost.upenn.edu/uploads/media_items/sfcu-university-contract.original.pdf).
For more information on banking options visit: http://www.srfs.upenn.edu/banking/index.htm

Graduate/Professional Schools Cost of Attendance (COA):
- **Annenberg** – No published COA. All students are fully funded with stipends.
- **Arts & Sciences** – http://www.upenn.edu/provost/graduate_admissions/finance/(No reference to living expenses)
- **Design** – http://www.design.upenn.edu/graduate-admissions/tuition-and-financial-aid/(No reference to living expenses)
- **Dental** – http://www.dental.upenn.edu/academic_programs_admissions/dmd_program/tuition_fees
- **Education** (GSE) – http://www.gse.upenn.edu/admissions_financial/tuition/(Link on the left for living expenses)
Foreign Language Study Opportunities

The Penn Language Center offers over 40 world languages per semester to both undergraduate and graduate students and is a leader in the field of language education and pedagogy training language instructors in language methodology in accordance with the National Standards.

Penn Language Center: plc.sas.upenn.edu

Some schools have foreign language requirements. Information about requirements and options for foreign language study varies by school:

- College of Arts and Sciences (https://www.college.upenn.edu/language-study)
- School of Nursing (https://www.nursing.upenn.edu/live/files/247-language-requirement2016pdf)
- The Wharton School (https://undergrad-inside.wharton.upenn.edu/requirements-2017-foreign-language-requirement)

The Penn Language Center maintains a list of languages (http://plc.sas.upenn.edu/languages) offered at Penn:

- Afrikaans (http://plc.sas.upenn.edu/node/2538)
- American Sign Language (http://plc.sas.upenn.edu/asl)
- Amharic (http://plc.sas.upenn.edu/amharic)
- Bengali (http://plc.sas.upenn.edu/bengali)
- Cantonese (http://plc.sas.upenn.edu/cantonese)
- Chichewa (http://plc.sas.upenn.edu/chichewa)
- Chinese (http://plc.sas.upenn.edu/chinese)
- Czech (http://plc.sas.upenn.edu/czech)
- Judeo-Spanish (http://plc.sas.upenn.edu/judeospanish)
- Kannada (http://plc.sas.upenn.edu/kannada)
- Korean (http://plc.sas.upenn.edu/korean)
- Malayalam (http://plc.sas.upenn.edu/malayalam)
- Marathi (http://plc.sas.upenn.edu/marathi)
- Modern Greek (http://plc.sas.upenn.edu/modernGreek)
- Panjabi (http://plc.sas.upenn.edu/panjabi)
- Pashtu (http://plc.sas.upenn.edu/pashtu)
Global Programs

Each year Penn Abroad sends approximately 600 students abroad to earn academic credit in nearly 50 countries. Semester and academic year study abroad opportunities for undergraduate students are available in the College of Arts & Sciences, the Wharton School, the School of Engineering & Applied Science, and the School of Nursing.

Penn Abroad (https://global.upenn.edu/pennabroad), a division of Penn Global (https://global.upenn.edu), provides information about how to plan for semester and academic year study abroad, what programs are approved for academic credit, how to apply for admission, how to finance the cost, and what Penn expects of you as a participant.

Click here (https://global.upenn.edu/pennabroad/students/getting-started) for information on how to get started with Semester and Academic Year study abroad (https://global.upenn.edu/pennabroad/students/getting-started), and a searchable list of all programs.

In addition, Penn Abroad also runs:

- International Internship Program (IIP) (https://global.upenn.edu/iip) – 8-12 week summer internships with stipend for outstanding students.
- Independent International Internships (I3) (https://global.upenn.edu/iip/i3) – Stipends for outstanding students for international internships secured independently.

Other global opportunities for Penn undergraduate students exist across campus, including:

- Penn Summer Abroad (http://www.sas.upenn.edu/summer/programs/abroad) – offers faculty-led undergraduate courses offered in the summer through the School of Arts and Sciences to a range of international destinations each year.
- Wharton International Program (https://undergrad-inside.wharton.upenn.edu/wip) – provides short term international business courses at three global locations each year.
- Penn Nursing Short Term & Independent Programs (https://www.nursing.upenn.edu/global-health/student-opportunities/short-term) – provides students with a number of elective courses that can be taken abroad, including some clinical elective opportunities.
- Penn Engineering (http://www.seas.upenn.edu/community/international-opps.php) – provides a range of programs for undergraduate Engineering students including Summer Study Abroad, International Summer Research and Service Learning Opportunities.

Students are encouraged to speak to their department and home school about additional study abroad opportunities that may exist.

Information for Athletes

Penn Athletics (http://www.pennathletics.com) offers a number of programs to support student-athletes academically.

Student Athlete Development Center (http://www.pennathletics.com/page/student-athlete-development-center)

Academic Resources (http://www.pennathletics.com/page/academic-resources)

Student-Athlete Academic Achievement Program

The Student-Athlete Academic Achievement Program is designed to provide student-athletes with supplemental study and tutoring opportunities, as well as to foster academic interaction with fellow student-athletes. During the academic year, students have access to reserved rooms for scheduled study time, and individualized and group tutoring sessions. In addition, workshops are conducted to offer strategies for succeeding at Penn.

For more information, visit http://www.pennathletics.com/page/student-athlete-academic-achievement-program.

To be certified academically eligible to participate (practice and/or compete) in intercollegiate athletics at the University of Pennsylvania, a student:

- Shall not have been awarded a baccalaureate degree, and
- Shall be in a specific baccalaureate degree program by beginning of the fifth term of full-time enrollment (at Penn or anywhere), and
- Shall be enrolled for a full-time course load of academic study for the current semester, and
- Shall have been awarded a minimum of 1.5 course units for each semester of full-time enrollment (beginning with the first semester of participation in intercollegiate athletics [anywhere]), and
- Shall satisfy requirements in the following areas:
  a. NCAA Initial Eligibility (Freshman Only)
  b. Completion of academic course work (course units awarded)
  c. Grade-point-average
  d. NCAA percentage of degree requirement

Note: The calculation of the percentage of degree, which is be based upon the information found in a student-athlete’s official academic worksheet has been automated effective with the 2005-06 academic year. A percentage cannot be calculated when a worksheet does not exist or is not official. It is
the responsibility of the student-athlete to ensure that academic worksheet is official and current as to the student-athlete’s major and/or concentration and that all courses have been correctly slotted under the applicable requirement field. Student-athletes are to have academic worksheets made official by end of the fourth semester.

Transfer student-athletes and student-athletes participating in study abroad programs are not exempted from the percentage of degree requirement.

Provisional eligibility may be granted onetime only to a student-athlete who does not satisfy the prescribed norms for progress — being awarded an average of four (4) course units of academic credit per full-time semester or the good standing — a cumulative GPA of 2.00 provided all other applicable requirements are satisfied. Provisional eligibility, when granted, shall terminate at the conclusion of the academic year in which it is granted or at the start of the spring semester should the student-athlete's academic performance for the fall semester not meet the NCAA term progress and/or GPA requirement.

In observance of NCAA legislation, certification of satisfaction of academic requirements is required prior to competition in each semester. Additionally, senior student-athletes or student-athletes who are exhausting their athletic eligibility must be recertified prior to participation in postseason competition occurring between semesters — fall to spring as well as spring to fall.

Information for:
- Incoming Freshman (p. 252)
- Rising Sophomores (p. 252)
- Rising Juniors (p. 253)
- Rising Seniors (p. 253)
- Fifth Year Students (p. 254)

I. Incoming Freshmen (or students who are enrolling as full-time college students for first time):

All students who are in their first or second semester of full-time college enrollment (anywhere) must be registered in a full-time course load of study. Additionally, a student participating in a NCAA sponsored sport is required to be certified by the NCAA initial Eligibility Clearinghouse as having satisfied the applicable academic requirements for participation in intercollegiate athletics during a student’s first-year of college matriculation.

This means if you are a freshman, to be academically eligible you must:
- A full-time student, and
- Certified eligible by the NCAA Clearinghouse (except freshmen participating in non-NCAA sponsored sports)

II. Rising Sophomores (or students who have completed two full-time semesters (or equivalent) of college enrollment (including transfer student-athletes):

By the beginning of the third semester of enrollment (start of sophomore year for most student-athletes) a student must have achieved a minimum cumulative grade-point-average of 2.00, earned a minimum of one and one half (1.5) course units for the prior academic semester (not summer term) and the student’s transcript must display a minimum of eight (8) course units as having been awarded for the period commencing with the student’s first full-time semester and ending with the second full-time semester (including applicable summers). A minimum of four and one half (4.5) of the eight (8) course units awarded must be from academic course work completed in the first two full-time semesters (at Penn or elsewhere). Additional course units may be awarded from the first two full-time semesters and/or from any of the following: advanced placement credit, Penn’s Pre-Frosh Program credit, summer and/or transfer credit, all of which must be displayed on the student’s transcript at the time of eligibility evaluation.

This means if you are a sophomore, to be academically eligible you must:
- Be a full-time student, and
- Have a minimum cumulative GPA of 2.00, and
- Have 8 course units (on transcript at time of eligibility evaluation),
  - A minimum of 4.5 of the 8 course units must be for academic work completed in the first two full-time semesters (excluding summer), and
  - A minimum of 1.5 course units must be for academic work completed in the previous full-time semester (excluding summer),

New transfer students (matriculating at Penn for first time), to be academically eligible you must:
- Be a full-time student, and
- Have been awarded 24 course units of course work (equivalent of 6 Penn course units) at your former school.
  - A minimum of 18 of the 24 course units must be for academic work completed in the first two full-time semesters (excluding summer), and/or
  - Have 3 course units of transfer credit that is Penn degree applicable per term of full-time enrollment from the two-year college previously attended. Transfer credits must be displayed on transcript at time of eligibility evaluation.

Provisional Eligibility — After two full-time semesters.

If by the beginning of the third full-time semester a student-athlete satisfies all of the above requirements except for the cumulative GPA of at least 2.00 and/or eight (8) awarded course units on the transcript, the student-athlete may be considered for provisional eligibility.

- Minimum cumulative GPA for provisional eligibility consideration is 1.85.
- Minimum total number of awarded course unit credit is 6 CUs.
  - A minimum of 4.5 of the 6 course units must be for academic work completed in the first two full-time semesters (excluding summer).

To be considered for provisional eligibility a student-athlete shall meet with the school eligibility officer to discuss the academic deficiency and to develop an Academic Enhancement Plan (AEP) which shall record the plan for academic improvement and agreed upon conditions of provisional eligibility between the student-athlete and the school. The student-athlete shall then review the AEP with the Assistant Director of Athletics for Academic Services who may add additional stipulations. Following these two meetings, the student-athlete shall acquire signatures (in sequence) endorsing the AEP from the sport’s head coach and DRIA compliance coordinator.
III. Rising Juniors (including transfer student-athletes):

By the beginning of the junior year (fifth and sixth semesters), a student must be in a degree program, have satisfied forty (40) percent of degree requirements, achieved a minimum cumulative grade-point-average of 2.00, earned a minimum of one and one half (1.5) course units for the prior full-time semester (not summer term) and the student's transcript must display an average of four (4) course units as having been awarded for each full-time semester of Penn enrollment. A rising junior (unless a transfer student-athlete) must have a minimum of sixteen (16) awarded course units on his or her transcript with a minimum of six (6) awarded course units being for work completed in the two most recently completed full-time semesters (including summer sessions). A minimum of four and one half (4.5) of these six course units must be from academic course work completed in the prior two full-time semesters (not including summer) with the additional one and one half (1.5) course units coming from academic work completed in the prior two full-time semesters and/or summer (including course units awarded for transfer credit), all of which must be displayed on the student's transcript at the time of the eligibility evaluation.

This means if you are a junior, to be academically eligible you must:

- Be a full-time student, and
- Be in a degree program (have an approved major, if applicable), and
- Have an official academic worksheet, and
- Have completed 40% of the requirements for your specific Penn degree, and
- Have a minimum cumulative GPA of 2.00, and
- Have a minimum of 16 course units (on transcript at time of eligibility evaluation),
  - A minimum of 6 course units awarded must be for academic work completed in the prior two full-time semesters and/or previous summer sessions,
  - A minimum of 4.5 course units awarded must be for academic work completed in the prior two full-time semesters (excluding summer sessions),
  - A minimum of 1.5 course units must be for academic work completed in the previous full-time semester (excluding summer sessions),

New transfer students (matriculating at Penn for first time), to be academically eligible you must:

- Be a full-time student, and
- Be in a degree program (have an approved major, if applicable), and
- Have an official academic worksheet, and
- Have completed 40% of the requirements for your specific Penn degree
- Thus, you will be required to have a sufficient number of awarded Penn and/or transfer credit on your transcript at the time of the eligibility review to satisfy the 40% percentage of degree requirement.

Provisional Eligibility – After four full-time semesters.

If by the beginning of the fifth full-time semester a student-athlete satisfies all of the above requirements except for the cumulative GPA of at least 2.00 and/or sixteen (16) awarded course units on transcript, the student-athlete may be considered for provisional eligibility.

- Minimum cumulative GPA for provisional eligibility consideration is 1.90.
- Minimum total number of awarded course unit credit is 14 CUs.

To be considered for provisional eligibility a student-athlete shall meet with the school eligibility officer to discuss the academic deficiency and to develop an Academic Enhancement Plan (AEP) which shall record the plan for academic improvement and agreed upon conditions of provisional eligibility between the student-athlete and the school. The student-athlete shall then review the AEP with the Assistant Director of Athletics for Academic Services who may add additional stipulations. Following these two meetings, the student-athlete shall acquire signatures (in sequence) endorsing the AEP from the sport's head coach and DRIA compliance coordinator.

IV. Rising Seniors (including transfer student-athletes):

By the beginning of the senior year (seventh and eighth semesters), a student must be in a degree program, have satisfied sixty (60) percent of degree requirements, achieved a minimum cumulative grade-point-average of 2.00, earned a minimum of one and one half (1.5) course units for the prior Penn academic semester (not summer term) and the student's transcript must display an average of four (4) course units as having been awarded for each full-time semester of Penn enrollment. A rising senior (unless a transfer student-athlete) must have a minimum of twenty-four (24) awarded course units on the transcript with a minimum of six (6) awarded course units being for work completed in the most recently completed two full-time semesters (including summer sessions). A minimum of four and one half (4.5) of these six course units must be from academic course work completed in the prior two full-time semesters (not including summer) with the additional one and one half (1.5) course units coming from academic work completed either in the prior two full-time semesters and/or summer (including course units awarded for transfer credit), all of which must be displayed on the student's transcript at the time of the eligibility evaluation.

This means if you are a senior, to be academically eligible you must:

- Be a full-time student (unless you satisfy the criterion for a NCAA exception), and
- Be in a degree program (have an approved major, if applicable), and
- Have an official academic worksheet, and
- Have completed 60% of the requirements for your specific Penn degree, and
- Have a minimum GPA of 2.00, and
- Have a minimum of 24 course units (on transcript at time of eligibility evaluation),
  - A minimum of 6 course units awarded must be for academic work completed in the prior two full-time semesters and/or previous summer sessions,
  - A minimum of 4.5 course units awarded must be for academic work completed in the prior two full-time semesters (excluding summer sessions),
  - A minimum of 1.5 course units must be for academic work completed in the previous full-time semester (excluding summer sessions),

New transfer students (matriculating at Penn for first time), to be academically eligible you must:

- Be a full-time student, and
must: This means if you are a 5th year student, to be academically eligible you must:

- Be a full-time student (unless you satisfy the criterion for a NCAA exception), and
- Be in a degree program (have an approved major, if applicable), and
- Have an official academic worksheet, and
- Have completed 60% of the requirements for your Penn degree
  - Thus, you will be required to have a sufficient number of awarded Penn and/or transfer course units on your transcript at the time of the eligibility review to satisfy the 60% percentage of degree requirement.

**Provisional Eligibility – After six full-time semesters.**

If by the beginning of the seventh full-time semester a student-athlete satisfies all of the above requirements except for having the twenty-four (24) course units awarded, the student-athlete may be considered for provisional eligibility provided a graduation audit has been completed.

- Minimum cumulative GPA for provisional eligibility consideration is 2.00.
- Minimum total number of awarded course unit credit is 22 CUs.

To be considered for provisional eligibility a student-athlete shall meet with the school eligibility officer to discuss the academic deficiency and to develop an Academic Enhancement Plan (AEP) which shall record the plan for academic improvement and agreed upon conditions of provisional eligibility between the student-athlete and the school. The student-athlete shall then review the AEP with the Assistant Director of Athletics for Academic Services who may add additional stipulations. Following these two meetings, the student-athlete shall acquire signatures (in sequence) endorsing the AEP from the sport’s head coach and DRIA compliance coordinator.

**V. Fifth Year Students (including transfer student-athletes):**

By the beginning of fifth year (ninth and tenth semesters), a student must be in a degree program, have satisfied eighty (80) percent of degree requirements, achieved a minimum cumulative grade-point-average of 2.00, earned a minimum of one and one half (1.5) course units for the prior Penn academic semester (not summer term) and the student’s transcript must display an average of four (4) course units as having been awarded for each full-time semester of Penn enrollment. A rising senior (unless a transfer student-athlete) must have a minimum of thirty-two (32) awarded course units on transcript with a minimum of six (6) awarded course units being for work completed in the most recently completed two full-time semesters (including summer sessions). A minimum of four and one half (4.5) of these six course units must be from academic course work completed in the prior two full-time semesters (not including summer) with the additional one and one half (1.5) course units coming from academic work completed in the prior two full-time semesters and/or summer sessions (including course units awarded for transfer credit), all of which must be displayed on the student’s transcript at the time of the eligibility evaluation.

This means if you are a 5th year student, to be academically eligible you must:

- Have a minimum of 32 course units (on transcript at time of eligibility review),
  - A minimum of 6 course units awarded must be for academic work completed in the prior two full-time semesters and/or previous summer), and
  - A minimum of 4.5 course units awarded, must be for academic work completed in the prior two full-time semesters (excluding summer), and
  - A minimum of 1.5 course units must be for academic work completed in the previous full-time semester (excluding summer),

New transfer students (matriculating at Penn for first time), to be academically eligible you must:

- Be a full-time student, and
- Be in a degree program (have an approved major, if applicable), and
- Have an official academic worksheet, and
- Have completed 80% of the requirements for your Penn degree
  - Thus, you will be required to have a sufficient number of awarded Penn and/or transfer course units on your transcript at the time of the eligibility review to satisfy the 80% percentage of degree requirement.

**Provisional Eligibility – After eight full-time semesters.**

If by the beginning of the ninth full-time semester a student-athlete satisfies all of the above requirements except for having thirty-two (32) course units awarded, the student-athlete may be considered for provisional eligibility provided a graduation audit has been completed.

- Minimum cumulative GPA for provisional eligibility consideration is 2.00.
- Minimum total number of awarded course unit credit is 30 CUs.

Provisional eligibility, if approved shall be for one semester only but may be extended for a second semester upon recommendation from the school eligibility officer.

To be considered for provisional eligibility a student-athlete shall meet with the school eligibility officer to discuss the academic deficiency and to develop an Academic Enhancement Plan (AEP) which shall record the plan for academic improvement and agreed upon conditions of provisional eligibility between the student-athlete and the school. The student-athlete shall then review the AEP with the Assistant Director of Athletics for Academic Services who may add additional stipulations. Following these two meetings, the student-athlete shall acquire signatures (in sequence) endorsing the AEP from the sport’s head coach and DRIA compliance coordinator.

(Source: Almanac, Vol. 52, No. 5, September 27, 2005 (http://www.upenn.edu/almanac/volumes/v52/n05/uc_recrea.html))

**Information for First-Generation, Low Income Students**

Penn offers a generous program of need-based financial aid (http://www.sfs.upenn.edu/paying) and a strong commitment to increase access for qualified students from all economic backgrounds (http://www.sfs.upenn.edu/finaid/penn-finaid-initiative.html). There are a number of resources to support First Generation Low Income Students.
Penn’s First-Generation, Low-Income (FGLI) Program (http://www.vpul.upenn.edu/gic/FGLIProgram.php) is housed at the Greenfield Intercultural Center (http://www.vpul.upenn.edu/gic) (GIC), part of the Division of the Vice Provost for University Life (http://www.vpul.upenn.edu).

This program provides a supportive and inclusive learning environment for scholars from low-income backgrounds who are the first in their families to attend college. The FGLI program also welcomes all students who identify as first-generation for any of the multitude of ways this identity can be defined contextually. The staff address students’ academic, personal, and social transition needs while facilitating community-building and a sense of belonging at Penn. In collaboration with departments across campus, the FGLI program provides advising and coaching along with leadership development opportunities and experiences. The FGLI program welcomes all students who can benefit from this highly-personal engagement, and staff members are eager to celebrate these scholars and work with them to build on their talents as they navigate Penn.

The program works in collaboration with Penn First, a student organization that strives to be a community and support network for students who identify as first-generation college students and/or come from low-socioeconomic backgrounds. For more information about Penn First, visit: http://www.vpul.upenn.edu/gic/pennfirst.php.

In addition to the FGLI program, Penn offers additional resources and supports that may be helpful for low-income or first-generation students. For more information, visit: http://www.vpul.upenn.edu/Low-IncomeFirst-GenerationStudents.

Information for International Students

Penn’s International Student and Scholar Services (ISSS) (https://global.upenn.edu/iss) provides immigration benefits assistance and integration initiatives for the international community at Penn. ISSS works with international students through all stages of their journey at Penn, providing guidance every step of the way.

ISSS provides support to students in many different areas. Some examples include:

- Preparing students for arrival to the U.S.
- Helping get adjusted to life in Philadelphia
- Advising on full and part-time status, travel, and immigration guidelines
- Providing integration opportunities such as social events, cultural trips and leadership roles
- Assisting with employment authorization before internships or jobs
- Assigned advisors and a central online portal for requests and forms via the iPenn system (https://www.ipenn.oip.upenn.edu)

Find out more information for:

- New Students (https://global.upenn.edu/iss/new)
- Current Students (https://global.upenn.edu/iss/students)
- Beyond Immigration (https://global.upenn.edu/iss/beyond-immigration)

Click the iPenn logo to see your assigned advisor and make requests with eforms.

Learning Resources

Center for Programs in Contemporary Writing (http://www.writing.upenn.edu)

The Center for Programs in Contemporary Writing (http://www.writing.upenn.edu) (CPCW) brings together all of Penn’s writing programs, entities, and projects to form a collaborative whole. The Center presents writing courses, workshops and a reading circle. In addition, it offers students an opportunity to perform their writing or to become involved as a tutor, mentor or editorial apprentice.

College Houses and Academic Services (http://www.collegehouses.upenn.edu)

The eleven College Houses bring together undergraduates, faculty, staff, and graduate students to form vibrant residential communities within the larger context of our renowned urban campus, right in the heart of historic Philadelphia.

Each House has a Faculty Director, one or more Fellows, a House Dean, a House Coordinator, a plentiful staff of student Residential Advisors (RAs) and Graduate Associates (GAs), student Information Technology Advisors (ITAs), and many student managers in key positions.

Open to all Penn students, House tutoring sessions in math, chemistry, and economics are free and require no advance sign-up. For more information on tutoring within the Houses, visit: http://www.collegehouses.upenn.edu/life/tutoring.

Communication within the Curriculum (CWiC) (http://www.sas.upenn.edu/cwic)

Communication Within the Curriculum (CWiC)’s (http://www.sas.upenn.edu/cwic) undergraduate speaking advisors help students develop their public speaking skills through workshops and one-on-one advising sessions during walk-in hours. CWiC also offers two critical speaking seminars and a number of affiliate courses.

Grad-Undergrad Mentoring Program (http://www.gsc.upenn.edu/mentoring)

The Grad-Undergrad Mentoring Program (http://www.gsc.upenn.edu/mentoring) matches undergraduates with Penn graduate and professional students to learn more about preparing for, applying to, and succeeding in graduate school.

Penn College Achievement Program (PENNCAP) (http://www.vpul.upenn.edu/eap/penncap)

The Penn College Achievement Program (http://www.vpul.upenn.edu/eap/penncap) works closely with a diverse group of students, many from low-income and/or first-generation (http://www.vpul.upenn.edu/Low-IncomeFirst-GenerationStudents) backgrounds, to support their success at Penn. Among the many services offered are laptop and textbook loans, summer tuition grants, tutoring and advising.
SCUE Preceptorials ([http://preceptorials.org/newsite](http://preceptorials.org/newsite))

Preceptorials are short, small, non-credit seminars generated by students and led by distinguished faculty, outstanding graduate students, lauded external educators and exceptional undergraduate students. The program is designed to foster an interactive and educative environment that values learning for learning’s sake. To that end, there are no grades or tests. Preceptorials are not graded, so that students are given the opportunity to have a guided learning experience outside the traditional setting of a classroom. Most Preceptorials emphasize a hands on approach to learning, and meet once over the course of the semester.

Tutoring Center ([http://www.vpul.upenn.edu/tutoring](http://www.vpul.upenn.edu/tutoring))

The Tutoring Center ([http://www.vpul.upenn.edu/tutoring](http://www.vpul.upenn.edu/tutoring)) offers Penn undergraduates a wide variety of free, accessible, and convenient options to supplement their academic experience.

Weingarten Learning Resources Center ([http://www.vpul.upenn.edu/lrc](http://www.vpul.upenn.edu/lrc))

The Weingarten Center provides academic support services and programs for undergraduate, graduate, and professional students at the University of Pennsylvania through its two offices. The services and programs of both offices are free and confidential.

Office of Learning Resources ([http://www.vpul.upenn.edu/lrc/lr](http://www.vpul.upenn.edu/lrc/lr))

The Office of Learning Resources ([http://www.vpul.upenn.edu/lrc/lr](http://www.vpul.upenn.edu/lrc/lr)) staff provide a wide range of programming and professional consultation services in university-relevant skills such as reading, writing, study strategies, and time management.

Student Disabilities Services ([http://www.vpul.upenn.edu/lrc/sds](http://www.vpul.upenn.edu/lrc/sds))

Student Disabilities Services ([http://www.vpul.upenn.edu/lrc/sds](http://www.vpul.upenn.edu/lrc/sds)) staff work closely with students who self-identify with disabilities in order to ensure equal access to all University programs, activities and services.

Libraries

Penn has a large and service-oriented library system. The combined 15 libraries on campus contain over 4,500,000 volumes, subscribe to more than 33,000 serials, and offer a rapidly growing set of electronic services which can be accessed from home or office, as well as in the libraries.

- Locations and hours ([http://www.library.upenn.edu/locations](http://www.library.upenn.edu/locations))

Research

- For Research Guides by subject, visit: [https://guides.library.upenn.edu/hometabs](https://guides.library.upenn.edu/hometabs).
- To get help with research, students can submit questions online ([http://faq.library.upenn.edu/ask](http://faq.library.upenn.edu/ask)) or make an appointment for in-person assistance ([http://faq.library.upenn.edu/widget_standalone.php?la_widget_id=3206](http://faq.library.upenn.edu/widget_standalone.php?la_widget_id=3206)).

Canvas

Canvas is the online learning management system used at Penn. A valid PennKey is required to login to the system.

- To login to Canvas, visit: [https://canvas.upenn.edu](https://canvas.upenn.edu).
- For help with Canvas, visit: [http://guides.library.upenn.edu/canvas_students](http://guides.library.upenn.edu/canvas_students).

Quaker Consortium

University of Pennsylvania students have a unique opportunity to study at Bryn Mawr, Haverford, or Swarthmore Colleges during the fall and spring terms of the academic year.

School specific policies:

- College of Arts and Sciences ([https://www.college.upenn.edu/quaker-consortium](https://www.college.upenn.edu/quaker-consortium))
- The Wharton School ([https://undergrad-inside.wharton.upenn.edu/quaker-consortium](https://undergrad-inside.wharton.upenn.edu/quaker-consortium))

Registrar's Office

The Office of the University Registrar ([http://www.upenn.edu/registrar](http://www.upenn.edu/registrar)) supports teaching and learning at the University of Pennsylvania by maintaining the integrity of academic policies and the student information system. We are the stewards of Penn’s student records from application to degree conferral in perpetuity.

We provide the following services to Students, Faculty, Alumni, Parents, Staff and many other constituents across our campus:

- Support Students and Departments during Registration
- Reserve Classrooms for Courses and Academic Events
- Schedule Final Exams
- Record and Report Enrollment and Final Grades
- Certify Attendance
- Manage Veterans Affairs Educational Benefits
- Issue Transcripts
- Verify Graduation and Degrees

A transcript is a representation of a student’s academic record while at the University of Pennsylvania.

Official transcripts are ordered through the Office of the University Registrar website ([http://www.upenn.edu/registrar/student-services/transcripts.html](http://www.upenn.edu/registrar/student-services/transcripts.html)). Unofficial transcripts are available at anytime, online for students and alumni class of 1988 or later via the Penn in Touch portal ([https://weblogin.penkey.upenn.edu/login?factors=UPENN.EDU,UPENN.EDU-PORTAL&cosign-isc-seo-portal_prodng-0&https://pennintouch.apps.upenn.edu/pennInTouch/jsp/fast2.do](https://weblogin.penkey.upenn.edu/login?factors=UPENN.EDU,UPENN.EDU-PORTAL&cosign-isc-seo-portal_prodng-0&https://pennintouch.apps.upenn.edu/pennInTouch/jsp/fast2.do)).

The University Registrar’s office provides verification of dates a student attended Penn and degrees awarded by the Schools of the University. Details concerning Academic Certification may be found on the University
Registrar web page (http://www.upenn.edu/registrar/student-services/academic-certification.html).

Research
As one of the world’s leading research universities, Penn has a broad array of faculty conducting cutting-edge research in all disciplines. There are many routes into research involvement for undergraduates, including research-intensive courses, independent study with a faculty member, and summer programs of varying types and foci.

The Center for Undergraduate Research and Fellowships (https://www.curf.upenn.edu/research) is a resource for undergraduates in all traditional programs who are interested in getting involved in research opportunities around campus and around the world. CURF helps Penn undergraduates become involved in research by helping you identify resources, narrow your search, and shape your initial inquiries so you can find appropriate faculty mentors and research funding.

- Penn Undergraduate Research Mentoring Program (https://www.curf.upenn.edu/content/penn-undergraduate-research-mentoring-program)
- Research Opportunity Directory (https://www.curf.upenn.edu/research-opportunity-directory)
- Research Grants (https://www.curf.upenn.edu/research-grants)
- Summer Humanities Research Internships (https://www.curf.upenn.edu/summer-humanities-internships)

College of Arts and Sciences
Research reinforces and instills mastery of academic skills: how to formulate a question or hypothesis, how to gather evidence, and how to answer that question or test that hypothesis.

One of the major advantages of being an undergraduate at a research university is the wide variety of opportunities available for scholarship. Research in the College encompasses a range of activities. In some disciplines, such as English, philosophy and history, students read original works, or the primary literature, and look for new connections and interpretations of these writings. In areas such as anthropology or history of art, students study artifacts, works of art or ancient languages, gaining insights on earlier civilizations and the lives of those who contributed to them. Some students do research in biology, chemistry or psychology, seeking insights on genetic coding, molecular structure or animal behaviors.

Sometimes, students may receive College credit for research activities and scholarship, or receive work-study funds or stipends from faculty grants.

For more information, visit: https://www.college.upenn.edu/research/.

School of Engineering and Applied Science
Our extraordinary faculty-to-student ratio provides great opportunities for undergraduate students to work in state-of-the-art research laboratories during the academic year and in the summer. Below are examples of student research, along with helpful information to guide undergraduates toward finding research positions at Penn Engineering.

For more information, visit: http://www.seas.upenn.edu/undergraduate/research/index.php.

Finding a Research Mentor and Research Experiences
Students are encouraged to explore the Penn Engineering Faculty Expertise Directory (http://www.seas.upenn.edu/directory/departments.php), featuring the School’s standing faculty and is searchable by department, research center affiliation, and research expertise keyword. Users can identify which faculty are conducting research in a specific area and contact faculty members whose research interests them.

The Engineering Dean’s Advisory Board (EDAB) puts together a guide for fellow students that gives step-by-step instructions and tips on how to secure research positions as an undergraduate.

For Bioengineering majors, the Penn student chapter of the Biomedical Engineering Society (BMES) has assembled its own student guide on starting up research.

Summer Undergraduate Research in Engineering (SURE)
Penn Engineering’s world-acclaimed faculty, along with state-of-the-art research laboratories and highly interdisciplinary curricula, offers summer research opportunities for talented undergraduates who seek hands-on research experience. From robotics and computer animation, nanotechnology, genomics and biotechnology, Penn’s centers and institutes are at the forefront of research on multiple scientific and technological frontiers.

International Summer Undergraduate Research in Engineering (iSURE)
Opportunities for undergraduates are available during the summer to spend eight to 12 weeks on a research internship in one of Penn Engineering’s partner institutions abroad.

Littlejohn Undergraduate Research Program
Thanks to a generous gift by Angus Littlejohn, the School of Engineering is able to offer Summer Research Opportunities to Penn Engineering Students. The program is open to rising, sophomores, juniors and seniors.

The program intends to provide students the opportunity to get involved in hands-on engineering research under the supervision of a faculty member. Topics of research include all areas covered by the departments in the School of Engineering and Applied Science. Students will receive a stipend of $4,500 for a 10 week period.

Rachleff Scholars Program
This program offers Penn Engineering undergraduates the opportunity to gain valuable research experiences with standing faculty and to participate in a community of peers who share a common interest in research and scholarly inquiry.

School of Nursing
The Office of Nursing Research (http://nursing.livewhale.net/research/onr), along with our four research centers (http://nursing.livewhale.net/research/research-centers) and partnerships across Penn, provide students with resources and support that are virtually unparalleled in our field. Students, from undergraduates to doctoral students, have numerous opportunities to engage in research and work alongside some of the most recognized researchers in their fields.

For more information, visit: https://www.nursing.upenn.edu/research/.
The Wharton School

Research provides an individualized method of learning and an in-depth treatment of a topic of personal interest with input from a faculty expert. Research experience is helpful if applying for distinguished international fellowships and is important if going on to graduate studies in an analytical discipline. Research skills are useful for decision-making in the private and public sectors and are required in academic positions. Below you can find a variety of research opportunities and scholarship programs.

- Courses (https://undergrad-inside.wharton.upenn.edu/research/courses)—Create "tools" in a research-methods course.
- Research assistantships (https://undergrad-inside.wharton.upenn.edu/research/assistantships)—Learn by executing research-related tasks while working on a project for a faculty member.
- Summer programs (https://undergrad-inside.wharton.upenn.edu/research/summer-programs)—Gain hands-on experience from proposal to presentation through a project commensurate with program duration.
- Scholars programs (https://undergrad-inside.wharton.upenn.edu/scholars-programs)—Gain hands-on, in-depth experience from proposal to presentation via a senior thesis and other activities.
- Wharton PhD Submatriculation Program (http://doctoral-inside.wharton.upenn.edu/submatriculation)—Submatriculate into a PhD program in Accounting, Finance, Health Care Systems, Insurance and Risk Management, Management, Marketing, Operations and Information Management, Business and Public Policy, or Statistics.

For more information, visit: https://undergrad-inside.wharton.upenn.edu/research/.

Guidelines for Research in the Community

A significant number of Penn faculty and students are engaged in research that involves the study of the Philadelphia community, and, in particular, West Philadelphia, or that involves community members as research subjects. As in all research conducted under the auspices of the University, such research should adhere to the appropriate protocols for the protection of human subjects and must be approved by the University’s Institutional Review Board.

Although the Institutional Review Board does an excellent job of protecting individual subjects, community-based research raises additional questions about research protocols and approaches. The populations studied are often Penn’s neighbors, and as such, the approaches undertaken should reflect the importance of that relationship to Penn, and the values of mutual respect and trust that should guide all of our collaborative activities with the community. The University also recognizes that mutual respect and trust are necessary preconditions for the honest and open exchange of ideas that is essential to genuine learning and the advancement of academic inquiry.

The University views its relationship with the Philadelphia community as a partnership. Accordingly, and to the extent possible, Penn faculty and students should engage the community in helping to plan research projects. Also, the findings should be shared with the community so that all parties can benefit.

1. As in all research involving human subjects, undertaken under University auspices, research in the community must be approved by the Institutional review Board, and meet all of the required protections of human subjects.
2. Whenever possible, researchers investigating community issues should work with community-based organizations to discuss all aspects of the research process, including problem definition, hypothesis generation, study design, data analysis, and dissemination.
3. Whenever possible, researchers should have a dissemination plan that includes distribution or presentation of results to community members and organizations, particularly those who participated in the research.
4. Researchers should determine if other projects are underway in a community, and whenever possible, coordinate efforts with other research projects to minimize disruption and maximize positive impacts on community members and organizations.
5. In the spirit of mutual learning and benefit, researchers should consider how study results could be used to the benefit of the community whenever possible, and should make extra efforts to communicate those recommendations to appropriate community members.

(Source: Almanac, May 19/26, 1998, Volume 44, No. 34 (http://www.upenn.edu/almanac/v44/n34/orresguide.html))

Guidelines for Student Protection in Sponsored Research Projects

Participation in sponsored research may be an important part of a student's undergraduate or graduate education, as well as an important source of his or her financial support. The University recognizes that the student must be protected in cases where the terms of the research project conflict with the student's academic progress, and affirms that the student has the right to reject such funding if he or she chooses to do so. The University recognizes the sensitivity of these issues, since they pertain directly to the relationship of personal trust which exists between a student and his or her faculty sponsor; they are also fundamental to the development of the student's intellectual and moral integrity. Therefore, the University adopts the following policy:

1. The University recognizes the central role of sponsored research in fostering educational opportunities for students at all levels and in every discipline and encourages the involvement of students in research projects. On rare occasions, the terms of a research agreement may contain limitations which may inhibit the participation of students, such as delays in publication of results which might conflict with a student's academic schedule. In such cases, the University requires that careful consideration be given to the appropriateness of student participation and that the Faculty Sponsor or Principal Investigator assures in advance that students are fully aware of any such restrictions.
2. The University affirms the student's right to know the source(s) of financial support for his or her educational and living expenses, individual research projects, or the research activities of a faculty sponsor in which the student is involved and from which the student obtains financial support. It is the responsibility of the faculty sponsor to make this information known to the student.
3. Should a student choose to reject financial assistance, the University affirms and upholds the student's right to do so.
Policy on Undergraduate Students, High School Students and Non-affiliates Participating in Research in Penn Research Facilities

For the purpose of this policy, non-affiliates are individuals who are not University of Pennsylvania faculty, staff, graduate students or post-doctoral trainees. The Principal Investigator is responsible for assuring that all students and non-affiliates working in his/her laboratory are appropriately trained, supervised and comply with the requirements of this policy. At a minimum this training must include Profiler and all training determined by Profiler such as EHRS, HIPAA, IACUC, etc.

- Students who are not yet in High School are not permitted to participate in laboratory activities.
- Non-affiliates may not serve in laboratories as unpaid volunteers or trainees without University approval.

This policy applies to the three categories listed below.

A. High School Students (HSS): HSS are permitted to participate in laboratories at Penn provided that all of the following conditions are met and none of the prohibitions set forth in item (7) are violated.

1. All programs for HSS must comply with the requirements described in the Vice Provost for University Life current year’s “Special Summer Programs Protocols.”
2. Each HSS must have a Principal Investigator or Sponsor who agrees to supervise and be responsible for the HSS while the student is present in the laboratory. The HSS must be appropriately supervised at all times when in the laboratory.
3. HSS may not be employed in laboratories nor perform the duties and responsibilities of an employee. (HSS participating as trainees in officially sanctioned and approved programs may receive a stipend in connection with the program.)
4. A Consent/Signature sheet must be submitted to the Principal Investigator/Sponsor with signatures from the HSS and his/her parents.
5. The Principal Investigator/Sponsor must provide the HSS with hazard specific information and appropriate personal protective equipment and instruct the student in its use and disposal.
6. Each HSS must attend Laboratory Safety training provided by EHRS before the laboratory activity begins. If a student is working in a lab where radioactive materials are used, Radiation Safety Training is also required.
7. HSS are not permitted to participate in the following activities in laboratories:
   i. Any laboratory or facility designated as BSL-3
   ii. Any laboratory or facility in which Select Agents or Explosives (as defined in OSHA Hazard Communication Standard Appendix B) are used or stored.
   iii. Work with acutely toxic substances or reproductive hazards (as defined in OSHA Hazard Communication Standard Appendix A).
   iv. Operate farm machinery
   v. Work in machine shops

8. HSS are permitted to participate in the following activities only after completing specialized training:
   i. Work with recombinant or synthetic DNA (EHRS r-s-DNA online training)
   ii. Limited work with radioactive materials is permitted. Work must be performed under the supervision and in the physical presence of a trained radiation worker. Only H-3, C-13, P-32 and S-35 in amounts less than 100 uCi may be used.
   iii. HSS who will work with live animals must be associated with a specific ARIES animal research protocol, have their qualifications or training described and the specific procedures that they will be performing/assisting identified. Prior to working with animals, HSS must complete all necessary IACUC-related training associated with the HSS’ role on the protocol.
   iv. HSS who will work with non-human primates or tissue/body fluids from non-human primate must complete specialized IACUC-related training in addition to standard training for other species.

B. Undergraduates (UG): UG from Penn or from other institutions are permitted to participate in laboratories at Penn provided that all of the following conditions are met and none of the prohibitions set forth in item (4) are violated.

1. Each UG must have a Principal Investigator/Sponsor who agrees to supervise and be responsible for the UG while the student is present in the laboratory.
2. The Principal Investigator/Sponsor must provide the UG with hazard specific information and appropriate personal protective equipment and instruct the student in its use and disposal.
3. Each UG must attend Laboratory Safety training provided by EHRS before the laboratory activity begins. If a student is working in a lab where radioactive materials are used, Radiation Safety Training is also required.
4. UGs are not permitted to participate in the following activities in laboratories:
   i. Any laboratory or facility designated as BSL-3
   ii. Any laboratory or facility in which Select Agents or Explosives (as defined in OSHA Hazard Communication Standard Appendix B) are used or stored.
5. UGs are permitted to participate in the following activities in laboratories after completing specialized training:
   i. Work with recombinant DNA
   ii. Operate farm machinery
   iii. Work in machine shops
   iv. Work with radioactive material if over age 18. Undergraduate students under the age of 18 must follow the same restrictions as High School Students for this component.
6. UGs who will work with live animals must be associated with a specific ARIES animal research protocol, have their qualifications or training described and the specific procedures that they will be performing/assisting identified. Prior to working with animals, UGs must complete all necessary IACUC-related training associated with the UGs’ role on the protocol.
7. UGs who will work with non-human primates or tissue/body fluids from non-human primate must complete specialized IACUC-related training in addition to standard training for other species.

C. Non-Affiliates (NA) with undergraduate degrees: Post graduates including visiting scholars and trainees (not Penn faculty, staff or students)
1. NA must have a Principal Investigator/Sponsor who agrees to supervise the NA while he/she is present in the laboratory.

2. The Principal Investigator/Sponsor must provide the NA with hazard specific information and appropriate personal protective equipment and instruct the NA in its use and disposal.

3. Each NA must affirm that he/she completed a Laboratory Safety course at his/her home institution or complete relevant Laboratory Safety training offered by EHRS before the laboratory activity begins.

4. A NA is permitted to participate in the following activities after completing specialized training:
   i. A laboratory or facility designated as BSL-3 or ABSL-3
   ii. A laboratory or facility in which Select Agents (DHHS Security Risk Assessment Approval required) or Explosives are used or stored.
   iii. Work with recombinant DNA
   iv. Work with radioactive materials
   v. Operate farm machinery
   vi. Work in machine shops.

5. NAs who will work with live animals must be associated with a specific ARIES animal research protocol, have their qualifications or training described and the specific procedures that they will be performing/assisting identified. Prior to working with animals, NAs must complete all necessary IACUC-related training associated with the NAs’ role on the protocol.

6. Work with non-human primates or tissues/body fluids from non-human primates requires specialized IACUC-related training in addition to standard training for other species.

(Source: Almanac, April 22, 2014, Volume 60, No. 31 (http://www.upenn.edu/almanac/volumes/v60/n31/ofrecord.html))

Scholars Programs

The following programs are available to all undergraduate students.

Benjamin Franklin Scholars

The Benjamin Franklin Scholars (https://www.curf.upenn.edu/bfs) are one of Penn’s most distinctive undergraduate communities.

Each year we welcome a group of extraordinary incoming students, committed to the transformative power of ideas. Benjamin Franklin Scholars are selected based on their interest in, and demonstrated capacity for, a deep engagement in the liberal arts and sciences, both as ends in themselves and as engines of change in the world. With unique course offerings, and under the guidance of extraordinary faculty and advisors, we encourage our students to pursue, in the spirit of Franklin himself, our guiding principles of breadth, curiosity, and a tinkering habit of mind.

We are a home for students who seek the advantages of wide-ranging knowledge, whatever particular educational path they choose. We look for spirited, independent people who find their own passions and are predisposed to explore their own ideas, wherever they might lead. We welcome restless minds who are not content just to appreciate great ideas as abstractions up on a shelf, but who see them as transformative; changing minds and so changing the world. We are a community of students and faculty who find value in the saying of the great classical writer Plutarch, from whom Franklin himself claims to have “read abundantly” and see a truly great education as a kind of playing with fire.

BFS welcomes students in all the undergraduate schools: The College, Engineering, Wharton, and Nursing. Parts of the program, including admissions, work a bit differently in the different schools. For all our scholars, the BFS experience includes opportunities for overseas internships, a presentation of research to the BFS community, and our Seminars – a set of enriching opportunities to work on challenging topics, without requiring extensive prerequisites, both inside and outside of their major fields of study.

University Scholars

The University Scholars program (https://www.curf.upenn.edu/university-scholars) provides an exceptional academic environment for intellectually dynamic students who have already demonstrated their commitment and dedication to research.

Through mentoring, research funding and scholarly events the program encourages and supports students to make the most of their undergraduate years, not only with in-depth research, but also by making an early start in graduate and professional courses, ranging widely or in some cases focusing narrowly on their curricular choices.

The focus of the University Scholars program is undergraduate research. In order to aid students in doing creative and in-depth research, the University Scholars has a fund with which to help students defray research expenses. Funding is meant to cover the expense of the research itself; this most often pertains to room and board costs over the summer months. Occasionally, students’ research will take them away from Penn. In those instances, the University Scholars program may be able to fund travel expenses as well.

Civic Scholars

Penn Civic Scholars (http://www.vpul.upenn.edu/civichouse/civicscholars) is a unique program providing undergraduates with a sustained four-year experience in civic engagement and scholarship. The program culminates in certification upon graduation and designation as a Civic Scholar on the student’s transcript.

The Civic Scholars program is based on a few basic principles:

- Civic engagement and academic work are mutually reinforcing.
- Meaningful and sustained involvement in community affairs while at Penn is the base for life-long civic commitments and contributions.
- Undergraduates can conduct significant applied social and public policy research through a multi-year preparatory process.
- Forming a community of dedicated students and faculty will encourage distinctive civic service and scholarship.

The following programs are available to students in a particular school.

College of Arts and Sciences

Integrated Studies Program

The Integrated Studies Program (ISP) (https://www.college.upenn.edu/integrated-studies) is the freshman curriculum for Benjamin Franklin Scholars pursuing degrees in the College of Arts and Sciences.

Deeply rooted in the liberal arts tradition of acquiring and applying expansive knowledge, this residential academic program invites highly-motivated students to examine complex themes through the integration of multiple academic disciplines and methodologies.

Students are guided through the semester by some of Penn’s leading faculty. By investigating the same ideas under three distinct lenses, drawing simultaneously from the humanities, social sciences and
School of Engineering and Applied Science

Rachleff Scholars
The School Of Engineering and Applied Science is pleased to announce the Rachleff Scholars Program (https://www.seas.upenn.edu/undergraduate/research/rachleff-scholars.php). The Program offers Penn Engineering undergraduates the opportunity to gain valuable research experiences with standing faculty and to participate in a community of peers who share a common interest in research and scholarly inquiry.

The Rachleff Scholars Program is open to rising sophomores with at least a 3.4 Cumulative GPA and strong interests in engineering research. Each student accepted into the Rachleff Program is required to complete work in three separate areas: summer research experience, honors coursework, and scholarly community activities.

School of Nursing

Benjamin Franklin Scholar- Nursing
As a Benjamin Franklin Scholar - Nursing (https://www.nursing.upenn.edu/academics/a-penn-nursing-education/undergraduate-honors-program), you will engage in an intensive academic experience, along with peers in the College of Arts and Sciences, the Wharton School and in the School of Engineering and Applied Science, to complete the undergraduate Nursing major with an intensive liberal arts component. In addition to a variety of campus-wide programs as part of BFS, you will be able to enroll in the justly famed BFS Seminars - course taught by expert faculty from across campus in a variety of topics.

The Wharton School

Joseph Wharton Scholars
Founded in 1988, the Joseph Wharton Scholars (https://undergrad-inside.wharton.upenn.edu/jws) program is designed to emphasize the importance of scholarly research and the liberal arts and sciences within the framework of a business education. Students in the program are required to take scholars courses both in Wharton and outside of Wharton (in the College of Arts & Sciences, Nursing, and/or Engineering), engage in a significant research project, and participate in a variety of academic, career-oriented, and social activities.

The JWS program is the Wharton component of the Penn-wide Benjamin Franklin Scholars (https://undergrad-inside.wharton.upenn.edu/bfs) program, through which students gain access to BFS Seminars. In addition to the course requirements, students must maintain a minimum 3.4 GPA.

Joseph Wharton Scholar students must take three non-Wharton BFS Seminars as well as four Wharton honors courses (which may include Wharton BFS Seminars). The Wharton courses include honors sections of BEPP 250, FNCE 100, FNCE 101, MKTG 101, MGMT 101, MKTG/STAT 476, STAT 430, STAT 431, WH 399; and the Wharton BFS Seminars: LGST 101, LGST 210, and LGST 215. All JWS students must take Wh150x—Evaluating Evidence as one of their four honors classes in Wharton.

Public Policy Research Scholars
The Public Policy Research Scholars (PPRS) (https://publicpolicy.wharton.upenn.edu/for-students/public-policy-research-scholars) offers a unique opportunity for students to study and explore public policy.

PPRS is an interdisciplinary certificate program intended for undergraduates with a background in economics, who want to explore the impact of U.S. public policy on the domestic economy.

The PPRS program is not a major. Instead, it offers a supplemental course of study, focusing on the quantitative analysis of public policy at the federal level, that can be pursued alongside any major, in any of Penn's undergraduate schools. Beyond the curriculum, students also are required to do at least one public policy summer internship, for which they will receive funding from the Penn Wharton Public Policy Initiative. They also will have opportunities to assist with faculty-led policy research on campus. Through PPRS, we aim to create a tight-knit cohort of undergraduates from across the University who are committed to gaining the skills and experience necessary to critically assess U.S. public policy, as well as to prepare for graduate study and career opportunities in the field.

The core skills at the heart of PPRS include:

- Economic and political analysis of public policy, for assessing why, how, and with what degree of success the government designs and implements policy.
- Statistical thinking and quantitative analysis of economic data.
- Knowledge of the policymaking process.
- The application of theoretical and quantitative tools to practical, real-life policy questions.

Students that complete the program will have the designation “Public Policy Research Scholar” noted as an honor on their transcripts and will receive a certificate upon graduation.

Wharton Research Scholars
Wharton Research Scholars (https://undergrad-inside.wharton.upenn.edu/wrs) is an intensive one-year research program for a select group of students who are interested in conducting research under the supervision of some of Wharton's preeminent faculty members. As part of the program, participants complete an honors thesis.

Students apply to work on a specific project they propose in consultation with a Wharton faculty member who agrees to act as their faculty mentor. Students are allowed to have more than one faculty mentor provided at least one is a member of the Wharton faculty.

Throughout the year, students convene to discuss progress, strategies, and challenges within their projects. This interaction fosters a strong scholarly community where students can learn from each other's experience. The research scholars also meet regularly with their faculty mentors who advise the students throughout the year. The program culminates with final presentations and publication of research papers on the University of Pennsylvania Libraries' ScholarlyCommons (http://repository.upenn.edu/wharton_research_scholars).

Submatriculation
Penn offers students many opportunities to begin a graduate program while completing an undergraduate degree. Students may apply for
admission as submatriculants to a variety of the University's graduate and professional areas of study. Submatriculation programs exist in the four undergraduate schools and in several of Penn's graduate schools.

Application for admission as a submatriculant is made within the regular deadlines and processes for application to the graduate program of interest, usually during the student's junior year. Prior to applying for admission as a submatriculant, a student should meet with an academic advisor in both the undergraduate school and in the intended graduate program.

Policies, options, and procedures for submatriculation vary depending on a student's undergraduate school:

- College of Arts and Sciences (https://www.college.upenn.edu/submatriculation)
- School of Engineering and Applied Science (http://www.seas.upenn.edu/undergraduate/degrees/submatriculation.php)
- School of Nursing (https://www.nursing.upenn.edu/academics/a-penn-nursing-education/submatriculation)
- The Wharton School (https://undergrad-inside.wharton.upenn.edu/submatriculation)

For more information about interdisciplinary submatriculation opportunities, click here (p. 238).

School of Arts and Sciences

For a list of School of Arts and Sciences departments that consider submatriculation applications, visit: https://www.college.upenn.edu/submatriculation/.

In addition to submatriculating within a department, College undergraduate students are also eligible for the following specialized submatriculation programs:

**BA/JD Program in Arts & Sciences and Law**

This rigorous program offers an opportunity for highly qualified and motivated College students to apply to Penn Law School during what is generally the first semester of a student's junior year (between 16 and 23.99 c.u.). If accepted, the student will submatriculate into the J.D. program in their senior year. Applicants must be committed to the study of law in its theoretical and practical aspects.

For more information, visit: https://www.college.upenn.edu/node/2398.

Bio-Dental Program

Bio-Dental submatriculation is a seven-year joint program of the College and Penn's School of Dental Medicine for students who will major in Biology and who wish to enroll in the Dental School during their senior year in the College. Application to the program must be made at the time of application to Penn. Applicants will be notified of their conditional acceptance into the program when they are notified of their admission to Penn. Full acceptance into the program is made after the student's junior year and is based on academic performance during those three years and meeting the admissions standards of the Dental School.

For more information, visit: http://www.bio.upenn.edu/https%3A/%252Fwww.bio.upenn.edu/accelerated-dental-program.

Roy and Diana Vagelos Program in Molecular Life Sciences

Ambitious and highly motivated students interested in the molecular view of life should consider the Vagelos Scholars Program in Molecular Life Sciences. Students begin as freshmen and major in two sciences or submatriculate for a Master of Science degree in the standard four years. Students in this program plan to pursue scientific research careers. Scholars are invited from the admitted pool of high school seniors at the beginning of April at the discretion of the faculty director and the admissions committee.

For more information, visit: http://www.sas.upenn.edu/biochem/vspmls.html.

School of Engineering and Applied Sciences

- Both BSE and BAS degree students in Penn Engineering may apply for submatriculation into engineering master's programs. (Note that Engineering students are not permitted to submatriculate into the Master of Computer and Information Technology (MCIT) program.)
- Qualified undergraduates in Penn's other schools may apply to submatriculate into any of the Penn Engineering master's degree programs, subject to their home school's rules and regulations.

In addition to submatriculating within a department, Engineering undergraduate students are also eligible for the following specialized submatriculation program:

**Penn Engineering/Penn Law Program**

Penn's Law School offers an opportunity for qualified juniors in Penn Engineering to apply early to the Law School and submatriculate into the JD program beginning their fourth year. The program is designed as a 3-year + 3-year accelerated program for highly qualified Engineering undergraduates either in the Bachelor of Applied Science (BAS) or Bachelor of Science in Engineering (BSE) degree programs.

For more information, visit: http://www.seas.upenn.edu/undergraduate/degrees/submatriculation-law.php.

School of Nursing

Nursing undergraduate students are eligible for the following specialized submatriculation programs:

**BSN/JD Program**

Submatriculation allows students in traditional and accelerated BSN programs to formally enroll in the JD program (https://www.law.upenn.edu/admissions/jd) during their junior year. If a student is admitted, they will begin taking courses at the law school during their fourth year, completing both the BSN and JD degrees in six years, instead of the usual seven.
For more information, visit https://www.nursing.upenn.edu/live/files/56-submatriculation-msn2016.

BSN/MSN Program
The demand for nurses with MSN degrees is higher than ever. Submatriculation allows students in traditional and accelerated BSN programs to formally enroll in one of Penn Nursing’s MSN Programs (https://www.nursing.upenn.edu/academics/master-of-science-in-nursing-msn) while still undergraduates. Students are encouraged to apply (https://www.applyweb.com/upenn) as early as their junior year. If accepted, students will begin to take master's level coursework, earning credit toward both degrees.

For more information, visit: https://www.nursing.upenn.edu/live/files/56-submatriculation-law2015.

The Wharton School
Wharton undergraduate students are eligible for the following specialized submatriculation programs:

Wharton Law School Submatriculation Program
During the junior year, qualified Wharton undergraduate students may apply for admission to the Penn Law School and submatriculate into the Juris Doctor (JD) program. In this 3-year + 3-year accelerated program, the student’s fourth year of study is spent entirely at the Law School completing the first-year law curriculum. The remaining undergraduate and/or graduate degree requirements are then completed in the student’s fifth and sixth years of study.

For more information, visit: https://undergrad-inside.wharton.upenn.edu/submatriculation/.

Wharton MBA Submatriculation Program
Qualified juniors in the Wharton Undergraduate Program may apply for early entry (submatriculation) into the Wharton Master of Business Administration (MBA) Program. In this 3-year + 2-year accelerated program, students’ fourth and fifth years of study are spent entirely as part of the MBA Program. The program is designed to attract academically talented undergraduates with well-defined career goals and significant work experience. Students apply in the junior year.

For more information, visit: https://undergrad-inside.wharton.upenn.edu/submatriculation/.

Wharton PhD Submatriculation Program
The goal of the program is to allow selected Wharton undergraduates the opportunity to submatriculate into one of Wharton’s Ph.D. programs directly from the undergraduate program.

For more information, visit https://doctoral-inside.wharton.upenn.edu/submatriculation/.

Summer Sessions
Penn Summer (http://www.sas.upenn.edu/summer) offers a wide variety of summer programs to current Penn students, with more than 300 classes available during the day or evening.

Current Penn students are encouraged to take advantage of advising resources during the summer term in the same manner as during the fall and spring. Before enrolling in summer courses, students should consult with their academic advisor (p. 245) regarding their intended coursework to ensure adequate degree progress.

Penn Summer On-Campus
There are three academic sessions during Penn Summer On-Campus (http://www.sas.upenn.edu/summer/programs/on-campus), and more than 300 courses are offered from academic departments across the university. Flexible day and evening classes are offered to fit students’ schedule and needs.

For more information, visit: http://www.sas.upenn.edu/summer/programs/on-campus.

Penn Summer Online
Not going to be in Philadelphia this summer? Consider taking one of Penn's Summer Online (http://www.sas.upenn.edu/summer/programs/online) courses. Online courses allow students to earn credit as they participate in real-time with their Penn instructor and peers while having 24/7 access to their virtual learning materials.

For more information, visit: http://www.sas.upenn.edu/summer/programs/online.

Penn Summer Abroad
Students can earn Penn credit as they experience culture in another country with Penn Summer Abroad (http://www.sas.upenn.edu/summer/programs/abroad). Students travel with Penn faculty and other undergraduates with accommodations and excursions planned for them, enjoying the flexibility of a short-term commitment and make the most of their summer break.

For more information, visit: http://www.sas.upenn.edu/summer/programs/abroad.

Transcripts
A transcript is a representation of a student’s academic record while at the University of Pennsylvania.


Wellness
There are a wide variety of resources available to support students at Penn. Some of the most commonly used resources are listed below.

View the Penn Peer Community Wellness Guide (http://pennua.org/media/cms_page_media/67/NEW-Wellness%20Guide-Aug11.pdf), developed by Penn Wellness, the Penn Undergraduate Health Coalition, the Vice Provost for University Life, and the Undergraduate Assembly.
Counseling and Psychological Services (CAPS) (http://www.vpul.upenn.edu/caps)
215-898-7021 (Nights and weekends, ask for CAPS counselor on call.)

Counseling and Psychological Services (CAPS) provides professional psychological and psychiatric services to undergraduate, graduate, and professional students who need support in fulfilling their academic, social, and personal objectives. Along with health and wellness partners throughout the Penn community, CAPS directly supports student mental health through counseling, crisis management, consultation, education and outreach, and training.

Division of Public Safety (https://www.publicsafety.upenn.edu)

A central source for information about police, fire, and emergency services, security services, including walking escorts, and special victim services. Public safety also manages the University’s extensive electronic security infrastructure.

Student Disabilities Services (http://www.vpul.upenn.edu/lrc/sds)
(215) 573-9235; TDD: (215) 746-6320

The Office of Student Disabilities Services (SDS), part of the Weingarten Learning Resources Center (http://www.vpul.upenn.edu/lrc), provides comprehensive, professional services and programs for students who self-identify with disabilities to ensure equal academic opportunities and participation in University-sponsored programs. Professional staff evaluate current documentation, determine individual students’ eligibility according to program guidelines, and determine reasonable accommodations for all qualified students with documented disabilities on a case-by-case basis, including academic adjustments, e-text, accessible campus housing, and transportation and parking. SDS also coordinates auxiliary aids and services such as sign language interpreters and Computer Aided Realtime Translation (CART) reporters, as well as the loan of equipment and assistive technologies.

Student Health Service (http://www.vpul.upenn.edu/shs)
215-746-3535

Student Health Service is a state-of-the-art primary care center dedicated to the health and well-being of Penn students. Student Health provides accessible, cost-effective, culturally-sensitive, and student-focused healthcare, including care for acute and chronic health problems, preventive health services, and health and wellness education. The Health Service works in close collaboration with our partners in the University Life Division, and with our colleagues in the University of Pennsylvania Health System (http://www.pennmedicine.org) to help ensure the health and wellness of the campus community.

Student Intervention Services (http://www.vpul.upenn.edu/intervention.php)
215-898-6081

Penn Student Intervention Services (SIS) assists the University community in handling emergencies or critical incidents involving the welfare and safety of students.

Office of the Chaplain (http://www.upenn.edu/chaplain)
215-898-8456

The staff of the Office of the Chaplain (http://www.upenn.edu/chaplain/about-us/staff) is available to students, faculty and staff for pastoral support, guidance, or informal advising and counseling. The Chaplain, an ordained clergy person, participates in campus ceremonies such as Convocation, Baccalaureate and Commencement and also officiates at weddings (http://www.upenn.edu/chaplain/about-us/weddings-blessings) and campus memorial services. The office serves and supports a wide range of student organizations (http://www.upenn.edu/chaplain/student-organizations), fellowships and religious communities on our campus. They also develop programming designed to improve interfaith understanding and build meaningful, collaborative relationships across religious difference. The Office of the Chaplain also maintains a range of service programming (http://www.upenn.edu/chaplain/community-service) in partnership with faith and community based organizations across the city of Philadelphia.

Campus Health (http://www.vpul.upenn.edu/shs/campushealth)

Part of Student Health Service, Campus Health (http://www.vpul.upenn.edu/shs/campushealth) seeks to empower the Penn community to Live Well through advocacy, education, and action. Campus Health staff focus on a wide variety of healthy living topics including sleep, hygiene, stress reduction, nutrition, exercise, tobacco-free lifestyles and bike safety. Key initiatives include annual flu immunization clinics, which vaccinate more than 2,000 people, and yearlong sexual wellness education through events such as "Sex Camp" and "Sex Jeopardy."

Alcohol and Other Drug Program Initiatives (http://www.vpul.upenn.edu/alcohol)

The Office of Alcohol and Other Drug Program Initiatives oversees critical areas of health and wellness that can challenge the academic success of Penn students. The office comprises alcohol policy initiatives, violence prevention, data collection, strategic project management, and (in a collaboration with Student Intervention Services (http://www.vpul.upenn.edu/intervention.php)) proactive crisis management.
POLICIES AND PROCEDURES

The following policies and procedures relate to undergraduate academics at Penn, and are organized by topic.

Most academic policies and procedures at Penn are school-based. University policies (p. 272) are also often administered through the schools. Students should consult with their school or program academic advisors (p. 245) with questions or for help in understanding academic policies and procedures.

- Course and Exam-Related Policies (p. 265)
- Grade and GPA-Related Policies (p. 268)
- Graduation Policies (p. 269)
- Leaves, Transfers, and Withdrawals (p. 270)
- Residency Requirement (p. 272)
- University Policies (p. 272)

Course and Exam-Related Policies

Students should consult with their academic advisors (p. 245) about course and course-related policies and procedures.

- Add/Drop Period (p. 265)
- Auditing (p. 265)
- Class Attendance (p. 265)
- Course Load (p. 265)
- Course Numbering & Academic Credit (p. 265)
- External Exam Credit (p. 266)
- Independent Study (p. 266)
- Liberal and Professional Studies Course Credit (p. 266)
- Part Time Status (p. 267)
- Petitions (p. 267)
- Policy on Common Midterm Examinations (p. 267)
- Retaking Courses (p. 267)
- Rules Governing Final Examinations (p. 267)
- Withdrawing From a Course (p. 268)

Add/Drop Period

Courses may be added only during the first two weeks of each semester; course may be dropped through the fifth week of the semester. Students should consult with their advisors before dropping below a defined number of course units (generally 4), which may have adverse consequences.

Some courses may have different add/drop policies; students should consult with their school’s advising office for further details.

Add/drop deadlines for each semester can be found in the Academic Calendar (p. 242).

School specific policies:

- College of Arts and Sciences (http://www.college.upenn.edu/class-attendance)
- School of Nursing (http://www.nursing.upenn.edu/live/files/172-bsn-handbookpdf)
- The Wharton School (https://undergrad-inside.wharton.upenn.edu/attendance)

Course Load

Policies regarding minimum and maximum course loads vary by school.

School specific policies:

- College of Arts and Sciences (https://www.college.upenn.edu/courseload)
- School of Nursing (http://www.nursing.upenn.edu/live/files/172-bsn-handbookpdf)
- The Wharton School (https://undergrad-inside.wharton.upenn.edu/course-load)

Course Numbering & Academic Credit

Course Numbering

Courses are designated with a subject code and course number. The number assigned to a course generally denotes its level and may also indicate a course type.

- 1-399 Undergraduate courses
- 400-499 Mixed courses primarily for Undergraduate students
- 500-599 Mixed courses primarily for Graduate students
- 600-989 Graduate courses
- 990-999 Graduate individual study (thesis/dissertation) courses

Academic Credit at Penn

Auditing

Undergraduate students cannot officially audit courses; however, subject to the approval of the instructor, students may be permitted to sit in on some courses without registering. These courses will not appear on students’ records. Not all departments or schools allow this type of informal audit.

Class Attendance

Policies regarding class attendance vary by school and instructor.

School specific policies:

- College of Arts and Sciences (https://www.college.upenn.edu/class-attendance)
- School of Nursing (http://www.nursing.upenn.edu/live/files/172-bsn-handbookpdf)
- The Wharton School (https://undergrad-inside.wharton.upenn.edu/attendance)
All of Penn's undergraduate programs and many of its graduate and professional programs use course units (CUs) as a general measure of academic work and progress toward a degree. Penn's use of CUs conforms to the practices of peer institutions that use a similar system of academic credit including Brown, Duke, Harvard, Princeton, and Yale. A CU is a general measure of academic work over a period of time, typically a term (semester or summer).

The Schools of Law, Dental Medicine, and Veterinary Medicine do not use CUs. The Law School uses credit hours in a way that is consistent with law schools in the United States. The Schools of Dental Medicine and Veterinary Medicine use credit hours in ways that are consistent with professional education in those fields of study.

**Definition of a Course Unit**

A course unit (CU) is a general measure of academic work over a period of time, typically a term (semester or summer). A CU (or a fraction of a CU) represents different types of academic work across different types of academic programs and is the basic unit of progress toward a degree. One CU is usually converted to a four-semester-hour course. A degree from one of Penn's undergraduate programs requires the completion of 32 to 40 (or more) course units. Graduate and professional degrees vary in the number of years of study and the number of CUs required.

**Assignment of Academic Credit**

The course unit (CU) value of a course determined by the faculty reflects their judgment regarding the expected work of a student completing that course. Factors that may be considered when assigning academic credit for a course include scheduled class time, expected time outside of class, the difficulty and range of materials covered, and the mastery of specific knowledge through written reports, exams, and other evaluations.

The assignment of academic credit for a course is formally approved by the curriculum committee (or similar body) of the school when a course is first proposed. It is reviewed formally by the faculty of a program, department, or school through periodic program reviews or curriculum revisions. Additionally, it is reviewed by the faculty of a program, department, or school informally as part of ongoing assessments of curriculum and teaching effectiveness.

**Transfer Credit**

At the University of Pennsylvania, faculty in individual departments and schools make decisions about awarding credit for external courses (courses taken at a college or university other than Penn). Each school has policies and procedures for evaluating and awarding external credit. Judging both course content and student work, faculty determine whether external courses are equivalent to courses offered through their own departments and thus what credit, if any, to award. In awarding credit at Penn for external courses, faculty also determine how those credits may be used (e.g., whether they satisfy general education requirements or requirements in a major).

Undergraduate schools use a web-based, password protected application called the External Course Approval Tool, or (http://www.college.upenn.edu/xcat) XCAT (http://www.college.upenn.edu/xcat). When academic credit is awarded for courses taken at other institutions, typically courses worth 3, 4, or 5 semester hours or worth 5 quarter hours are awarded one course unit (CU) at Penn.

**External Exam Credit**

The University of Pennsylvania may award credit or advanced course standing to students who have taken Advanced Placement (AP), International Baccalaureate (IB), or other internationally-recognized examinations. Scores warranting University credit vary by department.

Penn Admissions External Exam Credit Policy (http://www.admissions.upenn.edu/apply/freshman-admission/externalexamcredit) (for prospective students)

**School specific policies:**

- College of Arts and Sciences (https://www.college.upenn.edu/placement)
- School of Nursing (http://www.nursing.upenn.edu/live/files/172-bsn-handbookpdf)
- The Wharton School (https://undergrad-inside.wharton.upenn.edu/apib-credit)

**Independent Study**

Independent study allows students to pursue academic interests not available in regularly offered courses.

Students should approach their academic or departmental advisor to explore the possibility of pursuing independent study.

Further information about independent study procedures is available by school.

- College of Arts and Sciences (https://www.college.upenn.edu/research)
- School of Nursing (http://www.nursing.upenn.edu/live/files/157-independent-study-form-ipdf)
- The Wharton School (https://undergrad-inside.wharton.upenn.edu/independent-study)

**Liberal and Professional Studies Course Credit**

The College of Liberal and Professional Studies (LPS) (http://www.sas.upenn.edu/lps) is a division of the School of Arts and Sciences. LPS administers programs for adult, professional, and part-time students and offers late-afternoon, evening, and Saturday courses at the undergraduate, post-baccalaureate, and graduate levels. Traditional undergraduate students are eligible to take LPS courses. A certain number of spaces may be reserved for LPS students until the first week of classes, and some classes have restricted enrollments for LPS students only. Students should direct questions about enrollment policies and permits for specific LPS classes to LPS (http://www.sas.upenn.edu/lps).
Part Time Status

Traditional undergraduate students are generally expected to maintain full-time status. Students should consult with their school advising office for further details.

Please note that dropping to part-time status may affect other considerations, such as visa status, athletic eligibility, financial aid, and/or insurance coverage.

School specific policies:

- College of Arts and Sciences (https://www.college.upenn.edu/part-time-policy)
- School of Nursing (http://www.nursing.upenn.edu/live/files/172-bsn-handbookpdf)
- The Wharton School (https://undergrad-inside.wharton.upenn.edu/part-time-status)

Petitions

Students who believe a special circumstance might warrant an exemption from a school policy and/or requirement may submit a petition. Petitions are subject to review by a school-based committee. Students should first consult with their academic advisor.

Policies and procedures regarding petitions vary by school.

School specific policies:

- College of Arts and Sciences (https://www.college.upenn.edu/petitions-policy)
- School of Nursing (http://www.nursing.upenn.edu/live/files/172-bsn-handbookpdf)
- The Wharton School (https://undergrad-inside.wharton.upenn.edu/petitions)

Policy on Common Midterm Examinations

Instructors teaching a course with multiple sections who plan to schedule a common midterm examination outside the class’s regular meeting time must notify students of this event during the first week of the semester and be prepared to offer one or more make-up examinations to accommodate any student who is enrolled in a course that meets at the time of the common examination.

Students enrolled in a course that conflicts with the time of a common midterm examination must notify the instructor administering the common midterm examination of the conflict by the end of the course selection (add) period. Students may not be required to miss their regularly scheduled class.

(Source: Almanac – April 20, 2010, Volume 56, No. 30 (http://www.upenn.edu/almanac/volumes/v56/n30/provost.html))

Retaking Courses

Policies governing retaking a course vary by school.

School specific policies:

- College of Arts and Sciences (http://www.college.upenn.edu/node/2456)
- School of Nursing (http://www.nursing.upenn.edu/live/files/172-bsn-handbookpdf)
- The Wharton School (https://undergrad-inside.wharton.upenn.edu/retaking-courses)

Rules Governing Final Examinations

1. No instructor may hold a final examination nor require the submission of a take-home final exam except during the period in which final examinations are scheduled. When necessary, exceptions to this policy may be granted for postponed examinations (see 3 and 4 below). No final examinations may be scheduled during the last week of classes or on reading days.

2. No student may be required to take more than two final examinations on any calendar day during the period in which final examinations are scheduled. If more than two are scheduled, the student may postpone the middle exam. If a take-home final exam is due on a day when two final examinations are scheduled, the take-home exam shall be postponed by one day.

3. Examinations that are postponed because of conflicts with other examinations or because more than two examinations are scheduled in the same day may be taken at another time during the final examinations period if the faculty member and student can agree on that time. Otherwise, they must be taken during the official period for postponed examinations.

4. Examinations that are postponed because of illness, a death in the family, for religious observance, or some other unusual event may be taken only during the official periods: the first week of the spring and fall semesters. Students must obtain permission from their Dean's office to take a postponed exam. Instructors in all courses must be willing to offer a make-up examination to all students who are excused from the final examination.

5. No instructor may change the time or date of a final exam without permission from the appropriate Dean.

6. No instructor may increase the time allowed for a final exam beyond the scheduled two hours without permission from the appropriate Dean.

7. No classes or required class activities may be held during the reading period.

8. The first examination of the day begins at 9 a.m. and the last examination concludes by 8 p.m. There will be one hour between exam time blocks.

9. All students must be allowed to see their final examination. Exams should be available as soon as possible after being graded with access ensured for a period of at least one regular semester after the exam has been given. To help protect student privacy, a student should have access only to his or her own exam and not the exams of other students. Therefore, for example, it is not permissible to leave student exams (or grades or papers) in publicly accessible areas.
10. Students may not be asked for their Social Security Numbers. Instructors may not publicly display a student’s Penn ID or any portion of the Social Security Number, nor use names, initials, or any personally identifiable information to post grades. Even when an identifier is masked or absent, grades may not be posted in alphabetical order, to protect student privacy.

11. Final exams for College of Liberal and Professional Studies (LPS) courses must be given on the regular class meeting night during the week of final examinations. No change in scheduling is permitted without unanimous consent of all students in the class and the director of LPS. LPS final exams may not be administered during the last week of class or on a reading day.

In all matters relating to final exams, students with questions should first consult with their Dean's offices. Faculty wishing to seek exceptions to the rules also should consult with their Dean's offices. Finally, the Council of Undergraduate Deans and SCUE urge instructors to see that all examinations are actively proctored.

(Source: Almanac – April 12, 2016, Volume 62, No. 30 (http://www.upenn.edu/almanac/volumes/v62/n30/rules-final-exams.html))

**Withdrawning From a Course**

Students may withdraw from a course through the end of the tenth full week of the semester, with the permission of the instructor, and should consult the Academic Calendar (p. 242) for the official withdrawal deadline for each semester.

Summer courses and part-of-term courses have different deadlines. Consult with an academic advisor for more information.

Withdrawal procedures vary by school:

- College of Arts and Sciences (http://www.college.upenn.edu/node/2438)
- School of Nursing (http://www.nursing.upenn.edu/live/files/172-bsn-handbookpdf)
- The Wharton School (https://undergrad-inside.wharton.upenn.edu/ withdrawing)

**Grade and GPA-Related Policies**

Students should consult with their academic advisors (p. 245) about grading and GPA-related policies and procedures.

- Academic Standing (p. 268)
- Dean's List (p. 268)
- Grade Grievance Process (p. 268)
- Grades (p. 269)
- Incomplete Grades (p. 269)
- Pass/Fail (p. 269)

**Academic Standing**

The University of Pennsylvania expects students to maintain a minimum level of academic performance or risk being placed on Academic Probation. The requirements for good academic standing vary by school; students enrolled in more than one undergraduate school are subject to the academic standing policies of both schools.

The requirements for good academic standing are:

- College of Arts and Sciences (https://www.college.upenn.edu/academic-standing)
- School of Nursing (http://www.nursing.upenn.edu/live/files/172-bsn-handbookpdf)
- The Wharton School (https://undergrad-inside.wharton.upenn.edu/academic-standing)

**Dean's List**

The Dean's List citation appears on the transcript and is awarded annually to any student who achieves a combined GPA of 3.7 for the fall and spring semesters, provided that during those two semesters, he or she has:

- Completed 6 or more credit units for letter grades
- Received no grades lower than C
- Completed all courses on time with no Incompletes, NRs, or GRs

A student who has received a sanction of probation or greater for a violation of the Code of Academic Integrity, the Code of Student Conduct, or the Sexual Violence, Relationship Violence, and Stalking Policy is not eligible for Dean's List in the academic year in which the violation occurred. The Dean's List citation will be removed from the transcript if the finding occurs after this honor has been posted or if the violation occurs during the summer term following the academic year in which this honor was awarded.

(Source: Almanac – April 20, 2010, Volume 56, No. 30 (http://www.upenn.edu/almanac/volumes/v56/n30/provost.html), updated May 3, 2016, Volume 62, No. 33 (http://www.upenn.edu/almanac/volumes/v62/n33/changes-to-policies.html))

**Grade Grievance Process**

Students who wish to have a course grade reviewed must first attempt to resolve the issue with the course instructor. For detailed policies and procedures, students should refer to the policies of the school in which the course was taken.

**School specific policies:**

- College of Arts and Sciences (http://www.college.upenn.edu/node/2413)
- School of Engineering and Applied Science
  - Students are advised to discuss the grading discrepancy/grievance directly with the course director/instructor. If the student is not satisfied with the conclusion of that meeting, the student can proceed to speak with the department chairperson about the grievance.
  - School of Nursing (http://www.nursing.upenn.edu/live/files/172-bsn-handbookpdf)
  - The Wharton School (https://undergrad-inside.wharton.upenn.edu/grade-grievance)
Grades

The grade point average (GPA) is calculated at the end of every term based on the following grading scale:

<table>
<thead>
<tr>
<th>Grade</th>
<th>GPA</th>
</tr>
</thead>
<tbody>
<tr>
<td>A+</td>
<td>4.0</td>
</tr>
<tr>
<td>A</td>
<td>4.0</td>
</tr>
<tr>
<td>A-</td>
<td>3.7</td>
</tr>
<tr>
<td>B+</td>
<td>3.3</td>
</tr>
<tr>
<td>B</td>
<td>3.0</td>
</tr>
<tr>
<td>B-</td>
<td>2.7</td>
</tr>
<tr>
<td>C+</td>
<td>2.3</td>
</tr>
<tr>
<td>C</td>
<td>2.0</td>
</tr>
<tr>
<td>C-</td>
<td>1.7</td>
</tr>
<tr>
<td>D+</td>
<td>1.3</td>
</tr>
<tr>
<td>D</td>
<td>1.0</td>
</tr>
<tr>
<td>F</td>
<td>0.0</td>
</tr>
</tbody>
</table>

*There is no D-. Policies regarding grades vary by school.

School specific policies:

- College of Arts and Sciences (https://www.college.upenn.edu/grade-policy)
- School of Engineering and Applied Science (http://www.seas.upenn.edu/undergraduate/handbook/policy/grades.php)
- School of Nursing (http://www.nursing.upenn.edu/live/files/172-bsn-handbookpdf)
- The Wharton School (https://undergrad-inside.wharton.upenn.edu/grades)

Incomplete Grades

The decision to grant an Incomplete is solely that of the instructor teaching the course. Students should request Incompletes rarely if at all; it is far better to plan ahead and use advising and academic support resources to ensure that coursework is finished on time. There are a number of consequences of requesting an Incomplete, and unfinished coursework may result in an F grade or delay of graduation. Generally, students with one Incomplete must finish the work by the fifth week of the next semester.

Specific procedures and policies regarding incomplete grades vary by school.

School specific policies:

- College of Arts and Sciences (http://www.college.upenn.edu/node/2415)
- School of Nursing (http://www.nursing.upenn.edu/live/files/172-bsn-handbookpdf)
- The Wharton School (https://undergrad-inside.wharton.upenn.edu/incomplete)

Pass/Fail

Students may be eligible to take certain courses pass/fail. Policies regarding pass/fail options vary by school and course.

School specific policies:

- College of Arts and Sciences (http://www.college.upenn.edu/node/2417)
- School of Nursing (http://www.nursing.upenn.edu/live/files/172-bsn-handbookpdf)
- The Wharton School (https://undergrad-inside.wharton.upenn.edu/pass-fail)

Graduation Policies

Students should consult with their academic advisors (p. 245) about graduation requirements, Latin honors, and the procedures for applying for graduation and participating in graduation ceremonies.

- Graduation Honors (p. 269)
- Graduation Requirements (p. 269)
- Maximum Time to Complete a Degree (p. 270)

Graduation Honors

In recognition of distinguished academic achievement and high standards of academic integrity, the University of Pennsylvania awards Latin honors to undergraduate students based on the cumulative GPA on their transcripts at the time of graduation:

- **Summa Cum Laude:** 3.80 or higher
- **Magna Cum Laude:** 3.60 or higher, but less than 3.80
- **Cum Laude:** 3.40 or higher, but less than 3.60

A student who has received a sanction of probation or greater for a violation of the Code of Academic Integrity, the Code of Student Conduct, or the Sexual Violence, Relationship Violence, and Stalking Policy is not eligible for Latin honors. Notation of Graduation Honors will be removed from the transcript if the finding occurs after this honor has been posted.

(Source: Almanac, April 20, 2010, Volume 56, No. 30 (http://www.upenn.edu/almanac/volumes/v56/n30/provost.html), updated May 3, 2016, Volume 62, No. 33 (http://www.upenn.edu/almanac/volumes/v62/n33/changes-to-policies.html))

Graduation Requirements

Students are responsible for fulfilling all the requirements of their curriculum as determined by their school in order to graduate.

School specific policies:

- College of Arts and Sciences (https://www.college.upenn.edu/policies)
- School of Engineering and Applied Science (http://www.seas.upenn.edu/undergraduate/handbook/policy/course-requirements.php)
Leaves of Absence

Students take time away from their studies for a wide variety of reasons, including:

- Work on a political campaign
- Manage a medical concern
- Fulfill a family obligation
- Pursue career-related opportunities
- Complete military service
- Take a break

Students typically take a leave for a full academic year. Individual circumstances may require more or less time; the length of the leave is determined by the school. Students on leave should remain in contact with their advisor and update them about plan changes. The return from leave process supports students in a successful re-entry to academic life at Penn. When preparing to return, students must consult their school advising office to develop a plan that includes connection with appropriate resources.

While interrupting one’s studies to take time away may seem intimidating, a leave is a means to the successful completion of a degree, not a barrier to graduating. Students considering a leave should take time to think carefully about their goals for the time away and for when they return. Speaking with an academic advisor is an important first step. Students should also consult others important to their decision-making process, such as family members or, if the student intends to address health concerns during the time away, their healthcare provider(s). Your school advising office will help you connect with other campus resources as you prepare to take a leave of absence, such as Student Financial Services, Housing, and International Student and Scholar Services.

Procedures for requesting a leave vary by school.

School specific policies

- School of Arts and Sciences (https://www.college.upenn.edu/leave-of-absence)
- School of Nursing (https://www.nursing.upenn.edu/live/files/216-leave-of-absence-policy)
- The Wharton School (https://undergrad-inside.wharton.upenn.edu/leave)

Involuntary Leave of Absence Policy

I. Introduction

The University of Pennsylvania provides a wide range of services to support and address the mental and physical health needs of students. Our first concern is for the health and welfare of each individual in our community. Our goal is to enable all of our students to participate fully as members of Penn's academic community. However, students whose psychiatric, psychological, or other medical condition causes them to pose a threat to themselves or others, or causes them to significantly disrupt the educational and other activities of the University community, may be required to take a leave of absence from the University. Under these circumstances, students will be given the opportunity to take a voluntary leave through the process in place in their school. Should a student decline to take a voluntary leave, the University may determine...
that the student’s health and welfare, and/or the needs of the community, require a period of involuntary leave of absence. The following policy establishes the protocol under which an involuntary leave of absence may occur and the process for return from leave.

II. Guidelines

The University may place a student on an involuntary leave of absence or require conditions for continued attendance under the following circumstances when the student exhibits behavior resulting from a psychological, psychiatric, or other medical condition that:

• threatens, harms, or has the potential to harm the health or safety of the student or others;
• causes or threatens to cause significant property damage; or
• significantly disrupts the educational and other activities of the University community.

The process for withdrawal and return from leave is set forth below.

III. Withdrawal Process

When a student exhibits any of the behaviors described above, the matter should be brought to the attention of the Office of the Vice Provost for University Life who will be responsible for informing the Vice Provost for Education (or such person who holds those responsibilities at the time) that an involuntary leave may be warranted. The Office of the Vice Provost for University Life will manage the process, convene case conferences, and work with University and School offices to coordinate the delivery of services. In most cases, the student will be required to undergo an immediate assessment of his or her psychological, psychiatric or other medical condition. This assessment will be performed by Counseling and Psychological Services (CAPS), the Student Health Service, or other appropriate professionals.

The student will be notified that the Provost’s Office is seeking to determine whether he or she should be required to take a leave of absence. When reasonably possible, the student will be given the opportunity to confer with the Vice Provost for Education or his/her designee to provide additional information for consideration.

In consultation with the School Dean and the Office of the Vice Provost for University Life, the Vice Provost for Education will review the available information and make a decision that may include the following:

• that the student remain enrolled with no conditions;
• that the student remain enrolled subject to conditions (including a description of those conditions); or
• that the student be placed on an involuntary leave of absence.

If the University’s decision is to allow the student to remain enrolled subject to conditions, then the student’s failure to comply with the conditions may, after appropriate consideration, result in the imposition of an involuntary leave.

If the University’s decision is to require an involuntary leave of absence, the decision will also indicate the length of the leave and, in consultation with the student’s school, describe the conditions (if any) under which the student may seek to return from leave.

The student shall be informed in writing by the Vice Provost for Education of the leave decision and the basis for the decision, the effective date of the leave, and conditions for return (if applicable). If a student is permitted to remain enrolled subject to conditions, the student shall be informed in writing of the effective date and the duration of the modified attendance.

IV. Appeal

A student subject to this policy may appeal any decision of the Vice Provost for Education to the Provost. A student who wishes to appeal must submit a written letter of appeal to the Provost within three (3) days of receipt of the Vice Provost for Education’s decision. The letter of appeal must state why the student believes that the Vice Provost’s decision was unwarranted under the circumstances. After reviewing the appeal letter the Provost may meet with the student, as the Provost determines appropriate. In addition, the Provost may review relevant documents and confer with University officials before reaching a decision on the appeal. The Provost will render a decision upholding, rejecting, or modifying the determination of the Vice Provost for Education.

In addition to the appeal process described above, a student subject to this policy may also seek a resolution of concerns through the grievance procedures described in the Penn Book.

V. Temporary Removal

If the Vice Provost for Education has reason to believe, based on the information available, and in consultation with professionals with appropriate expertise, that the student’s continued presence on campus poses an imminent threat of significant harm to him or herself or to others in the community, the Vice Provost for Education may take immediate action to remove the student from campus pending receipt and review of relevant information and a determination. At the Vice Provost for Education’s discretion, this temporary removal may remain in place pending completion of any appeal process.

VI. Process for Return from Leave

A student seeking a return from leave must apply in writing to the Office of the Vice Provost for University Life. Such a request must be submitted no less than 30 days before the beginning of the semester in which the student seeks to reenroll. The student must demonstrate that he/she has met any conditions for return specified by the University.

The University may require any documentation or evaluation it deems appropriate. (Reports from health professionals should be directed to the director of CAPS or Student Health Services.) In addition, the University may require a release from the student to enable CAPS or SHS to discuss the student’s condition with his/her treating health professional.

In consultation with the School Dean and the Office of the Vice Provost for University Life, the Vice Provost for Education will review the request and other relevant information, including the student’s compliance with specified conditions for return from leave and the assessments of CAPS or Student Health Services and other health professionals, and make a determination of whether it is appropriate for the student to return.

If the Vice Provost for Education denies the request to return from leave, the student may challenge that decision by submitting a written appeal to the Provost within 5 days of receipt of the Vice Provost’s decision.

VII. Confidentiality

All records concerning involuntary leaves of absence will be kept in accordance with the University confidentiality policy and other applicable policies. The student’s transcript will indicate only the notation of “leave of absence.”
Transfer Credit/Credit Away

When students receive credit for courses or other types of academic work done elsewhere, it is referred to as equivalent credit. Some of these credits will be the result of coursework taken before matriculation at Penn, but it is also possible to do a limited number of courses “away” after matriculation.

Credit earned before the student matriculates at Penn is referred to as Transfer Credit (p. 272). Credit earned at another institution while the student is enrolled at Penn (post-matriculation) is referred to as Credit Away (p. 272).

Policies regarding the types and amount of equivalent credit allowed vary by school.

These policies govern the transfer of credits taken before a student is officially enrolled at the University of Pennsylvania.

Penn Admissions Policy: http://www.admissions.upenn.edu/apply/transfer-admission/transfer-of-credits

School specific policies:
- College of Arts and Sciences (https://www.college.upenn.edu/courses-outside-the-college)
- School of Nursing (https://www.nursing.upenn.edu/student-services/registration/transfer-credit)
- The Wharton School (https://undergrad-inside.wharton.upenn.edu/transfer-residency)

Residency Requirement

Residency requirement policies vary by school.

Charter of the University of Pennsylvania Student Disciplinary System

Preamble

In response to increasing concern about sexual assault and its consequences, the U.S. Department of Education, Office for Civil Rights (OCR) issued a new “guidance” document concerning compliance with Title IX of the Education Amendments of 1972. Title IX prohibits discrimination on the basis of sex in educational programs, including sexual misconduct. In this context, the Office of Student Conduct and the Office of the General Counsel, working closely with other University student affairs professionals, prepared amendments to the Charter of the Student Disciplinary System. As required by the Charter, the amendments have been approved by the Council of Deans, the Faculty Senate and the Provost and are in effect as of April 10, 2012.
Changes

The significant points of OCR's guidance include the following:

- Once a school knows or reasonably should know of possible sexual misconduct, it must take immediate and appropriate action to investigate or otherwise determine what occurred.
- If sexual misconduct has occurred, a school must take prompt and effective steps to end the sexual violence, prevent its recurrence, and address its effects, whether or not the sexual violence is the subject of criminal investigation.
- A school must take steps to protect the complainant as necessary, including interim steps taken prior to the final outcome of the investigation.
- A school must provide a procedure for students to file complaints of sex discrimination, including complaints of sexual misconduct. These procedures must include an equal opportunity for both parties to present witnesses and other evidence and the same appeal rights.
- A school's procedures must use the preponderance of the evidence standard to resolve complaints of sexual misconduct.¹

With the guidance in mind, we developed some special procedures for handling sexual misconduct cases and added a section in the Charter describing these. For the full text of these amendments, please refer to Section II.J. (p. ) of the amended Charter. The amendments also include other minor clean-up revisions, such as correction of scrivener's errors.

¹ U.S. Department of Education, Office for Civil Rights, Dear Colleague Letter: Sexual Violence, Background, Summary and Fast Facts, April 4, 2011

The University disciplinary process at Penn may involve the following stages:

- Bringing a Complaint to the Office of Student Conduct
- Resolving a Complaint by Mediation
- Investigating a Complaint
- Filing Charges by the University against a Student
- Resolving Charges by Voluntary Agreement to Sanctions
- Resolving Charges by Disciplinary Hearing
- Appealing the Decision of a Hearing Panel
- Imposing Sanctions on a Student
- Fulfilling Sanctions Imposed by the University

Under the University's Student Disciplinary System, charges are brought on behalf of the University, not on behalf of the complainant(s) who brought the matter to the Office of Student Conduct (OSC) or the party(ies) who may have been directly or indirectly harmed by the alleged violation of University regulations. Therefore, complainants who wish to maintain greater control over their complaints, such as is sometimes appropriate in cases involving serious cultural or communicative differences, or those who wish merely to create a record of their complaint without necessarily beginning a formal disciplinary process, may wish to bring their complaint to other University resource offices, particularly the Office of the Ombudsman, which are equipped to handle cases in this manner. Such offices may, when appropriate and helpful in an individual case, consult with relevant campus communities or other resource offices in the process of resolving a complaint and are able to work closely with both complainants and respondents in resolving such matters. If such efforts fail to arrive at a satisfactory resolution, the complainant still has the option of bringing a complaint to the OSC.

Through the University Honor Council, students play a major role in the Student Disciplinary System by advising the Director of the Office of Student Conduct and the Provost on matters of policy and the operation of the System and by sitting as members of disciplinary hearing panels. Students also serve as advisors and mediators within the System.

The System places great emphasis on the mediation of disputes, as is appropriate in a University Community.

The Student Disciplinary System

A. Statement of Purpose

The purpose of the Student Disciplinary System is to further the educational mission of the University of Pennsylvania by providing a fair and effective mechanism for investigating and resolving disputes involving students and alleged violations by students of the University's rules, regulations, and policies.

B. Jurisdiction of the Student Disciplinary System

1. Through the Office of Student Conduct (OSC), the Student Disciplinary System handles complaints from members of the University community—trustees, faculty, staff or registered students—about alleged violations of the Code of Student Conduct, the Code of Academic Integrity, or other University policies. Persons outside the University community may also bring complaints of alleged violations of the Code of Student Conduct and other University policies to OSC. The Director of OSC will make a case-by-case determination of whether it is appropriate to handle such complaints under the Student Disciplinary System. Among other factors, the Director will consider whether the alleged conduct affects a substantial University interest or whether the conduct may present a
threat or danger to the community. When OSC undertakes to handle such complaints, the procedures described in this Charter will apply.

2. Except as provided below, the Student Disciplinary System has jurisdiction in all disciplinary matters arising under the regulations of the University against registered students, whether they be undergraduate, graduate or professional students, or others, including students who are on unexpired leaves of absence. Approved or unapproved absence from the University is not a bar to the conduct or completion of disciplinary proceedings under this Charter.

3. In general, a student is any individual who has been admitted, matriculated, enrolled, or registered in any academic program or other educational activity provided by the Trustees of the University of Pennsylvania.

4. The Student Disciplinary System does not handle complaints against graduate and professional students when such cases lie within the jurisdiction of a hearing board or other disciplinary body established by the School of the University in which the student is enrolled. When such a School-based disciplinary procedure exists, it should be the recourse of first resort for the resolution of an alleged violation of University or School regulations, unless the OSC decides, in consultation with the Provost, that it is appropriate in light of the circumstances for the Student Disciplinary System to handle the matter. Schools with such procedures are encouraged to refer disciplinary matters (excluding academic integrity matters) to the University Mediation Program whenever appropriate. When an alleged violation of University regulations by a graduate or professional student is not within the jurisdiction of a disciplinary system established by the student’s School, the Student Disciplinary System will have jurisdiction over the matter.

5. The Student Disciplinary System does not handle alleged violations of the University’s parking regulations.

6. Alleged violations of the University’s Residential Living policies and contracts are ordinarily handled under the procedures of the Department of Residential Living but, if serious enough to warrant sanctions beyond those which the Department of Residential Living is authorized to impose, may be referred by the Director of Residential Living to the OSC. The fact that proceedings have been held and sanctions imposed under Residential Living policies does not preclude proceedings under this Charter.

7. The Director of the Office of Student Conduct decides all questions of jurisdiction of the Student Disciplinary System arising under this Charter, consulting with the Provost (or designee) and with the University’s General Counsel when necessary. When appropriate, the OSC may refer a complaint to another University office or disciplinary process.

C. General Principles of the Disciplinary System

1. The University’s Student Disciplinary System is not a legal system, and University disciplinary proceedings are not civil or criminal litigation. Thus, they operate under different rules, standards, and procedures, and seek to achieve ends different from criminal or civil proceedings.

2. Any member of the University community may bring a complaint about student conduct or academic integrity to the attention of the Office of Student Conduct. Doing so in no way limits a complainant’s rights or obligations to bring such matters to the attention of other University offices, officers, or resources, including the Office of the Ombudsman and appropriate Deans, or to seek recourse outside the University through civil or criminal legal proceedings.

3. In all cases, the University reserves the right to determine how to process a disciplinary complaint. Once a complaint is brought to the attention of the Office of Student Conduct, the OSC, on behalf of the University, will decide how the complaint will be handled, including whether disciplinary charges should be brought against a student.

4. Complainants in sexual misconduct cases have rights and responsibilities similar to respondents under this Charter. In addition, certain special procedures apply in sexual misconduct cases (see section II.J. (p. )).

5. Except as otherwise specified in this Charter, when appropriate and if all parties agree, a matter brought to the OSC may be resolved through mediation and will not result in charges or disciplinary hearings. Because of their seriousness within an academic community, alleged violations of the Code of Academic Integrity will not be referred for mediation. Thus, except in academic integrity matters and matters that warrant treatment as serious violations of the Code of Student Conduct or other University policies, the initial response by the OSC may be to refer the complainant and respondent to the University’s Mediation Program. If mediation fails or is inappropriate, the OSC will begin the more formal disciplinary processes outlined in this Charter.

6. All members of the University community are required to cooperate with the Student Disciplinary System. Those individuals who may be interviewed or called as witnesses in a disciplinary matter (including respondents and complainants) are obligated to provide honest and complete statements to the OSC and to the Hearing Panel. While in some circumstances a respondent may choose not to answer questions or provide information because of pending civil claims or criminal charges arising out of the same or other events, the respondent’s decision not to answer questions or provide information will not be a reason to delay or defer an investigation or proceedings under this Charter. A student who fails, without good cause, to appear for a hearing after receiving notice, or to cooperate with the investigation conducted by the OSC, may be charged with a violation of the Code of Student Conduct. Repeated disruption of disciplinary hearings or the disciplinary process by a student or the student’s advisor may result in charges against the student of non-cooperation with the Student Disciplinary System or exclusion of the student or advisor from disciplinary proceedings, including disciplinary hearings. Such exclusion is not a bar to the completion of disciplinary proceedings involving that student.

D. Organization of the Disciplinary System

1. Office of Student Conduct

The Office of Student Conduct is the central office responsible for resolving alleged violations of University policies by students. The duties of the OSC include determining whether complaints warrant action by the OSC, referring complaints for mediation or resolution by other University offices, investigating complaints, determining whether to charge a student with violations of University policies, resolving complaints by voluntary agreements to
sanctions, bringing charges of violations to a disciplinary hearing, presenting evidence at hearings, monitoring and enforcing the fulfillment of sanctions imposed pursuant to voluntary agreements or after disciplinary hearings, maintaining records of all disciplinary matters, providing administrative support for all aspects of the disciplinary process (including hearings), and preparing reports and compiling statistics.

2. **University Mediation Program**
   The University Mediation Program (UMP) may use the volunteer services of faculty, students, and staff members who have been trained in mediation and dispute resolution and may also use resources available in the University's Law School, in University resource offices such as the Office of the Ombudsman, or outside the University.

3. **University Honor Council**
   a. The University Honor Council (UHC) provides independent advice to the Provost and the OSC regarding the operation of the Student Disciplinary System in the area of academic integrity and student conduct, the general handling of academic integrity and conduct violations, appropriate sanctions for various types of academic integrity and conduct violations, and the effectiveness and implementation of the University's Code of Student Conduct and Code of Academic Integrity. Members of the UHC also sit on Disciplinary Hearing Panels. The UHC meets regularly with the Director of the Office of Student Conduct and may also discuss academic integrity and conduct issues with appropriate administrators and student, faculty, or administrative groups or committees. In addition, the UHC initiates and participates in educational programs about academic integrity and student conduct and works to help students understand and respect the academic and behavioral standards of the University community.

   b. The UHC consists of a minimum of 13 undergraduate students, chosen by current members of the UHC. The UHC is encouraged to ensure that nominees represent a broad cross-section of the undergraduate student body. The UHC selects a chair from among its members by a majority vote of the current members. Faculty members and graduate students designated by the Faculty Senate or Graduate and Professional Students Assembly (GAPSA) to sit on Disciplinary Hearing Panels may participate in the work of the UHC if the UHC so desires.

4. **Disciplinary Hearing Officer**
   Every two years, the Provost, after consultation with the UHC, and the chairs of the Faculty Senate, will appoint a tenured member of the Standing Faculty of the University of Pennsylvania as Disciplinary Hearing Officer (DHO), preferably from among those faculty who have experience with the Student Disciplinary System. The DHO presides over all disciplinary hearings held under this Charter. The DHO is responsible for overseeing the procedural integrity of disciplinary hearings. The DHO will, for example: consider and resolve pre-hearing challenges to the authority or procedures of a Disciplinary Hearing Panel; rule on all disqualification requests and objections to individual panel members; assist parties to adhere to the basic principles of fairness prior to, during, and subsequent to disciplinary proceedings; and may consult at any time with students, faculty members, the University's General Counsel or others about procedural issues. The DHO also participates in the training of prospective faculty and student members of Disciplinary Hearing Panels. The DHO serves and may be reappointed at the discretion of the Provost, but his or her removal or reappointment may not occur without prior consultation with the UHC and the chairs of the Faculty Senate.

5. **Disciplinary Appellate Officer**
   Every two years, the Provost, after consultation with the UHC, and the chairs of the Faculty Senate, will appoint a tenured member of the Standing Faculty of the University of Pennsylvania as a Disciplinary Appellate Officer (DAO), preferably from among faculty who have experience with the Student Disciplinary System. The DAO decides appeals of findings and recommended sanctions made by Disciplinary Hearing Panels based on the record of such proceedings and written submissions from the relevant parties. The DAO serves and may be reappointed at the discretion of the Provost, but his or her removal or reappointment may not occur without prior consultation with the UHC, and the chairs of the Faculty Senate.

6. **Disciplinary Hearing Panels**
   a. Disciplinary matters are heard by Disciplinary Hearing Panels of five members each. The Disciplinary Hearing Officer (or designee) randomly selects the undergraduate members of Disciplinary Hearing Panels from the membership of the University Honor Council for hearings involving undergraduate respondents. For hearings involving graduate students, the Disciplinary Hearing Officer (or designee) randomly selects the graduate and professional student members of Hearing Panels from lists of 13 or more graduate and professional students provided annually to the DAO by GAPSA. The Disciplinary Hearing Officer (or designee) randomly selects the faculty members of Hearing Panels from lists of 13 or more faculty provided annually to the DAO by the Faculty Senate Executive Committee. GAPSA and the Faculty Senate Executive Committee are encouraged to ensure that nominees represent a broad cross-section of graduate and professional students and faculty, respectively.

   b. In all disciplinary matters, except those involving alleged violations of the Code of Academic Integrity, the Disciplinary Hearing Panel is composed of two faculty members and three students of the same category (undergraduate or graduate) as the respondent. If a disciplinary matter involves both undergraduate and graduate respondents, the panel will include at least one undergraduate and at least one graduate student and two faculty members; the fifth panel member will be an undergraduate or graduate student selected by the DHO.

   c. In disciplinary matters involving alleged violations of the Code of Academic Integrity, the Disciplinary Hearing Panel is composed of three faculty members and two students of the same category (undergraduate or graduate) as the respondent. If a disciplinary matter involves both
undergraduate and graduate respondents, the panel will consist of one undergraduate student, one graduate student, and three faculty members.

d. Except for participation on the University Honor Council, no one designated to serve on Disciplinary Hearing Panels may serve simultaneously in any other capacity within the Student Disciplinary System.

e. If any nominating body chooses fewer than 13 members to serve on Disciplinary Hearing Panels or cannot make additional members available when needed, the Provost will make the necessary appointments to fill the complement of the appropriate group. If any member is unable to serve for any reason, a replacement is selected in the same manner that the original member was chosen.

f. Student members of Disciplinary Hearing Panels must be in good academic and disciplinary standing, as defined by their Schools. The UHC, as appropriate, by a vote of two-thirds of its members, may remove a member who fails to perform his or her duties. When a member ceases to be in good standing or is removed by the UHC, a replacement from the same category will be chosen in the same manner that the original member was chosen.

7. Advisors
a. Advisors help students involved in disciplinary proceedings to understand the disciplinary process, respect and comply with the provisions of this Charter, and deal with all aspects of the process. Any University faculty member, staff member, or student in good academic and disciplinary standing may serve as an advisor. The OSC maintains lists of individuals who are willing to serve as advisors and who have received training in the operation of the Student Disciplinary System.

b. Upon receiving notice of a complaint and the accompanying list of trained advisors, a respondent may select an advisor from this list or choose any other University faculty member, staff member, or student in good academic and disciplinary standing to advise the respondent during the disciplinary process. If criminal charges are pending against a respondent or, in the judgment of the Office of the University’s General Counsel, are reasonably in prospect, the respondent’s advisor may be an attorney who is not a member of the University community. In such instances, the attorney will be expected to observe the procedures of this Charter and comply fully and promptly with decisions of the DHO or other University officials or bodies charged with the administration of this Charter in the same manner expected of members of the University community.

c. An advisor may accompany any complainant, witness, or respondent to, and may participate in, any meeting regarding a disciplinary complaint. Advisors also may accompany complainants, respondents, and witnesses to hearings, but generally may not participate directly in such hearings (except as provided in section II.F.4.f and g. below). Advisors may, however, quietly provide advice during the hearing and may also make a brief statement at the conclusion of the hearing, before the panel begins its deliberations.

d. Any advisor who fails to observe the procedures of this Charter or comply fully and promptly with decisions of the DHO may, after appropriate warning, be disqualified by the DHO from continuing to serve. In the event of such disqualification, the hearing may proceed whether or not a replacement advisor is available or it may be rescheduled at the sole discretion of the DHO. Any person disqualified from serving as an advisor will be ineligible to serve as an advisor for a period of two years. Repeated disruption of disciplinary hearings or the disciplinary process by an advisor may result in charges against the advisee of non-cooperation with the Student Disciplinary System. If the advisor is a member of the student body, faculty, or staff or the University, disciplinary charges may be brought against the advisor in the appropriate forum.

II. The Disciplinary Process
A. Bringing a Complaint to the Office of Student Conduct
1. Any member of the University community, who believes that a student has violated University rules, regulations or policies may file a complaint, which must be in writing, with the OSC. Students, faculty, staff members and trustees also may consult informally with the OSC staff to determine whether they wish to file a complaint. Others should consult with the Director about whether they may file a complaint under the Student Disciplinary System. Complaints made to other University offices or personnel also may be referred to the OSC. A complaint asks the OSC to consider the matter for possible referral or investigation.

2. The OSC promptly evaluates each complaint it receives to determine whether the University’s Code of Student Conduct, Code of Academic Integrity, or other applicable rules, regulations or policies may have been violated. When the OSC determines that no such violation may have occurred, it may dismiss the matter without further investigation, or it may refer the parties to the University Mediation Program or elsewhere to resolve their dispute. When the OSC determines that a violation may have occurred, it may refer the matter for mediation or undertake an investigation that may lead to the filing of formal charges against a student or students.

3. A complaint is not a charge that a student has violated University regulations. Charges against a student are only made by the University (not by complainants) following an investigation. Until there is a determination to the contrary by voluntary agreement to sanctions or by a Disciplinary Hearing Panel, there is a presumption that an accused student has not violated University rules, regulations, or policies.

4. When a complaint is filed, the OSC promptly gives written notice of the complaint and its allegations to the student(s) alleged to have violated University rules. A copy of the Charter will be included with the notice, as well as a list of potential advisors who have received training from the OSC.

B. Resolving a Complaint by Mediation
1. The University encourages informal mediation whenever practical and appropriate. If the parties agree, at any time the OSC may refer any disciplinary matter other than an alleged violation of the Code of Academic Integrity to the University Mediation Program (UMP) or other resources for mediation.
Members of the University community may also contact the University Mediation Program directly.

2. It is within the sole discretion of the OSC to determine whether a disciplinary complaint is suitable for mediation. If mediation fails or new information comes to light about an unresolved matter then in mediation, the OSC may proceed with an investigation and the filing of disciplinary charges. The OSC may also set a date after which it will begin to investigate the original complaint or file charges if a matter has not been successfully mediated.

3. If the OSC refers a complaint for mediation and both parties to the dispute agree to participate, the UMP will assign a trained mediator and advise the complainant(s) and respondent(s) in advance of the date, time and place set for mediation. In order to resolve a disciplinary matter by mediation, both the complainant and the respondent must agree, first, to participate in the mediation and, second, to the proposed resolution.

4. If a student fails to comply with the terms of a mediation agreement, the OSC may take steps to enforce the agreement (including use of a Disciplinary Hold or the filing of new charges under the Code of Student Conduct) or may investigate the original complaint and bring disciplinary charges under this Charter.

C. Investigating a Complaint

1. If, after a preliminary evaluation of a complaint, the OSC determines that a violation of the Code of Student Conduct may have occurred and if the complaint is inappropriate for mediation or mediation fails, the OSC then will investigate the complaint and determine whether to bring charges of a violation.

2. In the course of its investigation, the OSC may interview any witnesses, including the respondent(s) or potential respondent(s). The OSC will inform each witness that anything they say in such interviews may be introduced as evidence at a hearing.

3. Except in extraordinary circumstances, or if the complainant makes a request of the OSC to delay the investigation based on good cause, the OSC will make every effort to complete its investigation within 60 days of the filing of the complaint.

D. Filing Charges by the University Against a Student

In light of its investigation of a complaint, the OSC may file charges against a student(s) of a violation(s) of the University’s Code of Student Conduct, Code of Academic Integrity, or other University rules, regulations, or policies. The OSC also may add charges beyond the scope of the original complaint, may add additional students as respondents, or may dismiss the original complaint as unfounded. If the OSC decides to charge a student with a violation of University regulations, the OSC must inform the respondent(s) of the charges in writing, identifying the University rules, regulations, or policies alleged to have been violated. The OSC will inform both respondent(s) and complainant(s) whether charges have been filed.

E. Resolving Charges by Voluntary Agreement to Sanctions

1. Following the notice that charges have been filed against a student, the OSC may discuss with the respondent and the respondent’s advisor what disciplinary sanction(s) would be appropriate to resolve the matter by voluntary agreement to sanctions. The respondent may accept, reject, or propose an alternative to the proposed sanction(s) and may be accompanied and assisted by an advisor, who may participate in these discussions. Statements made during discussions about whether a respondent will enter into a voluntary agreement to sanctions may not be introduced as evidence at any subsequent hearing, but may provide a basis for further investigation by the OSC.

2. A resolution by voluntary agreement to sanctions may be entered into by written agreement at any time after a complaint has been filed and prior to a disciplinary hearing. All sanctions allowed under this Charter are available to the OSC as part of a resolution by voluntary agreement to sanctions. By agreeing to such a resolution, a respondent waives further proceedings under this Charter.

3. Complainants and complainants’ advisors are not parties to voluntary agreements to sanctions.

4. If, in the judgment of the OSC, a voluntary agreement to sanctions is not reasonably in prospect, or if the respondent(s) reject(s) a proposed sanction, the OSC may bring the disciplinary matter to a hearing.

F. Resolving Charges by Disciplinary Hearing

1. Scheduling Disciplinary Hearings

   a. If disciplinary charges are not resolved by a voluntary agreement to sanctions, the Disciplinary Hearing Officer (or designee) promptly begins the process of scheduling the Disciplinary Hearing, with due regard for the time required for all parties to prepare for the hearing. The DHO will provide reasonable advance notice in writing to the complainant(s), respondent(s), and witnesses of the date, time, and place of the hearing and of the names of the panel members assigned to hear the disciplinary matter.

   b. Hearings normally take place as soon as possible after the filing of charges, ordinarily within 30 days of the respondent’s request for a hearing or OSC’s decision to bring the matter to a hearing. Upon a showing of good cause by a party, the DHO may grant a reasonable extension of any time limit relating to a disciplinary hearing set forth in the Charter.

   c. The DHO may expedite a Disciplinary Hearing in appropriate circumstances, including disciplinary matters involving students who have been placed on mandatory temporary leave of absence or conditional attendance, graduating students, or students who are about to take a leave of absence or to leave campus to study elsewhere.

2. Disqualification of Hearing Panel Members

   a. Members of the Hearing Panel selected by the DHO (or designee) should disqualify themselves from hearing a disciplinary matter if they believe in good faith that their capacity for making an objective judgment in the disciplinary matter is, or may reasonably appear to be, impaired. Members should not disqualify themselves for any other reason.

   b. The respondent(s) or the OSC may object for specific cause to any panel member selected by the DHO. The objection must be in writing and must be received by the DHO at least 48 hours in advance of the date and time set for the hearing.

   c. The DHO will rule upon all disqualification requests and objections to panel members. If the DHO decides that a
3. Pre-Hearing Exchanges and Testimony
   a. Within a reasonable time before the hearing or any
      other time frame specified by the DHO, the OSC and the
      respondent(s) will exchange among themselves and with
      the DHO copies of all exhibits to be presented, the names
      of witnesses to be called, and a brief summary of the
      substance of testimony expected to be presented to the
      Hearing Panel.
   b. When the DHO believes that it will contribute to the
      expedition and fairness of a Disciplinary Hearing, he or
      she may (but need not) ask the OSC to prepare a written
      statement of its case against the respondent(s) and give
      the respondent(s) a reasonable opportunity to prepare
      a written response. The OSC and the respondent(s)
      may also submit statements at their own initiative. The
      statements and any accompanying exhibits may be
      considered by the Hearing Panel, in addition to testimony,
      arguments, or evidence presented at the actual hearing.
   c. In exceptional circumstances, when a witness or exhibit
      does not become known or available until immediately
      before the hearing, the DHO may, at her or his discretion,
      permit the evidence to be presented or may reschedule
      the hearing to a later time.
   d. If a respondent or the OSC anticipates that a key witness
      will be unavailable for a hearing, they may ask the DHO
      to preserve the testimony of the witness on tape and
      present it as evidence at the hearing. The OSC and the
      respondent(s) must be notified in advance of the date,
      time and place of the taping. All parties who would be
      permitted to question such a witness at a hearing may
      question the witness at the taping.

4. Conduct of Hearings
   a. Disciplinary hearings are not trials, and they are not
      constrained by technical rules of procedure, evidence,
      or judicial formality. They are designed to encourage
      open discussion among the participants that promotes
      the Hearing Panel's understanding of the facts, the
      individuals involved, the circumstances under which
      the incident occurred, the nature of the conduct, and
      the attitudes and experience of those involved. The
      rules of evidence applicable to legal proceedings do not
      apply to disciplinary hearings. Information, including
      hearsay evidence, may be considered if it is relevant,
      not unduly repetitious, and the sort of information on
      which responsible persons are accustomed to rely in the
      conduct of serious affairs.
   b. The DHO presides over all hearings and decides all
      questions about the admissibility of evidence and the
      conduct of hearings. While the DHO may be present for
      the Hearing Panel’s discussions to answer procedural
      questions, the DHO does not deliberate or vote with the
      Panel regarding its findings or its recommendation of
      sanctions.
   c. Disciplinary hearings are held in private unless the
      respondent(s) and the complainant(s) agree in writing
      to an open hearing. The DHO may limit attendance at
      a hearing to ensure fair and orderly proceedings. If a
      hearing is opened in accord with this procedure, the DHO
      may, when necessary to maintain order or to protect the
      rights of participants, declare the hearing closed to the
      public. In a case involving important privacy interests,
      the DHO may close a hearing or part of a hearing that
      has been opened upon determining that the privacy rights of a
      participant may be jeopardized.
   d. Upon a showing that the required notice was provided, the
      hearing against a respondent(s) may proceed in her or his
      absence.
   e. At the hearing, the OSC presents the results of the
      OSC’s investigation of the complaint, calls witnesses to
      testify and presents the University's evidence against
      the student(s). Members of the Hearing Panel may also
      call witnesses to testify and may question any witness
      appearing before it. Respondents may also call witnesses
      to testify and ask questions of all witnesses.
   f. A respondent is responsible for presenting his or her own
      case before the Hearing Panel. However, at the discretion
      of the DHO, the respondent’s advisor may be permitted
      to question witnesses on behalf of a respondent or
      to address the Hearing Panel. The DHO’s exercise of
discretion in this matter will be guided by the principles
that govern disciplinary hearings, specifically fairness, the
need for orderly procedures, and the Hearing Panel's duty
to understand the facts and parties in the disciplinary
matter.
   g. Complainants may attend the hearing, testify if they
      wish to do so, and may be accompanied by an advisor.
      Except as described in section II.J. of this
      Charter, neither complainants nor their advisors may call
      witnesses or present evidence or arguments.
   h. At the conclusion of the hearing, the OSC and the
      respondent(s) or their advisor(s) may make brief
      statements. At the discretion of the Disciplinary Hearing
      Officer, the complainant(s) or their advisor(s) may be
      permitted to make a brief statement. The time allowed
      for such statements will be set by the DHO.
   i. The OSC will arrange for a verbatim transcript or
      recording to be made of all disciplinary hearings. The
      transcript or recording is the property of the University
      of Pennsylvania and becomes part of the record of the
      disciplinary proceedings.

5. Findings and Recommendations of the Hearing Panel
   a. Only evidence presented at the hearing will be considered
      by the Hearing Panel. The Hearing Panel will presume
      a respondent innocent unless proven responsible for a
      violation by clear and convincing evidence. All decisions
      of the Hearing Panel require a majority vote.
   b. Following the hearing, the members of the Hearing Panel
      meet to discuss in private their findings, which consist of
      two parts:
      1. a determination of whether the respondent is
         responsible for any violation; and
      2. if so, a recommendation of sanction(s).
   c. The OSC may recommend to the Hearing Panel a
      sanction to be imposed if the Hearing Panel finds
the respondent(s) responsible for a violation. The respondent(s) may respond to the OSC’s proposed sanction(s). Before the Hearing Panel makes its recommendation on sanctions, it will review any previous disciplinary offenses by and sanctions against the respondent(s) and sanctions imposed in other similar cases.

d. If the Hearing Panel determines that the respondent(s) is not responsible for a violation, no sanction may be recommended against the respondent(s) and the respondent may not be subject to further proceedings under this Charter on the same charge(s).

e. If the Hearing Panel finds that a student is responsible for a violation of University rules or regulations, it will recommend to the Provost appropriate sanctions.

Only the Provost (or designee), acting on behalf of the University, may actually impose a sanction on a student. The Provost (or designee) will not impose a sanction until after any appeal of the Hearing Panel’s decision has been decided by the DAO.

6. Notice of Hearing Panel Decision
The Hearing Panel will promptly transmit its decision, including its findings and recommendation regarding sanctions, in writing to the DHO, the OSC, the respondent(s) and the Provost as soon as possible after the end of the hearing.

G. Appealing a Hearing Panel’s Decision
1. The Disciplinary Appellate Officer (DAO) has exclusive jurisdiction to decide appeals. Appeals are based solely on the record of the disciplinary hearing and the written submissions and responses of the respondent(s) and the OSC.

2. Only respondent(s) may appeal the Hearing Panel’s findings of responsibility except where applicable laws or regulations may extend this right to complainants. Both the respondent(s) and the OSC may appeal the Hearing Panel’s recommendation of sanction(s). An appellant must submit any appeal to the DAO in writing within 10 days after the Hearing Panel has rendered its opinion. The appeal must state in detail the specific grounds upon which it is based and must be sent to the OSC and respondent(s), as appropriate.

3. When the appeal is received, the OSC provides the DAO with a copy of the respondent’s charge letter, a copy of the Hearing Panel’s findings, a verbatim transcript or tape recording of the Disciplinary Hearing, and any exhibits considered by the panel in reaching its recommendations. A response to an appeal must be in writing and must be submitted to the DAO within 10 days from the date the appeal is filed.

4. Appellate review is limited to allegations of material and prejudicial procedural error in the conduct of hearings, error in the interpretation or application of relevant University regulations, consideration of new evidence sufficient to alter the Hearing Panel’s findings or severity of the recommended sanctions. If the DAO finds sufficient basis, he or she may reverse or modify the Hearing Panel’s findings or proposed sanctions, or may remand the disciplinary matter for further investigation by the OSC or a new hearing before a new Hearing Panel. However, the DAO may not recommend a more severe sanction(s) unless the OSC has appealed the sanction(s) recommended by the Hearing Panel.

5. After considering an appeal, the Disciplinary Appellate Officer will promptly issue his or her decision in writing and will provide copies to the OSC, the DHO, the Provost, the respondent(s) and other appropriate parties.

H. Imposing Sanctions on a Student
1. Sanctions recommended against a respondent by a Hearing Panel or the DAO are imposed by the Provost (or designee) and may include any reasonable sanction, including, but not limited to, the following:

- **Warning:** A Warning is a written admonition given by the OSC on behalf of the University in instances of minor misconduct.

- **Reprimand:** A Reprimand is written censure for violation of the University’s rules, regulations, or policies, given by the OSC on behalf of the University, which includes notice to the student that continued or repeated conduct violations will result in the imposition of more serious sanctions.

- **Fine:** A monetary Fine may be levied as a disciplinary sanction and is payable to the Trustees of the University of Pennsylvania. (Not appropriate in cases of academic integrity violations.)

- **Restitution:** Restitution is reimbursement for the damage, loss, or misappropriation of University, private or public property or compensation for injury to individuals. Restitution may take the form of monetary payment, property, or appropriate service. (Not appropriate in cases of academic integrity violations.)

- **Disciplinary Probation:** Disciplinary Probation may be imposed for a specified period or indefinitely (i.e., for as long as and whenever a student is a full- or part-time student at the University of Pennsylvania). Probation may be imposed for a single instance of misconduct or for repeated minor misconduct. Any future conduct or academic integrity violation by a student on Disciplinary Probation, found to have occurred during the probationary period, may be grounds for suspension or, in especially serious instances, expulsion from the University.

- **Withdrawal of Privileges:** Withdrawal of Privileges is the denial of specified privileges or the ability to participate in specified activities for a designated period of time.

- **Suspension:** Suspension is the termination of student status and separation from the University until a specified date. Suspension means the loss of all rights and privileges normally accompanying student status. While on disciplinary suspension, students may not obtain academic credit at the University or elsewhere toward completion of a University of Pennsylvania degree. Students are eligible to return to the University after the specified suspension term has elapsed. Suspension is imposed in instances of serious misconduct; it is generally the minimum sanction imposed for a violation of the Code of Academic Integrity.

- **Indefinite Suspension:** An Indefinite Suspension is termination of student status and separation from the University for an unspecified period, without an automatic right of return to the University as a student (though specific conditions for return as a student
may be specified). When the conditions of an Indefinite Suspension have been fulfilled, the student must make a formal request, as specified in the conditions, to return to student status. Indefinite suspension is imposed in instances of extremely serious misconduct or in instances of continued serious misconduct following the imposition of probation or suspension for a specified period.

- **Expulsion**: Expulsion is a permanent termination of student status and permanent separation from the University of Pennsylvania. Expulsion is imposed in instances of the most serious misconduct or in instances of continued serious misconduct following the imposition of probation or suspension.

2. In addition to the sanctions defined above, students may be required to perform a designated number of hours of University or other community service or to utilize University or other educational or counseling services related to the nature of the misconduct.

3. Sanctions may be imposed alone or in combination with other sanctions. The Disciplinary Hearing Panel or the DAO may recommend whether the sanctions should appear on the transcript of a respondent and if so, for how long.

4. After the imposition of sanctions, a faculty member involved in an academic integrity matter will be informed of the outcome of the disciplinary proceedings. If the student has been found not to be responsible for an academic integrity violation, the instructor should assign a grade (which may differ from the grade originally assigned) based on the student's academic performance in the course. If the student has been found responsible for an academic integrity violation, the instructor may assign any grade the instructor deems appropriate. In the event that the student believes the final grade is unfair or fails to take account of the outcome of the disciplinary proceeding, the student may appeal the grade through the existing academic grievance procedure for the evaluation of academic work established by each School and academic department.

### I. Fulfilling Sanctions Imposed by the University

1. Under the Code of Student Conduct, students are required to comply with all disciplinary sanctions. Failure to do so constitutes a violation of the Code and is itself subject to disciplinary proceedings by the OSC.

2. The OSC monitors the implementation and fulfillment of sanctions. In performing this duty, the OSC will have the cooperation of the Division of University Life, the respondent’s Dean, and other appropriate University offices. No sanction will be enforced while an appeal is pending.

### J. Special Procedures for Sexual Misconduct Cases

In sexual misconduct and other sex discrimination cases, the OSC will follow applicable federal law, including Title IX of the Higher Education Amendments of 1972, as amended. The complainants in sexual misconduct cases have rights and responsibilities similar to the respondents under this Charter. The time frames set for respondents also apply to complainants and when notice is required to be provided to the respondent, similar notice will be provided to the complainant.

1. **Specified Rights of Complainants in Sexual Misconduct Cases**

The complainant will have an opportunity to participate in the entire disciplinary process, including the opportunity to provide information and witnesses during the investigation to participate in the preliminary exchange of information, to attend the disciplinary hearing, and to present evidence and witnesses at the hearing.

The complainant will have an opportunity equal to the respondent to have others present during meetings and at the disciplinary hearing.

The complainant will be informed of the outcome of his or her complaint and any appeal.

2. **Investigation and Pre-Hearing Stages**

   a. An OSC staff member will ordinarily meet with the complainant to hear or clarify his or her account of the incident and to review the disciplinary process. To initiate a formal complaint, the complainant must submit a written complaint.

   b. OSC will make every effort to complete its investigation within 60 days from the filing of a formal complaint. In extraordinary cases, such as when the gathering of information is completely under the control of law enforcement, OSC’s investigation may be delayed. In the event of such delay, OSC will advise the complainant of the reason for the delay. An investigation may also be delayed upon the complainant’s request based on good cause.

   c. During the investigation, and until resolution of the matter, interim restrictions, including restrictions on contact between the complainant and the respondent, may be imposed by OSC. Nothing in this Charter precludes other University officials from taking appropriate interim measures before a disciplinary matter is resolved.

   d. The complainant will be notified of the outcome of the investigation. Further, if there is a voluntary agreement to sanctions, the complainant will be informed of the provisions of the agreement that directly relate to the complainant.

   e. Subject to any Family Educational Rights and Privacy Act (FERPA) limitations, the complainant will have a similar opportunity as the respondent to review evidence to be presented at the hearing.

3. **Disciplinary Hearings**

   a. The complainant will have a similar opportunity as the respondent to object to panel members for cause. In addition, the complainant will have an equal opportunity to prepare a written statement in advance of the hearing and to respond to any written statement prepared by the respondent or OSC before the hearing.

   b. The complainant’s advisor (who must be a member of the University community) may participate in a hearing to the same extent as the respondent’s advisor. At the discretion of the DHO, a complainant’s advisor may be permitted to question witnesses.

   c. Alternative testimony options will be offered to complainants, such as placing a privacy screen in the hearing room or allowing the complainant to testify from another room via closed circuit television. Generally, questions between the complainant and the respondent will be relayed through the DHO, but if both agree, they can address each other directly. The DHO reserves the
right to exclude questions he/she deems irrelevant or duplicative.

d. The complainant may call witnesses (including character witnesses) at the hearing, ask questions of all witnesses, and present evidence.

e. The hearing panel will presume the respondent not responsible unless proven responsible by a preponderance of the evidence.

f. The complainant may respond to the proposed sanctions OSC submits to the hearing panel.

4. Appeal of a Hearing Panel Decision

a. The complainant may appeal the hearing panel’s findings and/or recommended sanctions. In addition, the complainant may respond to an appeal by the respondent or OSC.

b. The complainant will be provided with written notice of the outcome of the appeal at the same time as the respondent.

III Additional Matters

A. Administration of the Disciplinary System

1. The Provost is responsible for implementation of this Charter, administrative oversight of the Student Disciplinary System, including the OSC, and ensuring that the Student Disciplinary System functions fairly and in furtherance of the educational mission of the University. The Provost may instruct the OSC regarding the handling of specific cases, but he or she may not so instruct the DHO, the DAO, or the members of Disciplinary Hearing Panels.

2. When circumstances warrant, the OSC may take such administrative steps as may be necessary and feasible to effect the prompt resolution of a disciplinary matter, including, but not limited to, tape recording the testimony of witnesses who may be unavailable at the time of hearing, making special arrangements to ensure the attendance of complainants, respondents, witnesses, or other participants at a hearing and scheduling hearings outside of the normal academic year.

3. In any disciplinary matter in which a member of the Student Disciplinary System cannot perform her or his duties under this Charter, an alternate may be designated by the Provost using the procedures appropriate to that individual’s position in the system. In addition, when the Provost determines that circumstances warrant, such as (but not limited to) when a conflict of interest or a particularly complex or controversial disciplinary matter arises, the Provost may appoint a special OSC staff member, a special Disciplinary Hearing Officer, or a special Disciplinary Appellate Officer using the procedures appropriate to the position.

B. Reports to the University Community

1. Subject to the limitations imposed by law and the University’s policies on the confidentiality of student records and information, the OSC and the University Honor Council, in consultation with the Provost, will make periodic reports to inform the University community about the character and extent of the work of the Disciplinary System, including the nature of violations of University rules and regulations and the sanctions imposed. The reports of the OSC will deal both with disciplinary matters that go to hearing and with disciplinary matters that are resolved before hearing, and will include such information as the total number of disciplinary matters handled during the preceding year broken down by type of resolution (e.g., mediation, voluntary agreement to sanctions, hearing, etc.), by type of violation, by type of sanction(s) imposed, by whether or not the respondent(s) were found responsible for a violation, and so forth.

2. With the approval of the Provost, the OSC may also make extraordinary reports to the University community concerning the outcome of certain exceptional disciplinary matters, subject to the limitations imposed by law and the University’s policies on the confidentiality of student records and information.

C. Disciplinary Holds

At any time after the filing of a complaint, the OSC, after consulting with the student’s academic dean, may place a “Disciplinary Hold” on the academic and/or financial records of any student for the purpose of preserving the status quo pending the outcome of proceedings, enforcing a disciplinary sanction, or ensuring cooperation with the Student Disciplinary System. A Disciplinary Hold may prevent, among other things, registration, the release of transcripts, and the awarding of a degree.

D. Mandatory Leave of Absence and Conditional Attendance

In extraordinary circumstances, when a student’s presence on campus is deemed by the University to be a threat to order, health, safety, or the conduct of the University’s educational mission, the Provost (or designee), in consultation with the student’s Dean or Associate Dean, may place the student on a mandatory temporary leave of absence or impose conditions upon the student’s continued attendance, pending a hearing of disciplinary charges. When reasonably possible, the student will be provided with an opportunity to be heard before a decision is made by the Provost (or designee) to impose a mandatory temporary leave of absence or conditions on the student’s attendance. At the respondent’s request, and where feasible, the OSC may expedite the investigation of a complaint and the disciplinary hearing against a student placed on a mandatory temporary leave of absence or conditional attendance.

E. Civil or Criminal Proceedings

The University may proceed with disciplinary proceedings against a student under this Charter regardless of possible or pending civil claims or criminal charges arising out of the same or other events. The OSC, with the concurrence of the Provost and after consultation with the University’s General Counsel, will determine whether to proceed with charges against a student who also faces related charges in a civil or criminal tribunal. If the University defers proceeding with disciplinary charges against a student in light of related charges in a civil or criminal tribunal, the University may at any subsequent time proceed with disciplinary proceedings against that student under this Charter irrespective of the time provisions set forth in this Charter.

F. Disciplinary Records

1. Maintenance of Records

Except as may be otherwise provided by applicable law, records of all complaints, disciplinary proceedings, mediations, and voluntary agreements to sanctions are maintained by the OSC in accordance with the University’s Protocols for the University Archives and Records Center and
University policies on the confidentiality and maintenance of student records.

2. Confidentiality
Except as may be otherwise provided by applicable law, all disciplinary proceedings, the identity of individuals involved in particular disciplinary matters, and all disciplinary files, testimony, and findings are confidential, in accordance with University policies and federal law concerning the confidentiality of student records. However, no provision of this Charter or the University's policies on confidentiality shall be interpreted as preventing a student from seeking legal advice.

3. Policy Violation of Confidentiality
Failure to observe the requirement of confidentiality of a disciplinary hearing by any member of the University community, other than the respondent, constitutes a violation of University rules and may subject the individual to the appropriate procedures for dealing with such violations. The respondent may disclose confidential information pertaining to him- or herself but may not violate the confidentiality of others. If the respondent discloses, causes to be disclosed, or participates in the disclosure of information that is confidential, any person whose character or integrity might reasonably be questioned as a result of such disclosure shall have the right to respond in an appropriate forum, limited to the subject matter of the initial disclosure.

G. Release of Information on Disciplinary Proceedings
1. To provide students involved in disciplinary matters with appropriate liaison with their School offices in regard to their academic work, the Dean or appropriate Associate Dean of the School(s) of the respondent(s) will be confidentially informed when a complaint is filed, when a sanction is imposed, or when a disciplinary complaint is otherwise resolved by the Student Disciplinary System. When a sanction is imposed, the Director of Career Planning and Placement may be informed by the OSC if the sanction(s) is reportable outside the University. When a transcript notation is required as part of a sanction, the University Registrar is also informed and required to implement the sanction as directed by the OSC on behalf of the Provost.
2. As required by law, in disciplinary matters involving allegations of sexual offenses, the complainant(s) will be informed of the outcome of the proceeding, including voluntary agreement to sanctions.

H. Reportability of Sanctions
1. Subject to applicable law and the University’s policies on the confidentiality of student records and information, any disciplinary sanction may be reportable outside the University of Pennsylvania, subject to specific policies governing the reporting of sanctions adopted by the Council of Undergraduate Deans for undergraduate students and the Council of Graduate Deans for graduate and professional students.
2. Resolution of disciplinary charges by voluntary agreement to sanctions is treated like a finding of responsibility and is reportable in the same manner as sanctions imposed following a Disciplinary Hearing.

I. Amendment of the Charter

Amendments to this Charter may be recommended by the UHC, OSC, University Council, Faculty Senate Executive Committee, or other appropriate members of the University community and proposed by the Provost. Amendments take effect upon the approval of the Council of Deans, except that the Council of Deans may at its discretion refer proposed amendments to the Deans and faculties of the individual Schools for approval.

(Source: Almanac, April 10, 2012, Volume 58, No. 12 (http://www.upenn.edu/almanac/volumes/v58/n29/discipline.html))

Code of Academic Integrity

Since the University is an academic community, its fundamental purpose is the pursuit of knowledge. Essential to the success of this educational mission is a commitment to the principles of academic integrity. Every member of the University community is responsible for upholding the highest standards of honesty at all times. Students, as members of the community, are also responsible for adhering to the principles and spirit of the following Code of Academic Integrity.

Academic Dishonesty Definitions
Activities that have the effect or intention of interfering with education, pursuit of knowledge, or fair evaluation of a student’s performance are prohibited. Examples of such activities include but are not limited to the following definitions:

A. Cheating: using or attempting to use unauthorized assistance, material, or study aids in examinations or other academic work or preventing, or attempting to prevent, another from using authorized assistance, material, or study aids. Example: using a cheat sheet in a quiz or exam, altering a graded exam and resubmitting it for a better grade, etc.

B. Plagiarism: using the ideas, data, or language of another without specific or proper acknowledgment. Example: copying another person’s paper, article, or computer work and submitting it for an assignment, cloning someone else’s ideas without attribution, failing to use quotation marks where appropriate, etc.

C. Fabrication: submitting contrived or altered information in any academic exercise. Example: making up data for an experiment, fudging data, citing nonexistent articles, contriving sources, etc.

D. Multiple submission: submitting, without prior permission, any work submitted to fulfill another academic requirement.

E. Misrepresentation of academic records: misrepresenting or tampering with or attempting to tamper with any portion of a student’s transcripts or academic record, either before or after coming to the University of Pennsylvania. Example: forging a change of grade slip, tampering with computer records, falsifying academic information on one’s resume, etc.

F. Facilitating academic dishonesty: knowingly helping or attempting to help another violate any provision of the Code. Example: working together on a take-home exam, etc.

G. Unfair advantage: attempting to gain unauthorized advantage over fellow students in an academic exercise. Example: gaining or providing unauthorized access to examination materials, obstructing or interfering with another student’s efforts in an academic exercise, lying about a need for an extension for an exam or paper, continuing to write even when time is up during an exam, destroying or keeping library materials for one’s own use, etc.
If a student is unsure whether his action(s) constitute a violation of the Code of Academic Integrity, then it is that student’s responsibility to consult with the instructor to clarify any ambiguities.

(Source: Almanac, September 10, 1996, Volume 43, No. 3) (http://www.upenn.edu/almanac/v43/n03/codechar.html)

**Code of Student Conduct**

I. Preamble

When Benjamin Franklin founded the Pennsylvania Academy, he defined its mission as “education for citizenship.” In pursuit of this mission, the University of Pennsylvania is committed to achieving academic excellence, to creating an environment for inquiry and learning, and to cultivating responsible citizenship in the larger society.

The University of Pennsylvania is a community in which intellectual growth, learning from others, mutual tolerance, and respect for freedom of thought and expression are principles of paramount importance. In an environment that promotes the free interchange of ideas, cultural and intellectual diversity, and a wealth of social opportunities, Penn students take advantage of the academic and non-academic opportunities available to them, deepening their intellectual insights through formal instruction, and expanding their educational experience beyond their academic programs. Members of the Penn community participate actively in the greater Philadelphia, state, national, and international communities in which they reside. “Citizens” of the University community include students, faculty, staff and those otherwise affiliated with the University.

Accepting membership into the University of Pennsylvania community as a student entails an obligation to promote its welfare by assuming the rights and responsibilities listed below. Each individual member of this community is responsible for his or her own actions and is expected to respect the rights of others.

II. Rights of Student Citizenship

Membership in the University of Pennsylvania community affords every student certain rights that are essential to the University’s educational mission and its character as a community.

a. The right to have access to and participate in the academic and non-academic opportunities afforded by the University, subject to applicable standards or requirements.

b. The right to freedom of thought and expression.

c. The right to be free from discrimination on the basis of race, color, gender, sexual orientation, religion, national or ethnic origin, age, disability, or status as a disabled or Vietnam Era veteran.

d. The right to fair University judicial process in the determination of accountability for conduct.

II. Responsibilities of Student Citizenship

Students are expected to exhibit responsible behavior regardless of time or place. Failure to do so may result in disciplinary action by the University. Responsible behavior is a standard of conduct which reflects higher expectations than may be prevalent outside the University community. Responsible behavior includes but is not limited to the following obligations:

a. To comply with all provisions of the University’s Code of Academic Integrity and academic integrity codes adopted by the faculties of individual schools.

b. To respect the health and safety of others. This precludes acts or threats of physical violence against another person (including sexual violence) and disorderly conduct. This also precludes the possession of dangerous articles (such as firearms, explosive materials, etc.) on University property or at University events without University authorization.

c. To respect the right of fellow students to participate in University organizations and in relationships with other students without fear, threat, or act of hazing.

d. To refrain from conduct towards other students that infringes upon the Rights of Student Citizenship. The University condemns hate speech, epithets, and racial, ethnic, sexual and religious slurs. However, the content of student speech or expression is not by itself a basis for disciplinary action. Student speech may be subject to discipline when it violates applicable laws or University regulations or policies.

e. To refrain from stealing, damaging, defacing, or misusing the property or facilities of the University or of others. This also precludes the disruption of University computing services or interference with the rights of others to use computer resources.

f. To be honest and truthful in dealings with the University, about one’s own identity (e.g., name or Social Security number), and in the use of University and other identification.

g. To cooperate fully and honestly in the Student Judicial System of the University, including the obligation to comply with all judicial sanctions.

h. To comply with all contracts made with the University, such as Residential Living Occupancy Agreements and Dining Services contracts.

i. To comply with policies and regulations of the University and its departments (e.g., the University’s Guidelines on Open Expression, Anti-Hazing Regulations, Drug and Alcohol Policies, Sexual Harassment Policy, etc.).

j. To comply with federal, state and local laws.


**Confidentiality of Student Records**

I Statement of Purpose

The purpose of this policy is to describe the rights and responsibilities of students, faculty and staff regarding the confidentiality of student records, including as specified under the Family Educational Rights and Privacy Act (“FERPA”).

II Scope

A. Information

This policy pertains to personally identifiable information contained in education records. The term “education records” generally includes records that are directly related to a student and maintained by the University or a party acting for the University.

Exceptions:

1. Sole possession of the maker. This policy does not apply to records kept in the sole possession of the maker and used only as a personal memory aid and not accessible to any
other individual except a temporary substitute of the maker of the record.

2. Peer graded papers. This policy does not apply to grades on peer-graded papers/assignments before they are collected and recorded by a teacher.

3. Law enforcement records. This policy does not apply to records created and maintained by a law enforcement unit, including the Penn Police, for law enforcement purposes.

4. Employment records. This policy does not apply to records relating exclusively to an individual in his or her capacity as an employee except that records regarding an individual in attendance who is employed as a result of his or her status as a student.

5. Treatment-related records. This policy does not apply to records made or maintained by a healthcare professional that are used only in connection with treatment of the student and disclosed only to individuals providing treatment.

6. Other FERPA exceptions. This policy does not apply to any records or information specifically excepted from the term “education records” under FERPA and its implementing regulations, as they may be amended.

B. Individuals

1. Individuals in attendance. This policy applies to students who are or have been in attendance at the University.

2. Alumni. In general, this policy does not apply to records that contain only information about an individual after he or she is no longer a student at the University. However, if the record relates back to the student’s attendance at the University, it is still an “education record.” A separate policy protecting the privacy of alumni records may be found at http://www.upenn.edu/privacy.

3. Deceased individuals. Neither FERPA nor this policy applies to records of deceased persons. The person responsible for such records, however, should exercise informed discretion in responding to requests for disclosures and should ensure that the person making the request has a legitimate interest in the information and that the privacy interests of the deceased and third parties are considered.

4. Applicants. This policy does not apply to applicants for admission. However, the admission-related records of applicants who become students at the University are subject to the policy.

III Notice

Penn will annually inform individuals in attendance of their rights under FERPA, including the right to consent to disclosure of personally identifiable information contained in their education records, the right to opt out of the disclosure of “directory information,” the right to review and seek correction of education records, and the right to file a complaint with the Department of Education concerning the University’s alleged failure to comply with FERPA.

IV Disclosure of Education Records

A. Consent Required

As a general rule, personally identifiable information from education records may not be disclosed to other parties without the student’s prior written or electronic consent. Such consent shall be signed (on paper or using an appropriate electronic signature method) and dated and specify records or information to be disclosed, the purpose(s) of the disclosure, and the party or class of parties to whom disclosure may be made.

B. Consent Not Required

In certain cases (some of which are described below) personally identifiable information from education records may, and in some cases must, be disclosed from the records of a student without that individual’s prior written consent. If such disclosure is made, it should be limited to that information necessary for the purpose of the disclosure. Note also that specific requirements and qualifications may apply to these exceptions.

1. To “school officials” with “legitimate educational interests.”
   a. “School officials” means employees of the University, including faculty and staff, as well as certain individuals such as vendors or contractors, performing work for the University under proper authorization.
   b. A school official has “legitimate educational interests” in personally identifiable information in the records of a student if the information in question is required or would be helpful to the official in the performance of his or her duties.
   c. A contractor, consultant, volunteer, or other party to whom the University has outsourced services may be considered a school official provided that the outside party
      1. performs a service for which the University would otherwise use its employees
      2. is under the direct control of the University with respect to the use and maintenance of education records and
      3. is subject to FERPA requirement governing the use and redisclosure of personally identifiable information from education records.

2. To another school where the student seeks or intends to enroll or where the student is already enrolled so long as the disclosure is for purposes related to the student’s enrollment or transfer and the University has provided notice of the disclosure or annual notice of its policy to make such disclosures.

3. In connection with financial aid for which a student has applied, or which he or she has received, but only for such purposes as determining eligibility for financial aid, the amount of financial aid, and the conditions that will be imposed, or for enforcing the terms or conditions of financial aid.

4. To comply with a judicial order or lawfully issued subpoena provided that the University makes a reasonable effort to notify the student whose records are involved in advance of disclosing the information. Prior notification may be prohibited in certain situations. All subpoenas and court orders should be directed to the Office of General Counsel
and disclosure in response to them must be approved by that
office.
5. In connection with an emergency, to appropriate persons
if knowledge of the information is necessary to protect the
health or safety of the student or other individuals.
6. To parents as described in Section IV.(c) (p. 285) below.
7. Regarding directory information as described in Section IV.(d)
(p. 285) below.
8. Other circumstances as authorized by FERPA and its
implementing regulations, as they may be amended
or as otherwise required by law. Questions about legal
requirements should be directed to the Office of General
Counsel.

C. Parental Notification — Consent Not Required
The University’s policy regarding disclosure of student
information to parents is based both upon legal requirements
and the University’s philosophy that students should be treated
as adults. The University generally will not share personally
identifiable information (other than directory information) from
a student’s education records with third parties, including
parents or guardians, without student consent, except in limited
circumstances where such disclosure is permitted under FERPA
(described below) and where the University determines in its
discretion that disclosure is appropriate.
1. In connection with an emergency if knowledge of the
information is necessary to protect the health or safety of the
student or other individuals.
2. To the parent or legal guardian of a student under the age
of 21, information regarding the student’s violation of a
University policy governing the use or possession of alcohol
or drugs.
3. To a person who submits a written affirmation that he or
she is the parent or legal guardian of a student and that the
student is a dependent within the meaning of Section 152 of
the Internal Revenue Code of 1954.
4. In other limited circumstances as allowed under FERPA and
its implementing regulations, as they may be amended.

In cases involving a health or safety emergency or a violation
of a University policy regarding the use or possession of
alcohol or drugs, a decision to notify parents or guardians
about information contained in an education record – and
the actual communications to the parents or guardians –
will be made by the Office of the Vice Provost for University
Life or another senior student affairs officer, in each case
after consultation with the student’s school office and other
appropriate offices. Whenever practicable, a student whose
parents or guardians are to be notified will be informed before
such notification occurs and given an opportunity to initiate
contact with his or her parents or guardians.

D. Consent Not Required — Directory Information
“Directory Information” is generally regarded to be less sensitive
than other types of information in a student’s education record. The
University designates as “directory information,” which may
be disclosed from records relating to a student without his or
her consent if the student has not “opted out” of allowing such
disclosure, the following categories of information: a student’s
name, address (local, home or electronic mail), telephone number,
date and place of birth, Penn ID number, major field of study.

 participation in officially recognized activities (including social
and honorary fraternities) and sports, weight and height if a
member of an athletic team, dates of attendance, degrees and
awards received, and previous educational institutions attended.

Each year, a notice will be given to students concerning these
categories and their right to refuse to permit the University
to make any or all of them available (i.e., “opt out”). Failure to
respond to the annual notice in certain cases may result in the
routine disclosure of one or more of the designated categories of
personally identifiable information. The University will continue
to exercise informed discretion in responding to requests for
directory information.

E. Limitation on Redisclosure
As required by FERPA, the University will inform a party to whom
a disclosure of personally identifiable information from the
records of a student is made; that disclosure is made only on
the condition that the party will not disclose the information
to any other party without the student’s prior written consent.
Exceptions to this requirement include disclosure of directory
information, disclosures to the student, to parents under
appropriate circumstances, to victims of certain disciplinary
matters, and disclosures pursuant to court orders and valid
subpoenas.

F. Verification of Identity and Authority
Before disclosing personally identifiable information from
education records, University employees must take reasonable
steps to verify the identity of the requesting party as well as their
authority to have access to the information.

V. Maintaining a Record of Disclosures
As required by FERPA, the University will maintain a record of
requests for and/or disclosures of personally identifiable information
from a student’s education records. The record must include the
identities of the requesters and recipients and the legitimate interests
they had in the information. This record should be maintained with
records for as long as the records themselves are maintained and
may be inspected by the student.

These recordkeeping requirements do not apply to requests from or
disclosures to:
1. the student;
2. a school official with a legitimate educational interest;
3. a person with written consent from the student;
4. a person seeking directory information; or
5. a federal grand jury or law enforcement agency in connection
with an order or subpoena requiring nondisclosure of its
existence or contents.

VI. Right to Review Education Records & Seek Correction
A. Individuals who are or have been in attendance at the University
are entitled to inspect and review their education records upon
a written request. The request to inspect or review records must
be honored within 45 days after the University has received
the request. The request should be directed to the office that
maintains the record and such office may charge a reasonable fee
for copies.
B. A student does not have a right to inspect or review the following:
1. Financial records and statements of the student’s parent(s),
except with the written permission of the parent(s).
2. Confidential letters and statements of recommendation
related to admission to an educational institution, application
for employment, or the receipt of an honor or honorary recognition that were placed in a student’s records after January 1, 1975, and as to which the student has executed a written waiver of his or her right to inspect and review; provided that the University uses the letters and statements only for the purpose for which they were originally intended and notifies the student upon request of the names of all individuals providing such letters and statements.

3. Other records as to which the student has executed a written waiver of his or her right to inspect and review. The University may not require a student to waive his or her rights under FERPA or this policy.

4. Those portions of records that contain information on other students.

5. Other exceptions as prescribed by FERPA and its implementing regulations, as they may be amended.

C. Opportunity to Seek Correction

1. A student who believes that information contained in his or her education records is inaccurate or misleading or violates his or her privacy rights may request that the University amend them, and the University will decide whether to do so within a reasonable period of time.

2. If the University decides that the information is inaccurate or misleading or otherwise in violation of the privacy rights of a student, the University will amend the record and inform the student of the amendment in writing.

3. If the University declines to amend the student’s records, it will so inform the student and inform him or her of the right to request a hearing to challenge the information believed to be inaccurate, misleading or in violation of his or her privacy rights. A hearing, however, may not be requested by a student to contest the appropriateness of a grade.

4. The hearing will be conducted by an individual who does not have a direct interest in the outcome of the hearing and will provide the student an opportunity to present evidence, relevant to the request to amend the student’s records. The University will provide a written decision within a reasonable period of time after the hearing based on the evidence presented at the hearing. The decision will include a summary of the evidence and the reasons for the decision. Additionally, information regarding hearing procedures will be provided when the student receives notice of his or her rights.

5. If, after a hearing, the University determines that a student’s challenge is without merit it will notify the student of the right to place in his or her records a statement commenting on the challenged information and/or setting forth reasons for disagreeing with the University’s decision. The University will maintain such statement with the student’s record and disclose the statement whenever it discloses the portion of the record to which the statement relates.

VII Right to File Complaint

Students have a right to file a complaint concerning any alleged failure by the University to comply with the requirements of FERPA and its implementing regulations. A complaint may be filed with the federal office that administers FERPA.

Family Policy Compliance Office
U.S. Department of Education
400 Maryland Avenue, SW

Washington, DC 20202-5901

A complaint may be filed internally via the University’s Compliance and Reporting Line by phone at 215-726-6759, or online at www.upenn.edu/215pcomply.

VIII Waiver of Rights

A student may waive any of his or her rights under FERPA and this policy, provided that the waiver is made in writing and signed by the student. The University may not require a student to waive his or her rights under FERPA or this policy.

1 The term “personally identifiable information” includes, but is not limited to, the name of the student or family member, the address of the student or family member, identification number, biometric record, indirect identifier (such as date of birth or mother’s maiden name) or other information that, alone or in combination, is linked to the student and would allow a reasonable person in the school community, without personal knowledge of relevant circumstances, to identify the student with reasonable certainty.

(Source: Almanac, March 16, 2010, Volume 56, No. 25 (http://www.upenn.edu/almanac/volumes/v56/n25/confidentiality.html))

Faculty Authority to Assign Grades and Academic Integrity

The Student Disciplinary Charter is based on the assumption that it is the obligation and right of faculty members to assign grades for academic work submitted to them by students under their supervision and that faculty members should grade student work, using their best judgment about the quality and propriety of that work, independently of disciplinary procedures. The present statement makes clear the relationship between grading and disciplinary action in cases in which a faculty member believes that a student did not fulfill an assignment in accord with the Code of Academic Integrity.

The Disciplinary Charter rests on the principle that faculty members have wide authority to judge the academic work of students and have a general responsibility for the academic progress of students, so much as lies within the power of faculty. Furthermore, the charter assumes that violations of the norms of academic integrity fall along a continuum from minor to major and that not all violations need to be treated as disciplinary cases. The authority and responsibility of faculty members require them to judge the relative severity of a violation. Good individual judgment and institutional practice will help faculty members make the judgment about when to treat a case as requiring disciplinary action.

The distinction between academic evaluation and disciplinary action is also important. Faculty members have the authority to make academic judgments in relation to their students and to make decisions in the interests of furthering their students’ education. Only the institution, acting through its formal processes, may discipline a student. Grades are not sanctions, even if they arise from a judgment that a student has violated a norm of academic integrity. In such cases, the grade may reflect the faculty member’s view that a piece of work was done inappropriately, but it represents a judgment of the quality of the work, not a record of discipline for the behavior. There are many ways to do work inappropriately or badly, resulting in low or failing grades. The policy of the charter is to preserve the faculty member’s right to grade work on the basis of all of its qualities and to make the decision to pursue disciplinary action a separate matter.
Students who believe that they have been graded unfairly have recourse of appeal through the grade appeal procedures established by each school. The charter explicitly recognizes the right of students to appeal grades. The appeal of a grade given because a faculty member believed that the student violated the norms of academic integrity is, for the purposes of the charter, no different from other grade appeals.

(Source: Almanac, September 10, 1996, Volume 43, No. 3) (http://www.upenn.edu/almanac/v43/n03/codechar.html#faculty)

**Guidelines for Addressing Academic Issues of Students with Disabilities**

The University of Pennsylvania is committed to providing access and equal educational opportunities to all students, including students with disabilities. Penn does not discriminate against students with disabilities. The University provides reasonable accommodation to a student’s known disability in order to afford that student an equal opportunity to participate in University-sponsored academic and extracurricular programs, activities and services.

**Reason for Policy Guidance**

This guidance, known as the Provost’s Memorandum, serves two purposes:

- To provide guidance to faculty and staff so that they may reasonably accommodate and support students with disabilities without compromising academic standards and requirements;
- To assure students with disabilities that the University will provide access to all University-sponsored programs, benefits and activities through reasonable accommodation and program accessibility as required under the Rehabilitation Act of 1973 and the Americans with Disabilities Act of 1990, as amended (“ADA”).

**Protection from Discrimination**

The Rehabilitation Act and the ADA prohibit discrimination against people with disabilities by institutions like Penn that receive or benefit from federal financial assistance. These and other laws require that reasonable accommodations be provided to otherwise qualified individuals with a disability.

**Some Key Definitions**

**Disability** — A person with a disability is defined as an individual who

1. has a physical or mental impairment that substantially limits one or more major life activities,
2. has a record of such an impairment, or
3. is regarded as having such an impairment.

Examples of recognized disabilities include, but are not limited to, blindness, deafness, paralysis, diabetes, epilepsy, lupus, bipolar disorder, generalized anxiety disorder, HIV/AIDS, specific learning disabilities, autism spectrum disorder and Attention Deficit Hyperactivity Disorder (ADHD).

**Reasonable Accommodation** — A reasonable accommodation is a modification or adjustment that enables an otherwise qualified individual with a disability full access to participation in University-sponsored programs. These modifications should not fundamentally alter the purpose or requirements of the course or program. Reasonable accommodations are determined on an individual basis and take into account the functional limitations of the impairment. Accommodations may vary from class to class depending upon course content and format. They are intended to be effective and reasonable; they may not be exactly what the student wishes or requests.

**Appropriate Documentation** — Appropriate documentation is a written evaluation or report provided by a clinician in a specific profession or area of expertise who is considered qualified to make the diagnosis. The documentation must be current and comprehensive and may include clinical and social histories from parents, counselors and specialists. A diagnosis must be included. Documentation must identify the student’s specific functional limitations within the academic setting and must show substantial limitation compared to most people. The documentation should conform to well-established practices in specific area(s)/field(s). For more information, see Documentation Guidelines on the Student Disabilities Services website at the following link: http://www.vpul.upenn.edu/lrc/sds/ps_documentation_guidelines.php.

**Responsible University Office**

Students with disabilities and temporary conditions are served by the Office of Student Disabilities Services (SDS). The office is located in the Weingarten Learning Resources Center (WLRC), a department under the Vice Provost of University Life. SDS is responsible for assessing all student requests for accommodations and determining reasonable accommodations for students with disabilities.

The Office of Student Disabilities Services is available to assist faculty and professional staff with the provision of academic accommodations and for consultation regarding students with disabilities.

**Accommodation Procedures**

**Responsibilities of Students**

Students with disabilities who seek accommodation at Penn are responsible for self-identifying with SDS. Identification may take place upon admission or at any time during the student’s course of study.

Students requesting accommodations are responsible for providing documentation, at their own expense, according to the guidelines published on the SDS website: http://www.vpul.upenn.edu/lrc/sds/ps_documentation_guidelines.php. SDS may request additional information if the documentation provided does not support the existence of a disability or the need for the accommodations requested.

The SDS Documentation Review Committee thoroughly reviews the documentation and accommodations are determined through an interactive process with input from the student. Consultation with faculty may be important in determining how to best accommodate a student in a specific course. A determination from the Committee may take four to six weeks, or longer if additional information is needed. For examples of reasonable accommodations, please see the SDS website: http://www.vpul.upenn.edu/lrc/sds/academic_accommodations.

Students who are approved for accommodations must authorize SDS to inform professors about their approved accommodations. They must also make online requests to SDS for individual exam accommodations.
each semester. Students are encouraged to introduce themselves to professors to initiate a dialogue about their particular needs.

**Responsibilities of Faculty and Staff**

Faculty and staff are responsible for ensuring equity and access in their programs and classrooms. The SDS approved accommodations should not fundamentally alter the academic requirements essential to a course or program of study or to licensing prerequisites. It is also important to recognize that students with disabilities must reach the same performance standards to fulfill degree requirements as their non-disabled peers. Accommodations provide students with disabilities equal access, not an unfair advantage.

Instructors are required to accommodate students only after receiving an email from SDS indicating the accommodations that have been approved. A statement about services for students with disabilities should be included in the syllabus for each course. Below is a sample syllabus statement:

**Sample Syllabus Statement**

The University of Pennsylvania provides reasonable accommodations to students with disabilities who have self-identified and received approval from the Office of Student Disabilities Services (SDS). If SDS has approved your request for accommodations, please make an appointment to meet with me as soon as possible in order to discuss the arrangements for your accommodations.

If you have not yet contacted Student Disabilities Services, and would like to request accommodations or have questions, you can make an appointment by calling (215) 573-9235. The office is located in the Weingarten Learning Resources Center at Stouffer Commons, 3702 Spruce Street, Suite 300. Please visit the SDS website at http://www.vpul.upenn.edu/lrc/sds/index.php.

SDS services are free and confidential.

**Accommodated Exams**

In order to effectively manage the logistics of exam accommodations, instructors are expected to respond promptly to SDS emails requesting information about exam accommodations. Although the exam may not be written until shortly before the exam date, other details are needed by the SDS accommodations staff as early as possible in order to arrange for exam administration and inform students of the arrangements. Professors are encouraged to provide SDS with exams as early as possible prior to the exam to allow SDS time to prepare exam materials. Exams are locked in a secure location until the exams are being administered.

In the event that questions arise during the administration of the exam at SDS, it is important that SDS has contact information for the instructor or TA (phone, text and/or email).

The Standards for Accommodating Exams for Students with Disabilities is available on the SDS website: http://www.vpul.upenn.edu/lrc/sds/StandardsforAccommodatingExams.php. This document provides guidelines for accommodated exams that are administered by faculty or their designees.

**Note-taking Announcements**

Faculty may be asked to assist SDS by identifying note-takers through an announcement or email to the class and referring interested note-takers to SDS. A template for the email will be included when SDS contacts faculty regarding note-taker accommodations.

**Accessibility of Information and Course Materials**

Faculty should collaborate with their department offices and SDS to ensure that their course materials, presentations, audio-visual materials and exams are available in an accessible format for students with sensory and print disabilities.

**Confidentiality**

All disability documentation provided by the student is confidential and remains in the Office of Student Disabilities Services for the purpose of determining reasonable accommodations. Students may not request accommodations from faculty that have not been approved by SDS. If documentation is provided to the instructor, it should be returned to the student and the student should be referred to SDS.

Faculty should refrain from discussing a student’s disabilities and accommodations in front of the class, in the presence of other students or to faculty or staff not directly involved in the accommodation process.

**Reconsideration Process**

Students may request reconsideration of the SDS accommodation determination through the SDS Reconsideration Process found on the website at: http://www.vpul.upenn.edu/lrc/sds/reconsiderationprocess.php.

**Concerns and Complaints**

The Office of Affirmative Action and Equal Opportunity Programs is responsible for overseeing the University’s implementation of its equal opportunity and nondiscrimination obligations arising under Federal, Commonwealth, and local laws. Any concerns or complaints should be addressed to:

Office of Affirmative Action and Equal Opportunity Programs
Sansom Place East
3600 Chestnut Street, Suite 228
Philadelphia, PA 19104-6106
(215) 898-6993 (voice) or (215) 746-7088 (fax)

**Additional Information**

Related policies and procedures are available on the SDS website (http://www.vpul.upenn.edu/lrc/sds/) in the section for Faculty and Staff.

This Memorandum is available in alternate format upon request.

Student Disabilities Services
Weingarten Learning Resources Center
3702 Spruce Street, Suite 300, Stouffer Commons
Philadelphia, PA 19104-6027
(215) 573-9235

(Source: Almanac, July 14, 2015, Volume 62, No. 01 (http://www.upenn.edu/almanac/volumes/v62/n01/guidelines-students-disabilities.html))
Guidelines on Open Expression

View Rules Interpreting the University's Guidelines on Open Expression (https://provost.upenn.edu/policies/pennbook/2016/12/05/rules-interpreting-the-university-s-guidelines-on-open-expression).

I Principles

A. The University of Pennsylvania, as a community of scholars, affirms, supports and cherishes the concepts of freedom of thought, inquiry, speech, and lawful assembly. The freedom to experiment, to present and examine alternative data and theories; the freedom to hear, express, and debate various views; and the freedom to voice criticism of existing practices and values are fundamental rights that must be upheld and practiced by the University in a free society.

B. Recognizing that the educational processes can include meetings, demonstrations, and other forms of collective expression, the University affirms the right of members of the University community to assemble and demonstrate peaceably in University locations within the limits of these Guidelines and undertakes to ensure that such rights shall not be infringed. In keeping with the rights outlined in I.A. (p. 289) above, the University affirms that the substance or the nature of the views expressed is not an appropriate basis for any restriction upon or encouragement of an assembly or a demonstration. The University also affirms the right of others to pursue their normal activities within the University and to be protected from physical injury or property damage. The University shall attempt to ensure that, at any meeting, event or demonstration likely to be attended by non-University law enforcement authorities, the rights provided by these Guidelines are not infringed.

C. The University shall be vigilant to ensure the continuing openness and effectiveness of channels of communication among members of the University community on questions of common interest. To further this purpose, a Committee on Open Expression has been established as a standing Committee of the University Council. The Committee on Open Expression has as its major tasks: participating in the resolution of conflicts that may arise from incidents or disturbances implicating these Guidelines; mediating among the parties to prevent conflicts and violations of these Guidelines; interpreting these Guidelines; advising administrative officers when appropriate; and recommending policies and procedures for the improvement of all levels of communication.

D. In case of conflict between the principles of the Guidelines on Open Expression and other University policies, the principles of the Guidelines shall take precedence.

II Definitions

A. For the purposes of these guidelines, the “University community” shall mean the following individuals:

1. Persons who are registered as students or who are on an unexpired official leave of absence.
2. All persons who are employed by the University.
3. Trustees and associate trustees of the University and members of Boards of Overseers or other bodies advisory to the University.

B. For the purposes of these Guidelines, “meeting” and “event” designate a gathering of persons in a University location previously reserved for that purpose. Unless designated as public, meetings are considered to be private. Events are considered to be public. “Demonstration” designates the presence of one or more persons in a University location with the intent to express a particular point of view in a manner that attracts attention, as in protest, rallies, sit-ins, vigils, or similar forms of expression. “University location” designates:

1. The campus of the University;
2. Any location owned, leased or used by the University, when used by members of the University community; and
3. Areas immediately adjacent thereto.

III Standards

A. The University, through the President, the Provost, and the Vice Provost for University Life, shall act to encourage and facilitate free and open expression within these Guidelines.

1. The University shall publish these Guidelines at least once each academic year in a manner that brings them to the attention of members of the University community. The University shall publish the rules adopted pursuant to IV.B.1 (p. 290) by the Committee on Open Expression at least once each academic year in a manner that brings them to the attention of members of the University community.

2. The University shall establish standards for the scheduling of meetings and events. This shall involve:
   a. Publishing policies and procedures whereby members of the University community, upon suitable request, can reserve and use designated spaces within University buildings for public or private meetings or events;
   b. Publishing policies and procedures whereby members of the University community, upon suitable request, can reserve and use designated outdoor spaces on the University campus for public meetings or events;
   c. Publishing policies and procedures that specifically address requests involving groups composed entirely or predominantly of persons who are not members of the University community (see Section VI (p. 292));
   d. Consulting with the Committee on Open Expression with regard to the substance of the policies and procedures and the manner of their publication; and, if practicable, consulting with the Committee on Open Expression before denying a request for use of a room, facility, or space by an organization recognized by the University for a reason other than prior assignment of the room, facility, or space. In any event, any such denial must be reported promptly to the Committee.

B. Each member of the University community is expected to know and follow the Guidelines on Open Expression. A person whose conduct violates the following Standards may be held accountable for that conduct, whether or not the Vice Provost or delegate has given an instruction regarding the conduct in question. Any member of the University community who is in doubt as to the propriety of planned conduct may obtain an advisory opinion from the Committee on Open Expression in advance of the event.

1. Individuals or groups violate these Guidelines if:
   a. They interfere unreasonably with the activities of other persons. The time of day, size, noise level, and general tenor of a meeting, event or demonstration are factors
that may be considered in determining whether conduct is reasonable;

b. They cause injury to persons or property or threaten to cause such injury;

c. They hold meetings, events or demonstrations under circumstances where health or safety is endangered; or
d. They knowingly interfere with unimpeded movement in a University location.

2. Individuals or groups violate these Guidelines if they hold a demonstration in the following locations:

a. Private offices, research laboratories and associated facilities, and computer centers; or

b. Offices, museums, libraries, and other facilities that normally contain valuable or sensitive materials, collections, equipment, records protected by law or by existing University policy such as educational records, student-related or personnel-related records, or financial records; or

c. Classrooms, seminar rooms, auditoriums or meeting rooms in which classes or private meetings are being held or are immediately scheduled; or

d. Hospitals, emergency facilities, communication systems, utilities, or other facilities or services vital to the continued functioning of the University.

3. a. Individuals or groups violate these Guidelines if they continue to engage in conduct after the Vice Provost for University Life or delegate has declared that the conduct is in violation of the Guidelines and has instructed the participants to modify or terminate their behavior. Prompt compliance with the instructions shall be a mitigating factor in any disciplinary proceedings based upon the immediate conduct to which the instructions refer, unless the violators are found to have caused or intended to cause injury to person or property or to have demonstrated willfully in an impermissible location.

b. If the individuals or groups refuse to comply with the Vice Provost’s or delegate’s order, they may challenge the appropriateness of the order to the judicial system. If the judiciary finds that the conduct was protected by the Guidelines, all charges shall be dismissed.

c. Individuals or groups complying with the Vice Provost’s or delegate’s order may request that the Committee on Open Expression determine if the Guidelines were properly interpreted and applied to their conduct.

2. Members of the Committee are appointed for the following terms:

a. The faculty and representatives of the Penn Professional Staff Assembly are appointed to two-year terms, staggered so that in each year either two or three faculty members are appointed and one representative of the Penn Professional Staff Assembly is appointed.

b. The representative of the Weekly-Paid Professional Staff Assembly is appointed for a two-year term.

c. The undergraduate and graduate/professional student members are appointed to one-year terms.

d. Vacancies shall be filled for the unexpired term by the appropriate nominating body or persons.

3. The Chair of the Committee shall be selected by the Committee on Committees from among the members of the Committee on Open Expression.

B. Jurisdiction

The Committee has competence to act in issues and controversies involving open expression in accordance with these Guidelines. The Committee’s responsibilities are the following:

1. Issuing rules to interpret or give more specific meaning to the Guidelines. Before adopting a rule, the Committee must hold an open hearing on the proposed rule and receive the views of individuals or groups. An affirmative vote of eight members is required for adoption, modification or rescission of a rule to be effective.

2. Recommending to the University Council proposals to amend or repeal the Guidelines. An affirmative vote of seven members is required to make such recommendations.

3. Giving advisory opinions interpreting the Guidelines at the request of a member of the University community for the purpose of advising that person or the University community. Such advice is provided to guide future action. If the Committee does not give a requested opinion, it must indicate its reasons for not doing so. The Committee must respond to such requests as soon as feasible but in any event not later than within one month of the receipt by the Chair of the Committee.

4. Giving advisory opinions interpreting the Guidelines at the request of administrative officials with responsibilities affecting freedom of expression and communication. Such advice is provided for the purpose of guiding future action.

5. Mediating in situations that involve possible violations of the Guidelines. Those Committee members available at the time may act on behalf of the Committee. In carrying out the mediation function, the Committee or those members present may advise the responsible administrative officials and any other person with respect to the implementation of the Guidelines. Those Committee members who have acted on behalf of the Committee must report on their activities to the full Committee.

6. Reviewing the following administrative decisions for the purpose of providing advice on future actions.

a. At the discretion of the Committee, administrative decisions involving these Guidelines made without consultation with the full Committee.
b. All instructions by the Vice Provost or delegate to modify or terminate behavior under Section III.B.3 (p. 290) of these Guidelines.

7. Investigating incidents involving the application of these Guidelines to aid the Committee in its functions of rule making, recommending changes in the Guidelines or issuing advisory opinions. Such functions provide guidance to the University community for future action. The results of Committee investigations for these purposes shall not be a part of the initiation, consideration or disposition of disciplinary proceedings, if any, arising from the incidents.

8. Adopting procedures for the functions of the Committee, varied to suit its several functions, consistent with these Guidelines. Procedures that are not wholly matters of internal Committee practice must be made public in advance of implementation. Except as otherwise provided, the Committee may determine its own voting procedures.

9. Submitting an annual report to the Council and the University on the status of the Committee's work in the University journal of record.

C. Procedures

1. Except as provided with respect to the mediation function in Section IV.B.5 (p. 290), seven members of the Committee constitute a quorum.

2. The Committee can authorize subcommittees, selected from its own members, to act for the Committee in any matter except the issuance of rules interpreting or implementing the Guidelines or the making of recommendations to amend or repeal the Guidelines.

3. The Committee shall respect the privacy of individuals as its general policy and shall maintain the right to declare the confidentiality of its proceedings.
   a. If a person appearing before the Committee requests that his or her testimony or information be kept confidential, the Committee shall consider such a request. The Committee then shall determine whether to honor that request and shall inform that person of its decision before testimony is given.
   b. Minutes of particular Committee meetings may be declared confidential by the Committee or be so declared at the discretion of the chair subject to review by the Committee.
   c. All Committee documents containing confidential material, as determined by the chair, shall be clearly marked "confidential" and shall carry a warning against unauthorized disclosure.

V Responsibilities for Enforcement

A. It is the responsibility of the Vice Provost for University Life (hereafter referred to simply as the "Vice Provost") to protect and maintain the right of open expression under these Guidelines.

B. Observation of meetings, events or demonstrations, when deemed necessary by the Vice Provost to protect and maintain open expression, shall be the responsibility of the Vice Provost, who may delegate such responsibility. This delegate shall have full authority to act in the name of the Vice Provost under these Guidelines.

1. The observer (Vice Provost or delegate) shall identify himself or herself to those responsible for the meeting or event or to the leaders of the demonstration.

2. The Vice Provost shall attempt to inform the chair of the Committee on Open Expression of meetings, events or demonstrations to which an observer will be sent. The chair may designate a member or members of the Committee to accompany and advise the observer. Such a Committee representative shall also be identified to those responsible for the meeting or event or to the leaders of the demonstration.

3. Except in emergencies, the Vice Provost's authority under these Guidelines shall not be delegated to employees of the University's Department of Public Safety. The role of public safety personnel at a meeting, event or demonstration is defined below, in Section V.C.3 (p. 292).

4. Any observer or Committee representative who attends a meeting, event or demonstration shall respect the privacy of those involved. If there has been no violation of these Guidelines, other University regulations, or applicable laws, an observer, committee representative, or public safety employee who attends a meeting, event or demonstration shall not report on the presence of any person at such meeting, event or demonstration.

C. The Vice Provost or delegate is responsible for enforcing Section III.B (p. 289). and may instruct anyone whose behavior is violating or threatens to violate these Guidelines to modify or terminate such behavior. The instruction shall include notice that failure or refusal to comply is a further violation according to Section III.B (p. 289). of these Guidelines. However, an instruction or warning by the Vice Provost or delegate is not a prerequisite for a finding that a violation has occurred.

1. When the Vice Provost or delegate declares that an individual or a group has violated the Guidelines, he or she may request to examine their University identification.
   a. Failure to comply with this request is in violation of the Guidelines.
   b. In the event that any person(s) are deemed by the Vice Provost or delegate, in consultation with available members of the Committee on Open Expression, to have violated the Guidelines and such person(s) refuse to show University or other identification, the Vice Provost or delegate shall if practicable inquire of other individuals present as to the identity of the claimed violator(s). Identification by two other individuals shall suffice to establish identity. Should it not be possible to establish identity in this way, the Vice Provost or delegate may direct that photographs be taken of the participant(s) in the claimed violation. The Vice Provost or delegate must warn the individual(s) that their photographs will be taken unless identification is presented. Photographs and videotapes obtained without such warning may not be used as evidence in disciplinary proceedings. It is preferred that a member of the Committee on Open Expression take any such photographs; however, if no such person is able or willing to do so, another member of the University community may be requested to do so. As soon as safely practicable, all such photographs shall be turned over to the Vice Provost or delegate. Any photographs taken (including videotapes and negatives) shall be used solely by the Office of Student Conduct...
Involuntary Leave of Absence Policy

1. Cases involving undergraduate students are referred to the Office of Student Conduct who investigates the event and decides what disciplinary proceedings, if any, to pursue.

2. Cases involving graduate or professional students are referred to the Office of Student Conduct or to the established disciplinary body of the school in which the student is enrolled.

3. Cases involving faculty are referred to the appropriate Dean or to the Provost.

4. Cases involving University staff or administrators are referred to that individual's supervisor or any other person with supervisory responsibility over that individual.

5. Cases involving trustees and associate trustees of the University and members of the Boards of Overseers or other bodies advisory to the University are referred to the Executive Committee of the Trustees.

VI Non-University Persons

These Guidelines address themselves explicitly to forms of individual and collective expression in a University location by members of the University community. The extent to which the privileges and obligations of these Guidelines may be made applicable in particular circumstances to individuals who are not members of the University community shall be determined by the Vice Provost or delegate. Participants in meetings, events and demonstrations in a University location are required to comply with the instructions of the Vice Provost or delegate. (See III.A.2.c (p. 289).)

1 An "unreasonable noise level" is defined as sound above 85 decibels measured by a calibrated sound-level meter at an "A" weighting on "slow" response ten feet away from and directly in front of the source, amplifier or loudspeaker when the latter is within 50 feet of a building.

2 Videotaped or closed circuit television information collected by posted, fixed location cameras is excluded, as long as it is in conformance with the rules of the CCTV policy as of January 13, 1999.


Involuntary Leave of Absence Policy

I. Introduction

The University of Pennsylvania provides a wide range of services to support and address the mental and physical health needs of students. Our first concern is for the health and welfare of each individual in our community. Our goal is to enable all of our students to participate fully as members of Penn’s academic community. However, students whose psychiatric, psychological, or other medical condition causes them to pose a threat to themselves or others, or causes them to significantly
disrupt the educational and other activities of the University community, may be required to take a leave of absence from the University. Under these circumstances, students will be given the opportunity to take a voluntary leave through the process in place in their school. Should a student decline to take a voluntary leave, the University may determine that the student’s health and welfare, and/or the needs of the community, require a period of involuntary leave of absence. The following policy establishes the protocol under which an involuntary leave of absence may occur and the process for return from leave.

II. Guidelines
The University may place a student on an involuntary leave of absence or require conditions for continued attendance under the following circumstances when the student exhibits behavior resulting from a psychological, psychiatric, or other medical condition that:

- threatens, harms, or has the potential to harm the health or safety of the student or others;
- causes or threatens to cause significant property damage; or
- significantly disrupts the educational and other activities of the University community.

The process for withdrawal and return from leave is set forth below.

III. Withdrawal Process
When a student exhibits any of the behaviors described above, the matter should be brought to the attention of the Office of the Vice Provost for University Life who will be responsible for informing the Vice Provost for Education (or such person who holds those responsibilities at the time) that an involuntary leave may be warranted. The Office of the Vice Provost for University Life will manage the process, convene case conferences, and work with University and School offices to coordinate the delivery of services. In most cases, the student will be required to undergo an immediate assessment of his or her psychological, psychiatric or other medical condition. This assessment will be performed by Counseling and Psychological Services (CAPS), the Student Health Service, or other appropriate professionals.

The student will be notified that the Provost’s Office is seeking to determine whether he or she should be required to take a leave of absence. When reasonably possible, the student will be given the opportunity to confer with the Vice Provost for Education or his/her designee to provide additional information for consideration.

In consultation with the School Dean and the Office of the Vice Provost for University Life, the Vice Provost for Education will review the available information and make a decision that may include the following:

- that the student remain enrolled with no conditions;
- that the student remain enrolled subject to conditions (including a description of those conditions); or
- that the student be placed on an involuntary leave of absence.

If the University’s decision is to allow the student to remain enrolled subject to conditions, then the student’s failure to comply with the conditions may, after appropriate consideration, result in the imposition of an involuntary leave.

If the University’s decision is to require an involuntary leave of absence, the decision will also indicate the length of the leave and, in consultation with the student’s school, describe the conditions (if any) under which the student may seek to return from leave.

The student shall be informed in writing by the Vice Provost for Education of the leave decision and the basis for the decision, the effective date of the leave, and conditions for return (if applicable). If a student is permitted to remain enrolled subject to conditions, the student shall be informed in writing of the effective date and the duration of the modified attendance.

IV. Appeal
A student subject to this policy may appeal any decision of the Vice Provost for Education to the Provost. A student who wishes to appeal must submit a written letter of appeal to the Provost within three (3) days of receipt of the Vice Provost for Education’s decision. The letter of appeal must state why the student believes that the Vice Provost’s decision was unwarranted under the circumstances. After reviewing the appeal letter the Provost may meet with the student, as the Provost determines appropriate. In addition, the Provost may review relevant documents and confer with University officials before reaching a decision on the appeal. The Provost will render a decision upholding, rejecting, or modifying the determination of the Vice Provost for Education.

In addition to the appeal process described above, a student subject to this policy may also seek a resolution of concerns through the grievance procedures described in the Penn Book.

V. Temporary Removal
If the Vice Provost for Education has reason to believe, based on the information available, and in consultation with professionals with appropriate expertise, that the student’s continued presence on campus poses an imminent threat of significant harm to him or herself or to others in the community, the Vice Provost for Education may take immediate action to remove the student from campus pending receipt and review of relevant information and a determination. At the Vice Provost for Education’s discretion, this temporary removal may remain in place pending completion of any appeal process.

VI. Process for Return from Leave
A student seeking a return from leave must apply in writing to the Office of the Vice Provost for University Life. Such a request must be submitted no less than 30 days before the beginning of the semester in which the student seeks to reenroll. The student must demonstrate that he/she has met any conditions for return specified by the University.

The University may require any documentation or evaluation it deems appropriate. (Reports from health professionals should be directed to the director of CAPS or Student Health Services.) In addition, the University may require a release from the student to enable CAPS or SHS to discuss the student’s condition with his/her treating health professional.

In consultation with the School Dean and the Office of the Vice Provost for University Life, the Vice Provost for Education will review the request and other relevant information, including the student’s compliance with specified conditions for return from leave and the assessments of CAPS or Student Health Services and other health professionals, and make a determination of whether it is appropriate for the student to return.

If the Vice Provost for Education denies the request to return from leave, the student may challenge that decision by submitting a written appeal to the Provost within 5 days of receipt of the Vice Provost’s decision.

VII. Confidentiality
All records concerning involuntary leaves of absence will be kept in accordance with the University confidentiality policy and other applicable
policies. The student’s transcript will indicate only the notation of “leave of absence.”

Note: A student on leave may not participate or hold a leadership position in a registered University organization.

VIII. Administration of the Process

Administrative duties with respect to convening this leave process and maintaining its records will be the responsibility of the Office of the Vice Provost for University Life.

(Source: Almanac, March 16, 2010, Volume 56, No. 25 (http://www.upenn.edu/almanac/volumes/v56/n25/absence.html))

Pennbook

The Pennbook (https://provost.upenn.edu/policies/pennbook) is a collection of policies that relate to student life at the University of Pennsylvania. These policies govern academic activities such as grading and exams, provide guidance on the use of campus resources, and explain expectations for membership in the university community.

View the Pennbook here: https://provost.upenn.edu/policies/pennbook.

- Academic Policy for Participation in Intercollegiate Athletics (https://provost.upenn.edu/policies/pennbook/2013/02/01/academic-policy-for-participation-in-intercollegiate-athletics)
- Academic Rules for PhDs and Research Master’s Degrees (https://provost.upenn.edu/policies/pennbook/2013/02/13/academic-rules-for-phds-and-research-master-s-degrees)
- Alcohol and Drug Policy (https://provost.upenn.edu/policies/pennbook/2013/02/13/alcohol-drug-policy)
- Antihazing Regulations (https://provost.upenn.edu/policies/pennbook/2013/02/15/antihazing-regulations)
- Bicycle Policy (https://provost.upenn.edu/policies/pennbook/2013/02/14/bicycle-policy)
- Canvassing (https://provost.upenn.edu/policies/pennbook/2013/02/15/canvassing)
- Charter of the University of Pennsylvania Student Disciplinary System (p. 272)
- Classroom Guidelines (https://provost.upenn.edu/policies/pennbook/2013/02/13/classroom-guidelines)
- Code of Academic Integrity (p. 282)
- Code of Student Conduct (p. 283)
- Concerts Policy (https://provost.upenn.edu/policies/pennbook/2013/02/15/concerts-policy)
- Confidentiality of Student Records (p. 283)
- Confiscation of Publications (https://provost.upenn.edu/policies/pennbook/2013/02/14/confiscation-of-publications)
- Consensual Sexual Relations Between Faculty and Students (https://provost.upenn.edu/policies/pennbook/2013/02/15/consensual-sexual-relations-between-faculty-and-students)
- Contracts (https://provost.upenn.edu/policies/pennbook/2013/02/15/contracts)
- Dean’s List (p. 268)
- Drug Free Workplace (https://provost.upenn.edu/policies/pennbook/2013/02/13/drug-free-workplace-1)
- Faculty Authority to Assign Grades and Academic Integrity (p. 286)
- Fairness of Authorship Credit in Collaborative Faculty-Student Publications for PhD, AM, and MS Students (https://provost.upenn.edu/policies/pennbook/2013/02/15/fairness-of-authorship-credit-in-collaborative-faculty-student-publications-for-phd-am-and-ms-students)
- Family Friendly Policies for PhD Students (https://provost.upenn.edu/policies/pennbook/2013/02/13/family-friendly-policies-for-phd-students)
- Financial Policies (p. 248)
- Fraternity/Sorority Advisory Board Disciplinary Chapter (https://provost.upenn.edu/policies/pennbook/2013/02/15/fraternity-sorority-advisory-board-disciplinary-charter)
- Fundraising Guidelines (https://provost.upenn.edu/policies/pennbook/2013/10/17/fundraising-guidelines)
- Graduation Honors (p. 269)
- Guidelines for Addressing Academic Issues of Students with Disabilities (p. 287)
- Guidelines for Research in the Community (p. 258)
- Guidelines for Student Protection in Sponsored Research Projects (p. 258)
- Guidelines on Open Expression (p. 289)
- Involuntary Leave of Absence (p. 292)
- Missing Students Notification Policy (https://provost.upenn.edu/policies/pennbook/2013/02/15/missing-students-notification-policy)
- Parking Regulations (https://provost.upenn.edu/policies/pennbook/2013/02/15/parking-regulations)
- Patent Policy (https://provost.upenn.edu/policies/pennbook/2013/02/15/patent-policy)
- Photocopying for Educational Purposes (https://provost.upenn.edu/policies/pennbook/2013/02/13/photocopying-for-educational-purposes)
- Policy on Acceptable Use of Electronic Resources (https://provost.upenn.edu/policies/pennbook/2013/02/15/policy-on-acceptable-use-of-electronic-resources)
- Policy on Class Meeting Times (https://provost.upenn.edu/policies/pennbook/2013/02/13/policy-on-class-meeting-times)
- Policy on Common Midterm Examinations (p. 267)
- Policy on Military Leave (p. 248)
Policy on Secular and Religious Holidays

1. The University recognizes/observes the following secular holidays:
   - Martin Luther King, Jr. Day, Memorial Day, July 4, Thanksgiving and the day after, Labor Day, and New Year’s Day.

2. The University also recognizes that there are several religious holidays that affect large numbers of University community members, including Christmas, Rosh Hashanah, Yom Kippur, the first two days of Passover, and Good Friday. In consideration of their significance for many students, no examinations may be given and no assigned work may be required on these days. Students who observe these holidays will be given an opportunity to make up missed work in both laboratories and lecture courses. If an examination is given on the first class day after one of these holidays, it must not cover material introduced in class on that holiday.

   Faculty should realize that Jewish holidays begin at sundown on the evening before the published date of the holiday. Late afternoon exams should be avoided on these days. Also, no examinations may be held on Saturdays or Sundays in the undergraduate schools unless they are also available on other days. Nor should seminars or other regular classes be scheduled on Saturdays or Sundays unless they are also available at other times.

3. The University recognizes that there are other holidays, both religious and secular, which are of importance to some individuals and groups on campus. Such occasions include, but are not limited to, Sukkot, the last two days of Passover, Shavuot, Shemini Atzerat and Simchat Torah, as well as Chinese New Year, the Muslim New Year, Diwali, and the Islamic holidays Eid Al-Fitr and Eid Al-Adha. Students who wish to observe such holidays must inform their instructors within the first two weeks of each semester of their intent to observe the holiday even when the exact date of the holiday will not be known until later so that alternative arrangements convenient to both students and faculty can be made at the earliest opportunity. Students who make such arrangements will not be required to attend classes or take examinations on the designated days, and faculty must provide reasonable opportunities for such students to make up missed work and examinations. For this reason it is desirable that faculty inform students of all examination dates at the start of each semester. Exceptions to the requirement of a make-up examination must be approved in advance by the undergraduate dean of the school in which the course is offered.

   (Source: Almanac, August 30, 2016, Volume 63, No. 03)

Policy on University Recognition of Undergraduate Honor Societies

The University through its faculty in schools and academic departments alone reserves the right to bestow academic honors on its undergraduate students and to report such honors on students’ transcripts. Academic honors of various types are established and awarded by the relevant faculty body. The relevant body depends on the nature of the honor.

- In the case of honors for which students in a particular major are uniquely eligible, the authorizing body is the academic department or interdisciplinary program committee responsible for that major.
- In the case of honors for which students in a particular school are uniquely eligible, the authorizing body is the faculty of that school.
- In the case of honors for which all undergraduates are eligible, the authorizing body is the Council of Undergraduate Deans acting with the consent of the faculties of the separate undergraduate schools.
Release of Student Academic Status Information for Honor Society Selection

Student academic status information (e.g., GPA, term standing, class rank/percent) may be released only in accordance with the University’s Policy On Confidentiality Of Student Records, particularly regarding designated directory information.

Student academic status information is not to be released to honor societies for recruiting purposes. This includes cohort information such as “names of students with a 3.2 or higher GPA.” Student academic status information may be utilized internally for selection purposes by Schools, Centers, or other University departments under the auspices of an officially designated selection committee and following the University’s Policy On Confidentiality Of Student Records.

Sexual Harassment Policy

I. Purposes

The University of Pennsylvania’s commitment to freedom of thought, discourse and speech is founded on trust and respect among members of the University community. It is the responsibility of each member of the Penn community to respect the personal dignity and worth of others.

The University has established policies on behaviors that interfere with its mission. The University’s Equal Opportunity and Affirmative Action Policy prohibits discrimination on the basis of race, color, sex, sexual orientation, gender identity, religion, creed, national or ethnic origin, citizenship status, age, disability, veteran status or any other legally protected class or status. Policies and regulations implementing this commitment also include the Statement on Academic Freedom and Responsibility, the Guidelines on Open Expression and the Code of Academic Integrity.

The University has also adopted the following policy concerning sexual harassment. Sexual harassment in any context is unacceptable and is a matter of particular concern to an academic community in which students, faculty and staff must rely on strong bonds of intellectual trust and dependence. Sexual harassment is not tolerated at Penn.

II. Definitions

For the purposes of University policy, the term “sexual harassment” refers to any unwanted conduct that is based on an individual’s sex, sexual orientation, gender identity and/or gender expression and that:

1. Involves a stated or implicit threat to the individual’s academic or employment status;
2. Has the purpose or effect of interfering with the individual’s academic or work performance; and/or
3. Creates an intimidating or offensive academic, living or work environment.

The University regards such behavior as a violation of the standards of conduct required of all persons associated with the institution. Accordingly, as noted in the Handbook for Faculty and Academic Administrators, the Human Resources Policy Manual, the Pennbook and other University publications, persons engaged in such harassment within the University setting are subject to the full range of internal disciplinary actions, including separation from the institution. The same range of disciplinary actions will be applied in the event of retaliation against an individual who in good faith makes an allegation of sexual harassment, who cooperates in an investigation into such allegations or who opposes any act of sexual harassment as defined in this Policy.

Not every act that might be offensive to an individual or a group necessarily will be considered as harassment and/or a violation of the University’s standard of conduct. In determining whether an act constitutes harassment, the totality of the circumstances surrounding the conduct must be carefully reviewed. Due consideration must be given to the protection of individual rights, freedom of speech, academic freedom and open expression.

III. Resources

Schools and Centers should make known to all of their members the available resources for information, counseling and support, as well as the informal and formal procedures for resolving complaints of sexual harassment within the appropriate School or Center or at the University level. These resources include the following:

A. Confidential Resources for Information, Counseling and Support

The following University resources are available to members of the University community who seek information and counseling about University policies on sexual harassment, standards of behavior, informal and formal mechanisms for resolving complaints and resources for complainants and respondents. These resource offices are also available to assist members of the University community with making an informal or formal complaint.

The resources listed below are considered confidential, which means that the information shared with these resources generally will be held in confidence, consistent with the University's obligation to address complaints of sexual harassment, unless the person sharing the information gives his or her consent to the disclosure of that information. The commitment to confidentiality does not preclude the sharing of information among responsible University administrators as needed, including to keep members of the University community safe.

- African-American Resource Center (http://www.upenn.edu/aarc) (resource for students, staff or faculty)
- Counseling and Psychological Services (http://www.vpul.upenn.edu/caps) (resource for students)
- Employee Assistance Program (https://www.hr.upenn.edu/myhr/worklife/healthy/eap) (resource for staff or faculty)
- Lesbian Gay Bisexual Transgender Center (http://www.vpul.upenn.edu/lgbtc) (resource for students, staff or faculty)
- Office of the Chaplain (http://www.upenn.edu/chaplain) (resource for students, staff, faculty or visitors)
- Office of the Ombudsman (http://www.upenn.edu/ombudsman) (resource for students, staff or faculty)
- Office of Sexual Violence Prevention and Education (https://secure.www.upenn.edu/vpul/pvp) (resource for students)
- Penn Women's Center (http://www.vpul.upenn.edu/pwc) (resource for students, staff or faculty)
- Special Services Department, Division of Public Safety (https://www.publicsafety.upenn.edu/about/special-services) (resource for students, staff, faculty or visitors)
- Student Health Service (http://www.vpul.upenn.edu/shs) (resource for students)

B. Additional Resources and Informal Mechanisms for Resolution
There are other resources available to the University community for information, counseling and support. These resources are also available to assist in the informal resolution of complaints, as are the confidential resources listed above.

- College Houses and Academic Services (https://www.collegehouses.upenn.edu) (complaints regarding College House residents)
- Dean's Offices and Department Chairs (complaints regarding faculty and staff in their respective Schools or Departments)
- Division of Human Resources (https://www.hr.upenn.edu/myhr), Office of Staff and Labor Relations (complaints regarding staff)
- Office of Affirmative Action and Equal Opportunity Programs (http://www.upenn.edu/affirm-action) (complaints regarding faculty, staff, students or visitors)
- Office of Student Conduct (https://www.osc.upenn.edu) (complaints regarding students)
- Office of the Vice Provost for Faculty (https://provost.upenn.edu/faculty) (resource for faculty)
- Student Intervention Services (http://www.vpul.upenn.edu/intervention.php) (resource for students)

C. Formal Mechanisms for Complaint Resolution
When informal resolution is not chosen, is unsatisfactory or is not appropriate, the formal mechanisms described below should be used. Please note that these mechanisms are intended for sexual harassment complaints that do not involve allegations of sexual violence, domestic violence, relationship violence or stalking. Refer to the Sexual Violence, Relationship Violence and Stalking Policy for information about making formal complaints involving incidents of sexual violence, domestic violence, relationship violence and/or stalking.

Members of the University community who would like assistance with making a formal complaint may contact any of the confidential resources identified above.

1. A complaint of sexual harassment (excluding complaints involving sexual violence, domestic violence, relationship violence and/or stalking) against a faculty member, instructor or teaching assistant may be brought by a student, staff member, faculty member or visitor to the department chair or Dean of the faculty member. If the complaint is made to a department chair, the department chair is responsible for informing the Dean. If the Dean is the subject of the complaint, then the complaint should be made to the Provost (or his/her designee). The Dean or the Provost (or his/her designee) is then charged with taking appropriate action. If the matter is not resolved informally, the Dean or the Provost (or his/her designee) conducts an investigation. If based on the results of the investigation the Dean or Provost (or his/her designee) determines that action should be taken in response to the complaint, the Dean or Provost (or his/her designee) will determine what that action should be and the appropriate process for taking that action. For standing faculty, the procedures described in the Procedure Governing Sanctions Taken Against Members of the Faculty, Handbook for Faculty and Academic Administrators, part II.E.16 will be followed, if applicable. A member of the standing faculty, associated faculty or academic support faculty who believes she or he has been subjected to sexual harassment may file a grievance under the Faculty Grievance Procedure, Handbook for Faculty and Academic Administrators, part II.E.12, provided the complaint constitutes a grievance as defined in Section I of the Procedure. This procedure is administered by the Faculty Grievance Commission. The panel makes its recommendations to the Provost. In cases that involve reappointment, promotion or tenure, and in which the Provost has declined or failed to implement the recommendations of the panel to the satisfaction of the grievant, the grievant may seek to obtain a hearing before the Senate Committee on Academic Freedom and Responsibility on the actions of the Provost.

2. A complaint of sexual harassment (excluding complaints involving sexual violence, domestic violence, relationship violence and/or stalking) against a staff member may be brought by a student, staff member, faculty member or visitor to the supervisor of the person complained against, to the next level supervisor, to Human Resources (either to the Office of Staff and Labor Relations or to the Human Resources Director for the school or center) or to the Office of Affirmative Action and Equal Opportunity Programs (OAA/EOP). If the complaint is made to a supervisor, that individual is responsible for notifying either Human Resources (either the Office of Staff and Labor Relations or the Human Resources Director for the School or Center) or the Office of Affirmative Action and Equal Opportunity Programs. Either Human Resources or the Office of Affirmative Action and Equal Opportunity Programs will conduct an investigation. If based on the results of that investigation it is determined that the policy was violated, then appropriate action will be taken.

3. A complaint of sexual harassment (excluding complaints involving sexual violence, domestic violence, relationship violence and/or stalking) may be brought against a student by a student, staff member, faculty member or visitor by filing a complaint with the Office of Student Conduct, which will handle the complaint pursuant to the Charter of the Student Disciplinary System. If the complaint relates to a graduate or professional student enrolled in a School which has established a hearing board or other decision-making body, a complaint should be filed with that body. Refer to the Office of Student Conduct website for a list of these graduate schools and programs.

4. A complaint of sexual harassment (excluding complaints involving sexual violence, domestic violence, relationship violence and/or stalking) may be brought by a visitor or guest of the University against an enrolled student, staff member or faculty member by contacting the Office of Affirmative Action and Equal Opportunity Programs which will handle the matter or make the appropriate referral.

D. Central Reporting of Sexual Harassment
The University’s decentralized system of resources is designed to encourage the reporting and resolution of complaints of sexual harassment. However, in order to enable the administration to identify any patterns or trends of sexual harassment, the Executive Director of the Office of Affirmative Action and Equal Opportunity Programs shall, on a semi-annual basis, convene a meeting of representatives from the offices and Centers listed in Section A to review and report on sexual harassment across the University based upon the reports or complaints of sexual harassment that they have handled formally or informally within their areas. Confidentiality regarding the identity of the parties involved in each complaint will be maintained to the extent possible.

E. Education and Prevention
The prevention of sexual harassment and the establishment of effective procedures with due concern for all parties require a thoughtful educational program.

1. University resource offices will provide to the community information on available informal and formal resolution resources and resources for support and information for complainants and respondents.
2. Deans and heads of centers and departments are encouraged to discuss this policy and issues of sexual harassment at meetings of faculty and staff.
3. Training programs for faculty, staff and students who work in the College Houses and others who assist students in crisis situations and serve in an advisory capacity to students will include training about referrals, resources and methods for handling complaints of sexual harassment.
4. Students will be provided with information about sexual harassment and available resources during new student orientations and throughout the academic year.
5. The University will publish this policy statement annually, including information about the resources available to advise, counsel and assist in the informal and formal resolution of sexual harassment complaints. Information will explain how and where to contact University-wide and school- and division-specific resources and will be posted on appropriate University websites. All members of the University community have a responsibility to aid in the prevention of sexual harassment and are encouraged to report concerns to appropriate University resources promptly.

F. Policy Against Retaliation
University policy expressly prohibits retaliation against faculty, staff or students who in good faith make reports of violations of this policy. In addition, knowingly and intentionally making a false report of a violation of this policy is prohibited. Members of the Penn community who take adverse action against someone who reports a violation of this policy, intimidate, threaten or otherwise engage in retaliation are subject to disciplinary action, up to and including termination of their employment. In addition, such acts may violate federal, state and local laws and perpetrators of such acts may be subject to criminal prosecution.

The terms “harassment” and “sexual harassment” as used throughout are defined as a matter of University policy, and not necessarily identical or limited to the uses of that term in external sources, including governmental guidelines, laws, regulations or legal decisions.

Where sexual harassment involves sexual violence, relationship violence, domestic violence and/or stalking, refer also to the University’s Sexual Violence, Relationship Violence and Stalking Policy.

(Source: Almanac, July 1, 2016, Supplement (http://www.upenn.edu/almanac/between/2016/070116-of-record.html))

### Sexual Violence, Relationship Violence, and Stalking Policy

Thank you to those who submitted comments and suggestions regarding the proposed revision of the University’s Sexual Harassment and Sexual Violence, Relationship Violence and Stalking Policies. After careful consideration of the comments received, the policies that appear in this supplement have been adopted, effective on July 1, 2016. In addition to the resource information contained in the policies, the Penn Violence Prevention (https://provost.upenn.edu/uploads/media_items/pvp-resource-guide.original.pdf), Title IX and Sexual Misconduct Violence Prevention (http://www.upenn.edu/violence-prevention.html) and the Title IX at Penn (http://www.upenn.edu/affirm-action/titleix.html) websites provide information and guidance regarding our collective responsibilities for the prevention of sexual harassment and sexual violence. Information regarding making informal and formal complaints is contained in the policies and on the websites referenced above among others. The new policies will be widely publicized at the beginning of the fall semester. The Offices of Affirmative Action and Equal Opportunity Programs, Staff and Labor Relations in the Division of Human Resources and the Vice Provost for Faculty are among those available to respond to questions or provide additional information.

—Amy Gutmann, President
—Vincent Price, Provost
—Craig R. Carnaroli, Executive Vice President
—J. Larry Jameson, Executive Vice President for the Health System and Dean, Perelman School of Medicine

### I. Introduction

This policy, which prohibits behaviors that are more generally addressed by the University’s Sexual Harassment Policy, applies to faculty, students, staff and visitors to the University campus and facilities. All forms of sexual violence, relationship violence and stalking and attempts to commit such acts are considered to be serious misconduct and may result in disciplinary action up to and including expulsion or termination of employment. In addition, such acts may violate federal, state and local laws and perpetrators of such acts may be subject to criminal prosecution.

### II. Definitions

Sexual violence, relationship violence and stalking in any form, including sexual assault and rape, are prohibited by University policy. Important definitions appear below.

**Sexual violence** includes a range of behaviors in which an act of a sexual nature is taken against another individual without that person’s consent or when the individual is unable to consent. There are various types of sexual violence, including but not limited to sexual assault and rape (defined below).

**Sexual assault** (including but not limited to rape) is defined as having committed any of the following acts:

- Any physical sexual contact that involves the use or threat of force or violence or any other form of coercion or intimidation;
- Any physical sexual contact with a person who is unable to consent due to incapacity or mental or physical impairment. "Incapacity" or "impairment" include but are not limited to being under the influence of alcohol or drugs or being too young to consent.

**Rape** is defined as sexual assault involving an act of penetration and includes acquaintance rape (assailant and victim know each other).

**Non-forcible sex acts** include unlawful sex acts where consent is not relevant, such as sexual contact with an individual under the statutory age of consent as defined by Pennsylvania law.

**Consent** is an affirmative decision to engage in mutually agreed upon sexual activity and is given by clear words or actions. Consent may not be inferred from silence, passivity or lack of resistance alone. Furthermore,
consent to one form of sexual activity does not imply consent to other forms of sexual activity and the existence of a current or previous dating, marital or sexual relationship is not sufficient to constitute consent to additional sexual activity. Assent shall not constitute consent if it is given by a person who, because of youth, disability, intoxication or other condition, is unable to lawfully give his or her consent.

**Relationship Violence**, also commonly known as dating violence, is defined as an act or a pattern of abuse committed by a person involved in a social, sexual or romantic relationship, past or present, with the victim. Relationship violence can encompass a broad range of behaviors that may include physical violence, sexual violence, emotional violence and economic violence.

**Domestic Violence** is defined as abuse committed against an adult who is a spouse or former spouse, cohabitant or someone with whom the abuser has a child, has an existing dating or engagement relationship or has had a former dating or engagement relationship.

**Stalking** means engaging in a course of conduct directed at specific person(s) that would cause a reasonable person to fear for his or her safety or the safety of others, or to suffer substantial emotional distress.

In determining whether the alleged conduct violates this policy, consideration will be given to the totality of the circumstances, including the nature of the conduct and the context in which the alleged incident occurred.

### III. Resources

#### A. Confidential Resources for Information, Counseling and Support

Resource offices are available to assist members of the Penn community and visitors to the campus who have been, or know someone who has been, the victim of sexual violence, relationship violence or stalking. The staff of these offices are available to provide counseling and support, as well as information about and assistance with making a complaint.

The information shared with the resources listed below generally will be held in confidence, consistent with the University's obligation to address complaints of sexual violence, unless the person sharing the information gives his or her consent to the disclosure of that information. Confidential resources are not obligated to share identifying information with the Title IX Coordinator when an incident of sexual violence is shared with them. The University can take appropriate action. (For a full discussion of reporting obligations, see the Reporting and Monitoring section below.)

- **African-American Resource Center** (http://www.upenn.edu/aarc/staff.html) (resource for students, staff or faculty)
- **Counseling and Psychological Services** (http://www.vpul.upenn.edu/caps) (resource for students)
- **Employee Assistance Program** (https://www.hr.upenn.edu/myhr/worklife/healthy/eap) (resource for staff or faculty)
- **Lesbian Gay Bisexual Transgender Center** (http://www.vpul.upenn.edu/lgbtc) (resource for students, staff or faculty)
- **Office of the Chaplain** (http://www.upenn.edu/chaplain) (resource for students, staff, faculty or visitors)
- **Office of the Ombudsman** (http://www.upenn.edu/ombudsman) (resource for students, staff or faculty)
- **Office of Sexual Violence Prevention and Education** (https://secure.www.upenn.edu/vpul/pvp) (resource for students)
- **Penn Women’s Center** (http://www.vpul.upenn.edu/pwc) (resource for students, staff or faculty)
- **Special Services Department** (https://www.publicsafety.upenn.edu/about/special-services), Division of Public Safety (resource for students, staff, faculty or visitors)
- **Student Health Service** (http://www.vpul.upenn.edu/shs) (resource for students)

#### B. Additional Resources for Information, Counseling and Support and Informal Complaint Resolution

There are other resources available to the University community for information, counseling and support. These resources are also available to assist in the resolution of complaints, as are the confidential resources listed above. Please note that these resources are not confidential. Unlike the confidential resources, these resources are obligated to notify the Title IX Coordinator when an incident of sexual violence is shared with the resource person and to provide sufficient information so that the University can take appropriate action. (For a full discussion of reporting obligations, see the Reporting and Monitoring section below.)

- **College Houses and Academic Services** (https://www.collegehouses.upenn.edu) (resource for College House residents)
- **Dean's Offices and Department Chairs** (resource for students, faculty or staff in their respective Schools and Departments)
- **Division of Human Resources** (https://www.hr.upenn.edu/myhr), Office of Staff and Labor Relations (resource for staff)
- **Office of Affirmative Action and Equal Opportunity Programs** (http://www.upenn.edu/affirm-action) (resource for faculty, students, staff or visitors)
- **Office of the Vice Provost for Faculty** (https://provost.upenn.edu/faculty) (resource for faculty)
- **Student Intervention Services** (http://www.vpul.upenn.edu/intervention.php) (resource for students)

#### C. Formal Complaint Resolution Resources

A formal complaint against a member of the University’s faculty or instructional staff should be initiated by contacting the Office of the Sexual Violence Investigative Officer. The complaint will be handled consistent with the Procedures for Resolving Complaints Against Faculty of Sexual Assault, Sexual Violence, Relationship Violence and Stalking.

A formal complaint against an enrolled University student should be initiated by contacting the Office of the Sexual Violence Investigative Officer. The complaint will be handled consistent with the Student Disciplinary Procedures for Resolving Complaints of Sexual Assault, Sexual Violence, Relationship Violence and Stalking.

A formal complaint against a University staff member should be initiated by contacting the Office of Affirmative Action and Equal Opportunity Programs (OAA/EOP). The complaint will be handled consistent with that office's complaint resolution procedures.
IV. Reporting and Monitoring

The University is committed to ensuring that members of the University community who share information regarding incidents of sexual violence get the information, counseling and support that they need and are aware of the process for making a formal complaint. The University is also committed to reporting incidents of sexual violence so that any patterns or systemic problems revealed by such reports and complaints can be addressed.

Consistent with these commitments, the University has determined that the Title IX Coordinator must be advised when incidents of sexual violence are reported to the Office of the Sexual Violence Investigative Officer, to any of the offices listed above (except those identified as confidential resources), to any member of the faculty or to any University staff member in a leadership or supervisory position or who has significant responsibility for the welfare, guidance or advising of students or staff, including the President, Provost, Vice Presidents, Vice Provosts, Deans, Associate Deans, Assistant Deans and Academic Advisors, as well as appropriate staff in the following offices: College Houses and Academic Services (CHAS), Division of Public Safety (DPS), Division of the Vice Provost for University Life (VPUL) except those identified as confidential resources, Division of Human Resources (as well as Human Resources staff in the Schools/Centers), Office of Affirmative Action and Equal Opportunity Programs (OAA/EOP), Graduate Student Center (GSC), Division of Recreation and Intercollegiate Athletics (DRIA) and student life and academic services units in the University’s Schools and Centers.

When an incident of sexual violence is reported to the Title IX Coordinator, the Title IX Coordinator will take appropriate steps to ensure that the individual who reported the incident has been advised of the resources available to him or her and the process for making a formal complaint. The Title IX Coordinator should be provided with sufficient information to enable the University to identify patterns. Such information includes the name of the person reporting the incident, the date, time and location of the incident, the identities of those involved in the incident and a brief description of the behavior alleged to have occurred, to the extent this information is known to the individual making the report. If there has been a request for confidentiality, this should also be shared with the Title IX Coordinator, who will consider the request. Even if confidentiality cannot be granted, information will be disclosed only to those who, in the judgment of the Title IX Coordinator, have a need to know. Decisions regarding how to proceed following a report of sexual violence to the Title IX Coordinator will be made on a case-by-case basis. A report to the Title IX Coordinator will not necessarily result in a formal complaint to the Sexual Violence Investigative Officer (for complaints against enrolled students or faculty) or to the Office of Affirmative Action and Equal Opportunity Programs (for complaints against staff).

For those members of the University community who have crime statistics reporting obligations under the Clery Act, notifying the Title IX Coordinator regarding an incident of sexual violence does not replace the obligation to report the matter to the Division of Public Safety. For additional information about Clery Act reporting or to make a report, refer to the Clery Act & Crime Reporting page on the Division of Public Safety website at https://www.publicsafety.upenn.edu/clery/

V. Rights of Complainants and Respondents

Persons who make a complaint and those who are responding to complaints have the following rights:

- The option to notify law enforcement;
- The option to have another member of the University community present during interviews that are part of a University-initiated investigation;
- To be notified of counseling and support services available; and
- To be notified of options to change academic, living or work arrangements.

VI. Policy Against Retaliation

University policy expressly prohibits retaliation against faculty, staff or students who in good faith make reports of violations of this policy. In addition, knowingly and intentionally making a false report of a violation of this policy is prohibited. Members of the Penn community who take adverse action against someone who reports a violation of this policy, intimidate, threaten or otherwise engage in retaliation are subject to disciplinary action up to and including termination of their employment or expulsion from the University.

(Source: Almanac, July 1, 2016, Supplement (http://www.upenn.edu/almanac/between/2016/070116-of-record.html#violence))

Student Disciplinary Procedures for Resolving Complaints of Sexual Assault, Sexual Violence, Relationship Violence and Stalking

Introduction

The University of Pennsylvania is committed to providing a safe and healthy environment, free of gender-based misconduct, to all members of our community and visitors to our community. As such, sexual assault, sexual violence, relationship violence, and stalking will not be tolerated. In order to ensure the creation of a climate where students are able to thrive and achieve their full potential, the University has developed a wide range of policies, educational programs, broad-based resources, support, and reporting systems. This amendment to the Student Disciplinary Charter supplements these other policies and initiatives, addressing the process by which complaints against an enrolled University student for a violation of the Sexual Violence, Relationship Violence and Stalking Policy (“Sexual Violence Policy”) will be adjudicated and resolved.

Confidentiality

Confidentiality is of critical importance in ensuring that these sensitive matters are handled appropriately. The University has an obligation to address complaints with respect to the violation of the Sexual Violence Policy as fairly and expeditiously as possible as soon as it becomes aware of an allegation that the Policy has been violated. To that end, if any University official is informed of an allegation that the Policy has been violated, the University is required to respond, unless the informed official is serving in a privileged capacity (designated confidential resource, therapists, clergy, or medical providers).
The response to the complaint, however, including seeking a resolution under this procedure, should be treated as confidential, to the extent consistent with the requirements of law. University staff and faculty may share information with others who have a legitimate need to know in order to fairly and effectively address complaints, but the information should be considered confidential and should be protected to the extent possible consistent with legal obligations. Such administrators may include, for example, the Office of the Vice Provost for University Life, the Office of the Sexual Violence Investigator, the Title IX Officer, Public Safety, the Office of General Counsel, Counseling and Psychological Services, Student Health, and academic advising offices.

I. Reporting Complaints of Violation of the Sexual Violence Policy

A. Office of the Sexual Violence Investigative Officer

The Office of the Sexual Violence Investigative Officer (IO) will be responsible for managing all complaints made against an enrolled University student alleging a violation of the Sexual Violence Policy.

Complaints must either be presented in writing, or based upon information provided by the complainant to the IO who will then memorialize the allegations in writing and have the allegations confirmed by the complainant. Complainants may include University students or others both within and outside the community alleging a violation against a University enrolled student.

B. Office of the District Attorney and Office of Civil Rights

Complainants may also choose to file a report with the District Attorney or with the Office of Civil Rights of the U.S. Department of Education. The University system and the legal system work independently from one another, but will coordinate efforts to the extent possible. The University will not unilaterally defer its proceeding pending the outcome of any criminal process, nor will the outcome of any legal process be determinative of the University result. Rather, the University has its own interest in, and responsibility for, ensuring the enforcement of its Sexual Violence Policy.\(^2\) The University will, however, comply with reasonable requests by law enforcement for cooperation, and will upon reasonable request temporarily suspend its fact-finding process in a sexual assault investigation so as not to impede the law enforcement process.

C. Support, Counseling and Advice

In making a decision about how to proceed with a complaint, complainants may seek support, counseling, and advice from other offices on campus, including the Special Services Unit in the Division of Public Safety, the Sexual Violence Educator, the Office of the Chaplain, the Penn Women’s Center, Counseling and Psychological Services, Student Intervention Services, and the Lesbian Gay Bisexual and Transgender Center. A list of these offices is provided in Section III below. Should the complainant determine to proceed with an on campus disciplinary process against an enrolled University student, the Office of the Sexual Violence Investigative Officer will be the single place to initiate the process.\(^3\)

D. Timeframe for Submitting a Complaint

The University does not limit the timeframe for filing a report of a violation of the Sexual Violence Policy. Reports may be filed at any time, although the University’s ability to investigate or take any action may be limited by the passage of time or the matriculation status of the alleged respondent.

E. Complainant Request for Confidentiality

The University is required by Title IX to weigh the complainant’s request for confidentiality/privacy with the University’s commitment to provide a reasonably safe and nondiscriminatory environment. In situations where a complainant requests privacy, the University’s ability to investigate and respond to the allegations may be limited.

The IO will notify the complainant if the University cannot, in unusual cases, maintain the complainant’s confidentiality/privacy. The complainant’s and respondent’s identities will only be revealed to those individuals who need to know their names in order to investigate or adjudicate the complaint or provide interim measures.

In situations where the University becomes aware of a pattern of behavior by one or more respondents, the University will take appropriate action in an attempt to protect the University community.

II. Investigation and Resolution of Complaints

A. Timely Resolution

The process of resolving complaints, exclusive of any appeal, should be completed, unless there are special circumstances, within 60 business days of the filing of the written complaint. The appeal should be completed, absent special circumstances, within 30 business days of the filing of the appeal.

In the event that a Hearing Panel is convened, the complainant and the respondent will both be provided with a copy of the decision of the Panel and given 10 business days to file an appeal.

B. Rights and Protections for Complainant and Respondent

1. The complainant and respondent have the right to a process that is fundamentally fair, and free of bias or prejudice.
2. The complainant and respondent have the right to be treated with respect, dignity, sensitivity, and fairness throughout the entire process. They are both entitled to seek support from the University and to be informed about the process both before the process is initiated and throughout the process as it unfolds.
3. Both parties have the right to participate in the process, or to refrain from participation. The failure to participate will not be used as evidence against either party, but also will not prevent the process from proceeding unless the complainant determines to withdraw the complaint and the University determines to abide by that request.
4. Both parties may have a lawyer or other advisor present when being interviewed by the Investigative Team and the Hearing Panel, but the lawyer or other advisor will not be permitted to present statements, seek the production of evidence, or question any witnesses.
5. Evidence of prior sexual conduct by the complainant or respondent with other partners will not be considered in the process, and any evidence of a prior sexual relationship between the parties will not be determinative of the issue of consent. If there is credible evidence of a pattern of violations of the Sexual Violence Policy, that evidence may be considered by the Hearing Panel.
6. While the process is underway, the Vice Provost for University Life (VPUL) will work with the complainant and respondent, ensuring support is provided to both parties. VPUL will also be
E. Investigative Report

At the conclusion of the investigation, the Investigative Team will prepare a draft factual investigative report, including assessments of credibility, a recommended finding as to responsibility, and recommended sanctions, if appropriate. In making the responsibility determination, the Investigative team will use a “preponderance of the evidence” standard. In other words, to find a student responsible for violating the Sexual Violence Policy, the Investigative Team must be convinced that it is more likely than not that a violation of the Sexual Violence Policy has occurred.

D. Investigation

If the IO makes the determination that there is a sufficient basis to proceed, the Officer will issue a Statement of Charge Letter, based on the complaint and any preliminary investigation conducted. The Charge Letter will be provided to the complainant and the respondent. The respondent will be provided the opportunity to respond in writing to the Charge, and any response will be shared with the complainant.

The IO will lead a thorough and fair investigation, assisted by one or more co-investigators who may come from the school of the complainant or respondent or from elsewhere in the University (the “Investigative Team”). The co-investigator(s) will be University administrators or faculty members appropriately trained as investigators in handling sexual violence cases, and will be selected for individual cases by the IO. The investigation will include interviews of the complainant and respondent, interviews of witnesses, and review of documentation, physical evidence, and any other relevant evidence.

Prior to interviews, the complainant, the respondent, and any relevant witnesses will be informed by the IO that statements they make during the process may be admissible in concurrent or subsequent civil or criminal court proceedings, and will accordingly also be informed of their rights as outlined in Section B above. They will also be reminded of the consequences of making false statements to the IO under the Code of Student Conduct and the Charter of the University of Pennsylvania Student Disciplinary System. The complainant and respondent may have their advisors and/or outside counsel present for their interviews, but the advisors or outside counsel will not be permitted to participate in the interview other than to provide advice to the student, and they may be excluded from the interview for disruptive behavior.

In conducting the investigation, the Investigative Team may, as appropriate, also consult with other campus officials including but not limited to administrators in the relevant School, Public Safety, the Title IX Officer, or the Vice Provost for University Life. The Investigative Team may also consult with the Office of General Counsel, who may determine in particular cases to engage outside counsel to assist the University throughout this process. The Investigative Team may engage forensic and other experts, as needed.

C. Preliminary Determination

Upon receiving a complaint, the IO will make a preliminary determination as to whether the complaint falls within the purview of the Sexual Violence Policy and whether, on its face, there appears to be a sufficient basis to conduct a full investigation. In making this determination, the IO may interview the complainant and the respondent and conduct whatever preliminary investigation the Officer deems necessary to determine if the actions alleged in the complaint would, if true, constitute a violation of the University’s Sexual Violence Policy and there is a reasonable basis for investigating the charges. If the IO concludes there is insufficient basis to proceed, the matter will be concluded and the parties so advised.

1. Opportunity for Review and Comment

The draft investigative report will be provided to both the complainant and respondent for review and comment, under strict instructions that the draft report is confidential, and not to be shared with anyone other than their families and advisors, who must be members of the University community and/or outside counsel, as described above. Sharing of the report by either party, their families, advisors or outside counsel with any addition persons will be strictly prohibited. The complainant and respondent will also be provided the opportunity to review the underlying evidence and witness statements with their advisors, but they will not be provided copies.

2. Final Report

As a result of the response and comments received, the Investigative Team may conduct a further investigation and/or amend the draft report, if the Team determines either action to be warranted. A final investigative report will be prepared, incorporating any changes, and shared with the complainant and the respondent. The complainant and respondent may submit formal objections or comments to the final report, which will become part of the final report of the matter.

G. Hearing Panel

If the matter is not resolved at this stage in a mutually acceptable manner, the IO will present the final report, together with any comments provided by the complainant and/or respondent, to a Hearing Panel (“Panel”).

1. Panel Membership

The Panel will be comprised of three (3) faculty members and the Disciplinary Hearing Officer (DHO), who will be a non-voting member. The DHO will make all decisions about the organization of the Panel, including decisions regarding the admissibility of evidence, witnesses to appear before the panel, or any additional decisions regarding the administration of the hearing process. Membership of the Panel, including the DHO, will observe the following guidelines:

i. Members will be selected from a pool of faculty who have agreed to serve for a term of one or more years.

ii. Only mixed-gender panels that have training and experience in handling complaints involving sexual misconduct will hear sexual misconduct cases.

iii. Faculty comprising the Panel should be from academic departments in which neither of the parties is enrolled in a course of study, and no faculty member should serve on the Panel who has a mentoring relationship or other personal relationship with either of the parties.

iv. Faculty asked to serve should recuse themselves or be dismissed if they have any personal ties to either of the parties or to individuals responsible for implementing interim measures to protect the parties, or any of the witnesses, consistent with principles of fairness, including implementing measures regarding housing, academic accommodations and scheduling changes, no contact orders, and any other appropriate actions to protect the parties or any of the witnesses.

1. Opportunity for Review and Comment

A draft factual investigative report, including assessments of credibility, a
with whom the parties are closely associated. Nor may they have prior personal knowledge of the alleged incident of sexual misconduct.

v The University will train members of the pool to fulfill their responsibilities as adjudicators according to the procedures and policies outlined here and to ensure compliance with Title IX and other applicable state and federal guidelines. In addition, the Panel will be provided with "just in time" training on adjudicating sexual violence cases.

vi The IO may not serve on the Panel, however the IO may testify before the Panel regarding his or her investigation and may assist the DHO as needed in organizational and administrative matters related to the Panel.

vii The complainant and respondent will be notified of the membership of the Panel in advance of the Hearing. Any challenges for cause against individual Panel members must be made promptly so as not to delay the conduct of the Hearing, and will be given serious consideration by the DHO to ensure impartiality of the proceedings.

viii All proceedings must be kept strictly confidential among the parties, witnesses and members of the panel. All individuals involved in such hearings must agree to such conditions of confidentiality.

2. Hearing Procedures

Hearings must be prompt, fair, and impartial, affording the complainant’s allegations and the respondent’s defenses all due consideration and protecting the rights of both parties. The Panel will review the Investigative Team’s final report, including any response, objections, or comments provided by the complainant or respondent. The Panel will also carefully review the evidentiary record, including witness statements, documents, and physical evidence.

i. Hearing Panel Interviews

The Panel will interview separately the IO (and co-investigator(s) if the Panel so chooses), the complainant, and the respondent. The Panel will, whenever possible, provide the complainant and respondent with at least five days advance notice of the Hearing. If reasonably possible, interviews will be conducted on one day, but if such scheduling would require an unreasonably long day, or if such scheduling would unreasonably delay the proceeding, the hearing may be scheduled over multiple days.

The Panel may seek additional evidence from the IO and interview key witnesses on whom the IO relied in drawing his or her conclusions, as well as request additional evidence from the IO to clarify the evidentiary record, provided that it can do so without unreasonably delaying the process. In the event that a new witness comes forward during the Hearing who was not originally interviewed by the IO, or new evidence discovered after the IO has issued his or her report, the DHO may allow that witness to testify or admit the evidence to the hearing, but only if the DHO judges the new witness or evidence to be highly relevant to an accurate and fair determination of the outcome.

a. The Hearing will be held in private, and only the Panel may conduct interviews. Only the person interviewed (and that person's advisor or outside counsel, as applicable) will be present at the Hearing during interviews. The complainant or respondent (and their advisor or outside counsel, as applicable) will be able to view testimony from separate rooms, upon request, via closed-circuit television or similar video transmission.

b. Subject to the Protections set forth in Section B above, the Panel has wide latitude when questioning the complainant, the respondent and any witnesses in order to determine the accuracy of the report.

c. The complainant and respondent may propose witnesses and provide specific questions in advance that they believe important to ask of other parties or witnesses. The DHO, in consultation with the Panel, will determine the relevance as well as the appropriateness of witnesses and questions, and may accordingly place restrictions on, include, or exclude witnesses or other information.

d. When the panel is conducting the interview of the complainant and respondent, each student may bring an advisor or outside counsel with them to provide advice and support, but the advisor or outside counsel will not be permitted to participate in the interview other than to provide advice to the student and may be excluded from the interview by the DHO for disruptive behavior.

e. The interviews by the Panel will be recorded (audio only). No observers will be permitted to make any audio or video recordings.

3. Hearing Panel Decision

After the Hearing concludes, the Panel will immediately deliberate in private to decide whether a preponderance of the evidence shows that the respondent is responsible for a violation of the University’s Sexual Violence Policy. Preponderance of the evidence means that the Panel must be convinced based on the evidence that it is more likely than not that a violation has occurred in order to find a student is responsible for violation the policy. A finding of responsibility requires a majority vote of the members of the Panel.

i. If the respondent is found responsible, the Panel will also determine the appropriate sanction, by majority vote, based upon the facts of the case and University precedent, with a presumption in favor of the sanction recommended by the IO.

ii. The Panel will arrive at its conclusion as expeditiously as possible, and will promptly advise both the complainant and the respondent in writing of its decision with respect to responsibility and, if applicable, sanctions. In keeping with guidelines for timely resolution as provided in Section A above, the written decision will be provided as soon after the conclusion of the proceeding as is possible.

iii. Decisions made by the Panel are considered final, subject only to appeal as outlined below.

H. Appeal of Hearing Panel Decision

The Panel decision is subject to appeal by either party in writing to a Disciplinary Appellate Officer (DAO), a faculty member with exclusive jurisdiction to decide appeals. In keeping with guidelines for timely resolution as provided in Section A above, appeals should be submitted within 10 business days after the decision of the Panel. Letters of appeal should specifically state whether the objection is to the judgment of responsibility, the sanction, or both, and explain in detail the grounds for appeal.

1. The DAO will review the report of the Investigative Team and supporting evidence, the audio record from the Panel Hearing in the discretion of the Appellate Officer, and any other material the DAO deems relevant, in addition to the decision of the Panel in order to ensure that the process was consistent with University policy and that the result was not arbitrary or capricious.

2. After considering the appeal, the DAO will promptly issue his or her decision in writing and will provide copies to the DHO, the Provost, the Vice President for Institutional Affairs, the respondent(s) and other appropriate parties.
III. Resource Offices

A. Confidential Resources

The following can be contacted for support, counseling, and advice:

**Special Services Unit, Division of Public Safety**
24-hour Helpline: 215.898.6600
4040 Chestnut Street

**Counseling & Psychological Services (CAPS)**
Main Number: 215.898.7021
After hours emergency number: 215.349.5490
133 South 36th Street, 2nd Floor

**Penn Women's Center (PWC)**
Main Numbers: 215.898.8611 and 215.898.6500
3643 Locust Walk

**Student Health Service (SHS)**
Main Number: 215.746.3535
3535 Market Street, Suite 100

**Lesbian Gay Bisexual Transgender Center**
Main number: 215.898.5044
3901 Spruce Street

**Office of the Chaplain**
Main Number: 215.898.8456
240 Houston Hall, 3412 Spruce Street

**Director, Sexual Violence Prevention & Educator**
VPUL, 3611 Locust Walk
215.898.6081
215.768.6527 Nights/Weekends

B. Official Reporting Offices

The following are official reporting offices for violations of the Sexual Violence Policy:

**Office of the Sexual Violence Investigator**
227 Sansom Place East
3600 Chestnut St.
Philadelphia, PA 19104-6106
215.898.2887

**Title IX Officer and Office of Affirmative Action and Equal Opportunity Programs (OAA/EOP)**
3600 Chestnut Street, Sansom Place East, Suite 228
215.898.6993

**Student Intervention Services, VPUL**
3611 Locust Walk
215.898.6081
215.768.6527 Nights/Weekends

**Office of Student Conduct**
207 Duhring Wing
215.898.5651

**Division of Human Resources**
3401 Walnut Suite 527A
215.898.7281

1 This procedure amends and supersedes the Charter of the University of Pennsylvania Student Disciplinary System with respect to violations of the University policy on Sexual Violence, Relationship Violence, and Stalking as those terms are defined in that policy ("Sexual Violence Policy"). It applies to each of the 12 schools, notwithstanding the existence of separate procedures that individual schools may have adopted for violations of laws or policies other than the University Sexual Violence Policy. If a complaint involves allegations of violations of the Sexual Violence Policy as well as other University policies, the matter can either be fully resolved using this process, or divided into two separate proceedings, as appropriate in any particular case.

2 The University recognizes that should it be proceeding in cases where criminal charges are pending, the respondents may choose not to participate in the disciplinary process in order to protect their Fifth Amendment rights. Such decision will not be used as evidence against any respondent and the Hearing Panel will be instructed not to draw any adverse inference from the failure to participate.

3 While the Investigative Officer will be responsible for managing the complaint investigation and resolution process, as described below, the IO will work with other appropriate University offices, including the Vice Provost for University Life, to determine if interim measures are appropriate before a final resolution is reached.

4 The University will provide a list of advisors from the Penn community to complainants and respondents. Advisors will be trained by the University to support both complainants and respondents in this process. The parties need not select an advisor from this list, but may select any faculty or administrative member of the community to advise them. The parties may also retain outside counsel in addition to, or instead of, using an advisor. The role of the outside counsel, however, will be limited to an advisory role and will not be permitted to have an active role in the proceedings.

5 In carrying out these responsibilities, the DHO may consult with the IO, the Office of General Counsel and other appropriate offices such as the Office of Student Conduct and the Vice President for Institutional Affairs. University officers thus consulted will respect the confidentiality conditions of the proceedings.


Student Grievance Procedures

Federal law requires the University to designate an employee to coordinate its compliance, including the investigation of complaints with Title VI of the Civil Rights Act of 1964, Title IX of the Education amendments of 1972, and the Rehabilitation Act of 1973. In addition, the University is required to have procedures for the resolution of student and employee grievances alleging violations of these laws.

Any student in the University who feels that he or she has been discriminated against by an individual or office acting for the University or that the University is not complying with the requirements of Title VI, Title IX, or the Rehabilitation Act, has a right to register a complaint and seek redress of his or her grievance. The student may take his/her complaint to the following University offices:
Office of Affirmative Action & Equal Opportunity Programs

The Office of Affirmative Action & Equal Opportunity Programs monitors the University’s equal opportunity/affirmative action policies and programs. The Office also is responsible for coordinating complaints with non-discrimination laws (including investigating complaints and coordinating programs for the disabled). The OAA staff is available to consult with faculty, staff, students, and members of the community who have questions or concerns regarding the application or possible violation of these policies, Title VI or Title IX. The Office is located at

3600 Chestnut Street
Sansom Place East
Suite 228
Philadelphia, PA 19104
215-898-6993

In addition to the description of duties given earlier, the Office of Affirmative Action is also responsible for coordinating complaints with non-discrimination laws, including investigating complaints and coordinating programs for the disabled. The OAA staff is available to consult with faculty, staff, students, and members of the community who have questions or concerns regarding the application or possible violation of these policies, Title VI or Title IX.

Other Grievance Procedures

Academic Grievances

Schools and academic departments within the University have established procedures for the resolution of student grievances concerning academic matters. Students should contact the Dean’s Office of the particular school for a copy of the appropriate procedures and for guidance regarding the grievance process. A student who wishes to register a grievance regarding the evaluation of his/her academic work should follow the academic grievance procedure applicable in the school or department in which the academic work was performed.

- School of Arts and Sciences (https://www.sas.upenn.edu/graduate-division/resources/academic-grievance-procedure) & Professional and Liberal Education
- Biomedical Graduate Studies (http://www.med.upenn.edu/bgs/documents/ExpectationsofStudents2015.pdf), PSOM Section V
- School of Engineering and Applied Science (http://www.seas.upenn.edu/graduate/handbook/student-ethics.php) Part D
- School of Law (https://www.law.upenn.edu/students/policies/grades-review-of-courses-seminar-requirements.php)
- School of Nursing (https://www.nursing.upenn.edu/live/files/170-doctoral-phd-student-handbookpdf)
- School of Social Policy and Practice (http://www.sp2.upenn.edu/resources/masters-student-handbook/student-rights-and-responsibilities)


Administrative and Employment Grievances

Students with administrative grievances should contact the Office of the Vice Provost for University Life, 3611 Locust Walk, 215-898-6081. Students with grievances related to their appointment as a teaching assistant, research assistant, or graduate assistant should contact their Dean’s Office or the Vice Provost for Education, 215-898-7225.

University of Pennsylvania Nondiscrimination Statement

The University of Pennsylvania values diversity and seeks talented students, faculty and staff from diverse backgrounds. The University of Pennsylvania does not discriminate on the basis of race, color, sex, sexual orientation, gender identity, religion, creed, national or ethnic origin, citizenship status, age, disability, veteran status or any other legally protected class status in the administration of its admissions, financial aid, educational or athletic programs, or other University-administered programs or in its employment practices. Questions or complaints regarding this policy should be directed to:

Executive Director of the Office of Affirmative Action and Equal Opportunity Programs
Sansom Place East
3600 Chestnut Street, Suite 228
Philadelphia, PA 19104-6106
(215) 898-6993 (Voice) or (215) 898-7803 (TDD)

(Source: Almanac, January 20, 2009, Volume 55, No. 18 (http://www.upenn.edu/almanac/volumes/v55/n18/aapolicy.html))
Courses are organized by department and include courses at the undergraduate and graduate levels. See the guide to Course Numbering and Academic Credit (p. 265) at the University of Pennsylvania.

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Accounting (ACCT)

ACCT 101 Principles of Accounting I
This course is an introduction to the basic concepts and standards underlying financial accounting systems. Several important concepts will be studied in detail, including: revenue recognition, inventory, long-lived assets, present value, and long term liabilities. The course emphasizes the construction of the basic financial accounting statements - the income statement, balance sheet, and cash flow statement - as well as their interpretation.
One-term course offered either term
Activity: Lecture
1 Course Unit

ACCT 102 Managerial Accounting
The first part of the course presents alternative methods of preparing managerial accounting information, and the remainder of the course examines how these methods are used by companies. Managerial accounting is a company's internal language, and is used for decision-making, production management, product design and pricing and for motivating and evaluating employees. Unless you understand managerial accounting, you cannot have a thorough understanding of a company's internal operations. What you learn in this course will help you understand the operations of your future employer (and enable you to be more successful at your job), and help you understand other companies you encounter in your role as competitor, consultant, or investor.
One-term course offered either term
Activity: Lecture
1 Course Unit

ACCT 201 Financial Accounting I
This course revisits topics covered in Introductory Financial Accounting (Accounting 101), with a focus on the asset side of the balance sheet: Cash, accounts and notes receivable, inventory, marketable securities, equity investments, PPE, and intangibles. The course also covers revenue and expense recognition issues, and generally accepted accounting principles that affect the format and presentation of the financial statements.
Course usually offered in fall term
Prerequisites: ACCT 101,102
Activity: Lecture
1 Course Unit

ACCT 202 Financial Accounting II
Covers liabilities and equities, especially long-term debt, convertible securities, equity issuance, dividends, share repurchases, employee stock options, pensions, leases, deferred tax, and derivative securities. Related topics covered include computation of diluted earnings per share, disclosure issues, earnings management, and basic financial statement analysis of cash flows.
Course usually offered in spring term
Prerequisites: ACCT 101,102
Activity: Lecture
1 Course Unit

ACCT 208 Auditing
This course includes a consideration of the historical role of the auditor and the changing role in today's environment, the organization of the accounting profession, and the new influences of the Public Company Accounting Oversight Board. It introduces the students to generally accepted auditing standards, professional ethics, and legal liability. A conceptual theory of auditing is discussed and practical examples of auditing techniques and work programs are used to illustrate the application of the theory. The course also covers the auditor's reporting standards and uses case studies and professional journal articles as bases for discussion and analysis.
One-term course offered either term
Also Offered As: ACCT 718
Prerequisites: ACCT 201, 202 or equivalent
Activity: Lecture
1 Course Unit

ACCT 242 Financial Statements: Analysis & Reporting Incentives
In the course, students learn how to analyze firms' financial statements and disclosures to determine how a firm's particular accounting choices reflect the underlying economics of the firm. As a result, the course strengthens students' ability to use financial statements as part of an overall assessment of the firm's strategy and valuation. The course is especially useful for anyone interested in working on the buy or sell side. The course provides both a framework for and the tools necessary to analyze financial statements. At the conceptual level, it emphasizes that preparers and users of financial statements have different objectives and incentives. At the same time, the course is applied and stresses the use of actual financial statements. For example, students learn how to detect when firms are managing earnings and/or balance sheets. It draws heavily on real business problems and uses cases to illustrate the application of the techniques and tools.
One-term course offered either term
Also Offered As: ACCT 742
Prerequisite: ACCT 101
Activity: Lecture
1 Course Unit

ACCT 243 Accounting for Mergers, Acquisitions, and Complex Financial Structures
The objective of this course is to discuss and understand the accounting that underlies merger, acquisition, and investment activities among firms that result in complex financial structures. Key topics include the purchase accounting method for acquisitions, the equity method for investments, the preparation and interpretation of consolidated financial statements, tax implications of mergers and acquisitions, earnings-per-share considerations, the accounting implications of intercompany transactions and non-domestic investments, etc.
Course usually offered in fall term
Also Offered As: ACCT 743
Prerequisites: Prerequisites: ACCT 101, 102, 201, 202
Activity: Lecture
1 Course Unit
ACCT 297 Taxes and Business Strategy
The objective of this course is to develop a framework for understanding how taxes affect business decisions. The key themes of the framework - all parties, all taxes and all costs - are applied to decision contexts such as investments, compensation, organizational form, and mergers and acquisitions. The ultimate goal is to provide a new approach to thinking about taxes that will be valuable even as laws and governments change.
One-term course offered either term
Also Offered As: ACCT 897
Prerequisites: ACCT 101 and FNCE 101
Activity: Lecture
1 Course Unit

ACCT 399 Supervised Study
Intensive reading and study with some research under the direction of a faculty member. Approval from one of the departmental advisers must be obtained before registration.
One-term course offered either term
Prerequisites: Senior standing and 3.4 average in major related subjects
Activity: Independent Study
1 Course Unit

ACCT 611 Fundamentals of Financial Accounting
The objective of this course is to provide an understanding of financial accounting fundamentals for prospective consumers of corporate financial information, such as managers, stockholders, financial analysts, and creditors. The course focuses on understanding how economic events like corporate investments, financing transactions and operating activities are recorded in the three main financial statements (i.e., the income statement, balance sheet, and statement of cash flows). Along the way, students will develop the technical skills needed to analyze corporate financial statements and disclosures for use in financial analysis, and to interpret how accounting standards and managerial incentives affect the financial reporting process. This course is recommended for students who want a more in-depth overview of the financial accounting required for understanding firm performance and potential future risks through analysis of reported financial information, such as students intending to go into security analysis and investment banking.
One-term course offered either term
Activity: Lecture
1 Course Unit

ACCT 612 Accelerated Financial Accounting
The intended audience for this course is students with prior knowledge of financial accounting who understand: (1) the recording of economic transactions in the accounting records; (2) the basic financial statements that summarize a firm’s economic transactions (the balance sheet, the income statement and the statement of cash flows) and (3) the fundamental concepts needed to prepare or understand published financial statements (e.g. use of accrual accounting). Exploiting prior knowledge, the course aims in six weeks to help students become effective users of financial statements.
Course usually offered in fall term
Activity: Lecture
0.5 Course Units

ACCT 613 Fundamentals of Financial and Managerial Accounting
This course provides an introduction to both financial and managerial accounting, and emphasizes the analysis and evaluation of accounting information as part of the managerial processes of planning, decision-making, and control. A large aspect of the course covers the fundamentals of financial accounting. The objective is to provide a basic overview of financial accounting, including basic accounting concepts and principles, as well as the structure of the income statement, balance sheet, and statement of cash flows. The course also introduces elements of managerial accounting and emphasizes the development and use of accounting information for internal decisions. Topics include cost behavior and analysis, product and service costing, and relevant costs for internal decision-making. This course is recommended for students who will be using accounting information for managing manufacturing and service operations, controlling costs, and making strategic decisions, as well as those going into general consulting or thinking of starting their own businesses.
One-term course offered either term
Activity: Lecture
1 Course Unit

ACCT 706 Cost Management
This course covers managerial accounting and cost management practices that can be strategically applied across the various functions of a business organization to improve organizational performance. The course emphasizes the methods available to measure and evaluate costs for decision-making and performance evaluation purposes. It reviews a number of cost management issues relating to the design and implementation of strategic, marketing, value analysis, and other management models in modern firms; and identifies major contemporary issues in managerial accounting and financial decision-making. A variety of case studies in different industries and decision contexts are used to examine the application of these concepts.
One-term course offered either term
Prerequisites: ACCT 611,612,613 or waiver.
Activity: Lecture
0.5 Course Units
Notes: Lecture, case studies, class participation, written group cases, and exams.

ACCT 718 Auditing
This course includes a consideration of the role of the auditor, the organization of the accounting profession, and the current audit environment. It introduces the student to generally accepted auditing standards, professional ethics, and legal liability. A conceptual theory of auditing is discussed and practical examples of auditing techniques and work programs are used to illustrate the application of the theory. The course also covers the auditor's reporting standards and uses case studies and professional journal articles as bases for discussion and analysis.
One-term course offered either term
Also Offered As: ACCT 208
Prerequisites: ACCT 611,612,613 or waiver.
Activity: Lecture
1 Course Unit
ACCT 742 Problems in Financial Reporting
This intensive one-semester course focuses on how to extract and interpret information in financial statements. The course adopts a user perspective of accounting by illustrating several specific accounting issues in a decision context.
One-term course offered either term
Also Offered As: ACCT 242
Prerequisites: ACCT 611, 612, 613 completed or waiver. ACCT 742 cannot be taken concurrently with ACCT 611, 612, 613.
Activity: Lecture
1 Course Unit
Notes: Format: Discussions, lectures on advanced topics, problems and cases. Daily preparation of cases and reading assignments. Comprehensive final exam. Some instructors may choose to grade homework, class participation, and case write-ups.

ACCT 743 Accounting for Mergers, Acquisitions and Complex Financial Structures
This class studies how complex financial structures account for their activities. Primary emphasis is on the application of purchase accounting for mergers and acquisitions, the equity method for investments, and preparing and interpreting consolidated financial statements. Other topics covered include translations and remeasurements for nondomestic investments, and earnings per share calculations for complex financial structures. Tax considerations and acquisition strategies are of only peripheral interest in this class, and students who are concerned primarily with those topics are advised to seek a different elective.
Course usually offered in fall term
Also Offered As: ACCT 243
Prerequisites: ACCT 611, 612, 613 or waiver.
Activity: Lecture
1 Course Unit
Notes: Lectures and quizzes, class participation, and satisfactory performance on quizzes.

ACCT 747 Financial Statement and Disclosure Analysis
This course focuses on the analysis of financial communications between corporate managers and outsiders, including the required financial statements, voluntary disclosures, and interactions with investors, analysts, and the media. The course draws on the findings of recent academic research to discuss a number of techniques that outsiders can use to detect potential bias or aggressiveness in financial reporting. FORMAT: Case discussions and lectures. Comprehensive final exam, group project, case write-ups, and class participation.
One-term course offered either term
Prerequisites: ACCT 611, 612, 613 completed or waiver.
Activity: Lecture
1 Course Unit

ACCT 897 Taxes and Business Strategy
The objective of this course is to develop a framework for understanding how taxes affect business decisions. Traditional finance and strategy courses do not consider the role of taxes. Similarly, traditional tax courses often ignore the richness of the decision context in which tax factors operate. The key themes of the framework - all parties, all taxes and all costs - are applied to decision contexts such as investments, compensation, organizational form, regulated industries, financial instruments, tax-sheltered investments, mergers and acquisitions, multinational, and multistate. The ultimate goal is to provide a new approach to thinking about taxes (and all forms of government intervention) that will be valuable even as laws and governments change.
One-term course offered either term
Also Offered As: ACCT 297
Prerequisites: ACCT 611, 612, 613 or waiver and FNCE 611, 612.
Activity: Lecture
1 Course Unit
Notes: Lecture and case discussions.

ACCT 910 Accounting Theory Research
The course includes an introduction to various analytical models and modeling/mathematical techniques that are commonly used in accounting research as well as related empirical applications.
Course usually offered in fall term
Activity: Seminar
1 Course Unit
Notes: Lecture and case discussions.

ACCT 921 Empirical Research in Accounting I
The course covers empirical research design and provides students with a perspective on historically important accounting research. Topics covered such as research on the time-series and cross-sectional properties of financial accounting measures, capital markets behavior, financial intermediaries, and international accounting research.
Course usually offered in spring term
Activity: Seminar
1 Course Unit

ACCT 922 Empirical Research in Accounting II
The course covers empirical research design and provides students perspective on historically important accounting research. Topics covered such as research on the time-series and cross-sectional properties of financial accounting measures, capital markets behavior, financial intermediaries, and international accounting research. Topics covered may include corporate governance, executive compensation, debt contracting, accounting regulation, tax, and management accounting.
Course usually offered in spring term
Activity: Seminar
1 Course Unit

ACCT 930 Empirical Design in Accounting Research
Course on empirical methods and their application to accounting research topics.
Prerequisites: At least one graduate level course in econometrics.
Activity: Seminar
1 Course Unit
African Studies (AFST)

AFST 050 World Musics and Cultures
Draws on repertories of various societies from Asia, Africa, Europe,
and the Americas to examine relations between aesthetic productions
and social processes. We investigate musical sounds, cultural logics
informing those sounds, and social strategies of performance. Topics
may include indigenous music theories, music and social organization,
symbolic expressions and musical meaning, gender, religion, and social
change.
For BA Students: Arts and Letters Sector
Taught by: Muller
One-term course offered either term
Also Offered As: AFRC 050, ANTH 022, FOLK 022, MUSC 050
Activity: Lecture
1 Course Unit

AFST 062 Land of the Pharaohs
This course provides an introduction to the society, culture and history of
ancient Egypt. The objective of the course is to provide an understanding
of how ancient Egypt emerged as one of the most successful and long-
lived civilizations in world history.
For BA Students: History and Tradition Sector
Taught by: Silverman, Wegner
Course not offered every year
Also Offered As: NELC 062
Activity: Lecture
1 Course Unit

AFST 071 Literatures of Africa and the African Diaspora
This course will serve as an introduction to a particularly rich arena of
literature in English. It will also help students to begin to understand
many of the racial subtexts underlying the culture wars in America, where
too often in the full glare of cameras, an anguish voice informs the
audience that "as an African, I cannot expect justice in this America."
One of the things at work here is the assumption of a common Africa
diasporic identity -- understood as an excluded, marginalized subtext
of identity in the new world. But why is Africa being involed here? What
does "Africa" mean in this new world context? What is the larger global
context of these assumptions about "Africa" and what is its history? Does
the term "Africa" itself have a history? What is "African literature?" This
course, therefore, will also help students not only to ask fundamental
questions about identity but also to understand identity as a moving
and dynamic construct. How, for example, does "Africa" travel to South
America, to the Caribbean Archipelago, and to Europe? See the English
Department's website at www.english.upenn.edu for a description of the
current offerings.
Course not offered every year
Also Offered As: AFRC 071, ENGL 071
Activity: Lecture
1 Course Unit

AFST 075 Africa Before 1800
Survey of major themes and issues in African history before 1800. Topics
include: early civilizations, African kingdoms and empires, population
movements, the spread of Islam, the slave trade era. Also, emphasis
on how historians use archaeology, linguistics, and oral traditions to
reconstruct Africa's early history.
For BA Students: History and Tradition Sector
Taught by: Babou, Cassanelli
Course usually offered in spring term
Also Offered As: AFRC 075, HIST 075
Activity: Recitation
1 Course Unit

AFST 076 Africa Since 1800
Survey of major themes, events, and personalities in African history from
the early nineteenth century through the 1960s. Topics include abolition
of the slave trade, European imperialism, impact of colonial rule, African
resistance, religious and cultural movements, rise of naturalism and pan-
Africanism, issues of ethnicity and "tribalism" in modern Africa.
For BA Students: History and Tradition Sector
Taught by: Cassanelli
Course usually offered in fall term
Also Offered As: AFRC 076, HIST 076
Activity: Recitation
1 Course Unit

AFST 102 Study of a Theme
This is an introduction to literary study through the works of a compelling
literary theme. (For offerings in a given semester, please see the online
course descriptions on the English Department website). The theme's
function within specific historical contexts, within literary history
generally, and within contemporary culture, are likely to be emphasized.
Some versions of this course will also serve as an introduction to other
members of the English faculty, who will visit the class as guest lecturers.
This course is designed for the General Requirement, and is ideal for the
students wishing to take an English course but not necessarily intending
to major.
For BA Students: Arts and Letters Sector
One-term course offered either term
Also Offered As: CIMS 112, COML 245, ENGL 102
Activity: Lecture
1 Course Unit
AFST 140 Elementary Zulu I in Residence
This elementary course is for beginners and it requires no prior knowledge of Zulu. The course will expose students to the Zulu language and culture and will be based in the National Standards for Foreign Language Learning. Students will be engaged in communicative language learning through interpersonal, interpretive and presentational modes of language learning techniques. They will gain knowledge and understanding of the Zulu culture. They will use their Zulu language and culture learning experience to connect with other disciplines and further their knowledge of these disciplines through perspectives acquired from their Zulu class. They will also develop insight into the nature of language and culture through comparisons of the Zulu language and culture and their own. Through movies, songs, and other cultural activities online students will acquire the natural use of the language which will enable them to acquire linguistic and cultural skill to become life-long learners who can participate in Zulu communities in the U.S. and overseas.
Taught by: Mbeje
One-term course offered either term
Also Offered As: AFRC 140
Activity: Lecture
0.5 Course Units
Notes: OBJECTIVE: Attainment of Level 1 (ceiling) in speaking, listening, reading, and writing skills on the Interagency Language Roundtable (ILR) scale.

AFST 147 Holy Wars & Jihads
One-term course offered either term
Also Offered As: HIST 147, NELC 187
Activity: Lecture
1 Course Unit

AFST 169 The Conflicts in Darfur and South Sudan
Sudan is marred by several military conflicts between the state and its citizens not only during colonial times but even after its independence in 1956. The current conflict in Darfur is only one of many wars that ravaged Sudan prior to the ending of Africa's longest civil war (1956-1971, 1983-2005) in the southern part of the country. This course will provide an in-depth analysis of the two main conflicts in the Sudan which ends up with the division of the country into two. (1) The first conflict we will study is the Darfur conflict based upon historical and cultural factors, as well as analyzing the ideology of the successive Sudanese states specifically the current government. The course will explore the role of regional and international politics with interest in the ongoing conflict, the “Genocide” and ICC controversies, as well as the local militia, the politics of aid in war-torn areas, and the role of Sudan’s neighbors in the Darfur conflict and how this could be related to other conflicts in Sudan. (2) The second conflict that we'll cover is the conflict in southern Sudan, which ends up by its secession as an independent country in 2011. This course aims towards the study of the reasons behind these military conflicts and ethnic conflicts that characterize the modern history of Sudan.
Taught by: Dinar
Activity: Lecture
1 Course Unit

AFST 170 Elementary Yoruba I
The Elementary Yoruba I course can be taken to fulfill a language requirement, or for linguistic preparation to do research on Nigeria and the diaspora/Africa-related topics. The course emphasizes communicative competence to enable the students to acquire linguistic and extra-linguistic skills in Yoruba. The content of the course is selected from various everyday life situations to enable the students to communicate in predictable common daily settings. Culture, as it relates to language use, is also part of the course content. Students will acquire the speaking, listening, reading, and writing skills at the mid-high novice level, based on the ACTFL scale. The mid-high level proficiency skills that the students will acquire constitute threshold capabilities of the second semester range of proficiency to prepare students for Elementary Yoruba II course materials.
For BA Students: Language Course
Taught by: Awoyale
Course usually offered in fall term
Also Offered As: AFRC 170, AFST 517
Activity: Lecture
1 Course Unit
Notes: Offered through Penn Language Center

AFST 171 Elementary Yoruba II
The main objective of this course is to further sharpen the Yoruba linguistic knowledge that the student acquired in level I. By the end of the course, the student should be able to (1) read, write, and understand simple to moderately complex sentences in Yoruba; and, (2) advance in the knowledge of the Yoruba culture.
For BA Students: Language Course
Taught by: Awoyale
Course usually offered in spring term
Also Offered As: AFRC 171, AFRC 517, AFST 518
Prerequisites: Completion of Elementary Yoruba I, or permission of instructor
Activity: Lecture
1 Course Unit
Notes: Offered through Penn Language Center

AFST 180 Elementary Swahili I
The Elementary Swahili I course can be taken to fulfill a language requirement, or for linguistic preparation to do research on East Africa/Africa-related topics. The course emphasizes communicative competence to enable the students to acquire linguistic and extra-linguistic skills in Swahili. The content of the course is selected from various everyday life situations to enable the students to communicate in predictable common daily settings. Culture, as it relates to language use, is also part of the course content. Students will acquire the speaking, listening, reading, and writing skills at the mid-high novice level, based on the ACTFL scale. The mid-high level proficiency skills that the students will acquire constitute threshold capabilities of the second semester range of proficiency to prepare students for Elementary Swahili II course materials.
For BA Students: Language Course
Taught by: Mshomba
Course usually offered in fall term
Also Offered As: AFRC 180, AFST 580
Activity: Lecture
1 Course Unit
Notes: Offered through Penn Language Center
AFST 181 Elementary Swahili II
This course continues to introduce basic grammar, vocabulary, and the reading and writing of Swahili to new speakers. During this term, folktales, other texts, and film selections are used to help introduce important aspects of Swahili culture and the use of the language in wide areas of Africa.
For BA Students: Language Course
Taught by: Mshomba
Course usually offered in spring term
Also Offered As: AFRC 181, AFST 581
Prerequisites: Completion of Elementary Swahili I, or permission of instructor
Activity: Lecture
1 Course Unit
Notes: Offered through Penn Language Center

AFST 190 Introduction to Africa
This course provides an introduction to the study of Africa in all its diversity and complexity. Our focus is cultural, geographical, and historical: we will seek to understand Africa's current place in the world political and economic order and learn about the various social and physical factors that have influenced the historical trajectory of the continent. We study the cultural formations and empires that emerged in Africa before European colonial invasion and then how colonialism reshaped those sociocultural forms. We'll learn about the unique kinds of kinship and religion in precolonial Africa and the changes brought about by the spread of Islam and Christianity. Finally, we'll take a close look at contemporary issues such as ethnic violence, migration, popular culture and poverty, and we'll debate the various approaches to understanding those issues.
For BA Students: Society Sector
Taught by: Hasty
Course usually offered in fall term
Also Offered As: AFRC 190, ANTH 190
Activity: Lecture
1 Course Unit

AFST 210 African Religions
Religion permeates all aspects of African life and thought. There is no dichotomy between religion and society in Africa. In this course, we will survey some of the indigenous religions of Africa and examine their nature and their philosophical foundations. We will examine African systems of beliefs, myths, symbols, and rituals, as developed by African societies to express their distinctive worldviews. We will also raise some questions about the interrelationship of religion and culture as well as religion and social change in Africa, and the challenges of modern technologies to African beliefs. We will examine the future of African religions and analyze the extent to which African peoples can hold on to their beliefs in this age of rapid technological and scientific development. Emphasis will be on themes rather than on individual national or tribal religions. Case studies, however, will be limited to West Africa among the Akan of Ghana, the Yoruba of Nigeria, and the Mende of Sierra Leone. Questions are provided (a) to guide and direct reading (b) to form the basis for discussions (c) as exercises and (d) for examinations.
Taught by: Ofosu-Donkoh
Course not offered every year
Also Offered As: AFRC 210, RELS 210
Activity: Lecture
1 Course Unit

AFST 221 African Women's Lives: Past and Present
Restoring women to African history is a worthy goal, but easier said than done. The course examines scholarship over the past forty years that brings to light previously overlooked contributions African women have made to political struggle, religious change, culture preservation, and economic development from pre-colonial times to present. The course addresses basic questions about changing women's roles and human rights controversies associated with African women within the wider cultural and historical contexts in which their lives are lived. It also raises fundamental questions about sources, methodology, and representation, including the value of African women's oral and written narrative and cinema production as avenues to insider perspectives on African women's lives.
Taught by: Blakely
Course not offered every year
Also Offered As: AFRC 222, GSWS 222
Activity: Lecture
1 Course Unit

AFST 225 African Languages and Culture
The aim of the course is to provide a general perspective on African languages and African linguistics. No background in linguistics is necessary. Students will be introduced to theoretical linguistics—its concepts, theories, ways of argumentation, data collection, data analysis, and data interpretation. The focus will be on the languages and linguistics of Africa to provide you with the knowledge and skills required to handle the language and language-related issues typical of African conditions. We will cover topics related to formal linguistics (phonology/phonetics, morphology, syntax, and semantics), aspects of pragmatics as well as the general socio-linguistic character of African countries. We will also cover language in context, language and culture, borrowing, multilingualism, and cross-cultural communication in Africa.
Taught by: Mbeje
One-term course offered either term
Also Offered As: AFRC 225
Activity: Lecture
1 Course Unit

AFST 227 Media in Africa
This course examines the recent explosion of media culture in Africa, including radio, TV, film, internet, newspapers, and magazines. We look at the media forms themselves, studying the elements of African culture that shape the language, themes, and imagery of African media. We also study the producers of the media: the African journalists, film directors, disc jockeys, actors, and entertainers who construct the African public sphere through talent and ingenuity, drawing on cultural knowledge and social relationships. Finally, we'll turn to African audiences, learning how Africans actively engage with media forms, using media to participate in national conversations on such topics as gender, environmentalism, corruption, and development. Throughout the course, we study how African media give expression to ethnic, political, and religious identities, playing a crucial role in the construction and interaction of communities within the larger context of nation-states.
Course usually offered in spring term
Also Offered As: AFST 503, ANTH 227, ANTH 504
Activity: Seminar
1 Course Unit
AFST 228 African Epic: Performance & Power
Homer’s Iliad and Odyssey from ancient Greece and Song of Roland from medieval France are familiar landmarks in world literature. In contrast, Sunjata Epic of Mali, Mwindo Epic of Congo and more than twenty-five other heroic narrative poems throughout Africa are less known but equally valuable for accessing ancient wisdom, exploits of heroes and heroines, cultural values, knowledge systems, and supernatural realms. An additional benefit of studying African epic is that they are performed today or in living memory, so the cultural, performative, and social contexts are not obscured by centuries. These living traditions give us opportunities to more fully understand bards’ roles, interaction of bard and audience, transformation from oral to written representation, and the extension of epic themes into other aspects of social life.
Taught by: Blakely
Also Offered As: COML 224
Activity: Lecture
1 Course Unit

AFST 231 Francophone African Cinema
This course will introduce students to recent films by major directors from Francophone Africa. While attention will be given to aesthetic aspects and individual creativity, the viewing and discussions will be mostly organized around a variety of (overlapping) themes: History; Tradition/modernity; Urban Life; Gender and sexuality; Politics. Class conducted in French.
Taught by: Moudileno
Course not offered every year
Also Offered As: AFRC 231, CIMS 210, FREN 231
Activity: Seminar
1 Course Unit

AFST 232 Topics in World History
One-term course offered either term
Also Offered As: CIMS 233, HIST 232
Activity: Seminar
1 Course Unit

AFST 233 African Folklore, Popular Culture, and the Diaspora
This course explores African expressive culture in both West and Central Africa and the Americas, considering continuities in visual and verbal art, religion, and ritual, and material culture from Africa to the New World. The topic is interdisciplinary, drawing on research by folklorists, cultural anthropologists, archaeologists, and art historians. This study informs our understanding of both particular historical connections related to specific peoples and genres and fundamental aesthetic values that have shaped and continue to influence the entire Afro-Atlantic region.
Taught by: Blakely
Course not offered every year
Also Offered As: FOLK 233
Activity: Seminar
1 Course Unit

AFST 235 Africans Abroad: Emigrants, Refugees, and Citizens in the New African Diaspora
This seminar will examine the experiences of recent emigrants and refugees from Africa, including many now living in the city of Philadelphia and the surrounding region. In addition to reading some of the historical and comparative literature on migration, ethnic diasporas, and transnationalism, students will have the opportunity to conduct research on specific African communities in Philadelphia or elsewhere in North America, Europe, or the Middle East. African emigres’ relations with both their home and host societies will be explored and compared with the experience of other immigrant groups over the past century. Topics include reasons for leaving Africa, patterns of economic and educational adaptation abroad, changes in gender and generational roles, issues of cultural and political identity, and the impact of national immigration policies.
Taught by: Cassanelli
Course not offered every year
Activity: Lecture
1 Course Unit

AFST 240 Elementary Amharic I
The Elementary Amharic I course can be taken to fulfill a language requirement, or for linguistic preparation to do research on Ethiopia/Africa-related topics. The course emphasizes communicative competence to enable the students to acquire linguistic and extra-linguistic skills in Amharic. The content of the course is selected from various everyday life situations to enable the students to communicate in predictable common daily settings. Culture, as it relates to language use, is also part of the course content. Students will acquire the speaking, listening, reading, and writing skills at the mid-high novice level, based on the ACTFL scale. The mid-high novice level proficiency skills that the students will acquire constitute threshold capabilities of the second semester range of proficiency to prepare students for Elementary Amharic II course materials.
For BA Students: Language Course
Course usually offered in fall term
Also Offered As: AFRC 240, AFRC 540, AFST 540, NELC 481
Activity: Lecture
1 Course Unit
Notes: Offered through Penn Language Center

AFST 241 Elementary Amharic II
Continuation of Elementary Amharic I.
For BA Students: Language Course
Taught by: Hailu
Course usually offered in spring term
Also Offered As: AFRC 241, AFRC 541, AFST 541, NELC 482
Prerequisites: Completion of Elementary Amharic I, or permission of the instructor
Activity: Lecture
1 Course Unit
Notes: Offered through Penn Language Center

AFST 242 Intermediate Amharic I
For BA Students: Language Course
Taught by: Hailu
Course usually offered in fall term
Also Offered As: AFRC 242, AFRC 543, AFST 543, NELC 483
Activity: Lecture
1 Course Unit
Notes: Offered through Penn Language Center
AFST 243 Intermediate Amharic II  
For BA Students: Last Language Course  
Taught by: Hailu  
Course usually offered in spring term  
Also Offered As: AFRC 243, AFRC 544, AFST 544, NELC 484  
Activity: Lecture  
1 Course Unit  
Notes: Offered through Penn Language Center

AFST 247 Advanced Amharic  
An advanced Amharic course that will further sharpen the students’ knowledge of the Amharic language and the culture of the Amharas. The learners communicative skills will be further developed through listening, speaking, reading and writing. There will also be discussions on cultural and political issues.  
For BA Students: Advanced Language Course  
Taught by: Zemichael  
One-term course offered either term  
Also Offered As: AFRC 247, AFRC 548, AFST 547  
Activity: Lecture  
1 Course Unit  
Notes: Offered through Penn Language Center

AFST 249 Amharic Language & Culture  
For BA Students: Advanced Language Course  
Taught by: Hailu  
One-term course offered either term  
Prerequisites: Completion of Advanced Amharic I & II.  
Activity: Lecture  
1 Course Unit

AFST 253 Music and Performance of Africa  
This course provides an overview of the most popular musical styles and discussion of the cultural and political contexts in which they emerged in contemporary Africa. Learning to perform a limited range of African music/dance will be part of this course. No prior performance experience required. (Formerly Music 253).  
Taught by: Muller  
Course not offered every year  
Also Offered As: AFRC 253, ANTH 263, FOLK 253, MUSC 256  
Prerequisites: Completion of MUSC 050 is recommended.  
Activity: Lecture  
1 Course Unit

AFST 257 Contemporary African Politics  
A survey of politics in Africa focusing on the complex relationships between state, society, the economy, and external actors. It will cover colonial rule, the independence struggle, authoritarian and democratic statecraft, international debt, economic development, military rule, ethnicity, and class.  
One-term course offered either term  
Also Offered As: AFRC 257, PSCI 210  
Activity: Lecture  
1 Course Unit

AFST 268 CONTEMPORARY ISSUES IN AFRICAN SOCIETY  
This course will deal with law and society in Africa. After surveying the various legal systems in Africa, the focus will be on how and to what extent the countries of Africa “re-Africanized” their legal systems by reconciling their indigenous law with western law and other legal traditions to create unified legal systems that are used as instruments of social change and development. Toward this end, the experiences of various African countries covering the various legal traditions will be included. Specific focus will be on laws covering both economic and social relations. This emphasis includes laws of contracts and civil wrongs, land law, law of succession, marriage and divorce and Africa’s laws of International Relations, among other laws. Throughout this course a comparative analysis with non-African countries will be stressed.  
Taught by: Imoagene  
Also Offered As: AFRC 268, SOCI 268  
Activity: Lecture  
1 Course Unit

AFST 270 Intermediate Yoruba I  
For BA Students: Language Course  
Taught by: Awoyale  
Course usually offered in fall term  
Also Offered As: AFRC 270, AFST 529  
Activity: Lecture  
1 Course Unit  
Notes: Offered through Penn Language Center

AFST 271 Intermediate Yoruba II  
For BA Students: Last Language Course  
Taught by: Awoyale  
Course usually offered in spring term  
Also Offered As: AFRC 271, AFRC 534, AFST 532  
Activity: Lecture  
1 Course Unit  
Notes: Offered through Penn Language Center

AFST 272 Topics: Africa and African Diaspora  
This course explores an aspect of the literature of Africa and the African Diaspora intensively; specific course topics will vary from year to year.  
Taught by: Jaji  
Course not offered every year  
Also Offered As: AFRC 276, COML 273, ENGL 271  
Activity: Seminar  
1 Course Unit

AFST 280 Intermediate Swahili I  
For BA Students: Language Course  
Taught by: Mshomba  
Course usually offered in fall term  
Also Offered As: AFRC 280, AFST 582  
Activity: Lecture  
1 Course Unit  
Notes: Offered through Penn Language Center

AFST 281 Intermediate Swahili II  
For BA Students: Last Language Course  
Taught by: Mshomba  
Course usually offered in spring term  
Also Offered As: AFRC 282, AFST 583  
Prerequisites: Intermediate Swahili I, or permission of instructor  
Activity: Lecture  
1 Course Unit  
Notes: Offered through the Penn Language Center
AFST 284 Advanced Swahili I
This is an advanced Kiswahili course which will engage learners in extended spoken and written discourse. Advanced learners of Kiswahili will listen to, read about, write and speak on authentic video materials, contemporary novels, and newspapers. They will also participate in various discussions on cultural and political issues.
For BA Students: Advanced Language Course
Taught by: Mshomba
Course usually offered in fall term
Also Offered As: AFRC 284, AFST 584
Prerequisites: AFST 280, LING 280, AFRC 280 or permission of instructor
Activity: Lecture
1 Course Unit
Notes: Offered through Penn Language Center

AFST 285 Advanced Swahili II
For BA Students: Advanced Language Course
Taught by: Mshomba
Course usually offered in spring term
Also Offered As: AFRC 285, AFST 586
Activity: Lecture
1 Course Unit
Notes: Offered through Penn Language Center

AFST 370 Advanced Yoruba I
For BA Students: Advanced Language Course
Taught by: Awoyale
Course usually offered in fall term
Also Offered As: AFST 587
Activity: Lecture
1 Course Unit
Notes: Offered through Penn Language Center

AFST 371 Advanced Yoruba II
For BA Students: Advanced Language Course
Taught by: Awoyale
Course usually offered in spring term
Also Offered As: AFST 588
Activity: Lecture
1 Course Unit
Notes: Offered through Penn Language Center

AFST 390 Survey Francophone Lit
This class will explore the African city as a site of colonial and postcolonial exchanges by way of twentieth-century European and African representations. We will examine, on the one hand, the status of the urban located in Africa in European works from the colonial period (fiction and non-fiction including Gide, Leiris, Londres). On the other hand, we will study Africans, focusing on the dreams and transformations involved in the passage from the village to the city to the metropole. Essays from history, sociology, urban studies and postcolonial theory will supplement the study of the primary texts. All readings, class discussions and written assignments in French.
Taught by: Moudileno
Course not offered every year
Also Offered As: AFRC 391, FREN 390
Activity: Seminar
1 Course Unit

AFST 399 Independent Study: Language
One-term course offered either term
Activity: Independent Study
1 Course Unit
Notes: Offered through Penn Language Center

AFST 460 Middle Egyptian
Introduction to the grammar of Middle Egyptian.
Taught by: Silverman
Two terms. student must enter first term.
Also Offered As: ANEL 460
Activity: Lecture
1 Course Unit

AFST 467 Introduction to Egyptian Culture and Archaeology
Covers principal aspects of ancient Egyptian culture (environment, urbanism, religion, technology, etc.) with special focus on archaeological data; includes study of University Museum artifacts. Follows AMES 266/466 - History of Egypt taught in the Fall semester.
Taught by: Wegner
Course usually offered in spring term
Also Offered As: NELC 467
Activity: Lecture
1 Course Unit

AFST 470 Twi Language & Culture I
Activity: Lecture
1 Course Unit

AFST 471 Twi Lang & Culture II
Activity: Lecture
1 Course Unit

AFST 484 Swahili Lang/Culture I
This course taught in Swahili will focus on reading/writing skills and speaking/listening skills as well as structural and cultural information. The course will be structured around three thematic units: History, Politics, and Education. The course will provide background on the Swahili-speaking world: Who were the first Swahili speakers and what varieties of the language did they speak? How did Swahili spread from the coast to other Swahili-speaking areas as far inland as Uganda, Rwanda, and Congo? Swahili is a lingua franca and has importance in the spread of religion and trade movements. Influences of other languages on Swahili and influences of Swahili on local languages will be discussed. Political and educational systems will be discussed as well.
For BA Students: Advanced Language Course
Taught by: Mshomba
Course not offered every year
Also Offered As: AFST 590
Prerequisite: Completion of Advanced Swahili I & II
Activity: Lecture
1 Course Unit

AFST 486 Yoruba Language & Culture I
Taught by: Awoyale
Course not offered every year
Prerequisites: Completion of Advanced Yoruba I & II.
Activity: Lecture
1 Course Unit
Notes: Offered through Penn Language Center

AFST 487 Yoruba Language & Culture II
Taught by: Awoyale
One-term course offered either term
Prerequisites: Completion of Advanced Yoruba I & II.
Activity: Lecture
1 Course Unit
AFST 490 African Language Tutorial - Elementary I
The main objective of this course is to allow students to study an African language of their choice, depending on the availability of the instructor. The course will provide students with linguistic tools which will facilitate their research work in the target country. Cultural aspects of the speakers of the language will be introduced and reinforced.
For BA Students: Language Course
One-term course offered either term
Also Offered As: AFST 594
Prerequisite: Permission of Penn Language Center
Activity: Lecture
1 Course Unit
Notes: Offered through Penn Language Center

AFST 491 African Language Tutorial - Elementary II
Continuation of AFST 490.
For BA Students: Language Course
One-term course offered either term
Also Offered As: AFRC 491, AFST 595
Prerequisite: Permission of Penn Language Center
Activity: Lecture
1 Course Unit
Notes: Offered through Penn Language Center

AFST 492 African Language Tutorial - Intermediate I
For BA Students: Language Course
Course usually offered in fall term
Also Offered As: AFRC 492, AFST 596
Prerequisite: Permission of Penn Language Center
Activity: Lecture
1 Course Unit
Notes: Offered through Penn Language Center

AFST 493 African Language Tutorial - Intermediate II
Continuation of AFST 492.
For BA Students: Last Language Course
Course usually offered in spring term
Also Offered As: AFRC 493, AFST 597
Prerequisite: Permission of Penn Language Center
Activity: Lecture
1 Course Unit
Notes: Offered through Penn Language Center

AFST 494 African Language Tutorial - Advanced I
For BA Students: Advanced Language Course
Course usually offered in fall term
Also Offered As: AFST 598
Prerequisite: Permission of Penn Language Center
Activity: Lecture
1 Course Unit
Notes: Offered through Penn Language Center

AFST 495 African Language Tutorial: Adv II Languages will be specified in each section.
Continuation of AFST 494.
Course usually offered in spring term
Also Offered As: AFRC 495, AFST 599
Prerequisite: Permission of Penn Language Center
Activity: Lecture
1 Course Unit

AFST 496 Language & Culture I
Aspects of the targeted language's history, language, and culture.
For BA Students: Language Course
Course usually offered in fall term
Prerequisites: Permission of Penn Language Center.
Activity: Lecture
1 Course Unit
Notes: Offered through Penn Language Center

AFST 509 Arabic: Reading Historical Manuscripts
Arabic language is used by many societies not only in communication but also in correspondence and in documenting the affairs of their daily lives. Arabic script is adopted by many groups who native languages are not Arabic, in writing their language before some moved to the roman alphabet. In many historical documents specific style of writing and handwriting are dominant. This specificity is influenced by the dialectical variations, the historical development of each region and the level of Arabic literacy and use.
Course not offered every year
Also Offered As: ARAB 534
Activity: Lecture
1 Course Unit

AFST 515 African Political Economy
Course not offered every year
Also Offered As: PSCI 516
Activity: Seminar
1 Course Unit

AFST 517 Elementary Yoruba I
This is an introductory course in Yoruba whose goals are to introduce students to the history, geographical location of the people who speak Yoruba, their culture, customs, and traditions; and, to enable students to develop communicative skills through listening, speaking, reading and writing.
For BA Students: Language Course
Taught by: Awoyale
Course usually offered in fall term
Also Offered As: AFRC 170, AFST 170, AFST 518
Activity: Lecture
1 Course Unit
Notes: Offered through Penn Language Center

AFST 518 Elementary Yoruba II
The main objective of this course is to further sharpen the Yoruba linguistic knowledge that the student acquired in level I. By the end of the course, the student should be able to (1) read, write, and understand simple to moderately complex sentences in Yoruba; and (2) advance in the knowledge of the Yoruba culture.
For BA Students: Language Course
Taught by: Awoyale
Course usually offered in spring term
Also Offered As: AFRC 171, AFST 171, AFST 517
Activity: Lecture
1 Course Unit
Notes: Offered through Penn Language Center

AFST 529 Intermediate Yoruba I
For BA Students: Language Course
Taught by: Awoyale
Course usually offered in fall term
Also Offered As: AFRC 270, AFST 270
Activity: Lecture
1 Course Unit
Notes: Offered through Penn Language Center
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
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| AFST 532    | Intermediate Yoruba II                          | For BA Students: Last Language Course  
Course usually offered in spring term  
Also Offered As: AFRC 271, AFRC 534, AFST 271  
Activity: Lecture  
1 Course Unit  
Notes: Offered through Penn Language Center | Awoyale   | Spring          | AFRC 271, AFRC 534, AFST 271 |
| AFST 540    | Elementary Amharic I                            | An introductory course for students with no previous knowledge of Amharic. Amharic belongs to the southern branch of Hemeto-Semitic languages which is also referred to as "Afrasian." Amharic is the official language of Ethiopia and is spoken by 14 million native Amharas and by approximately 18 million of the other ethnic groups in Ethiopia. The goals of this course are to introduce students to the culture, customs, and traditions of the Amharas. Students will develop communicative skills through listening, speaking, reading and writing.  
For BA Students: Language Course  
Taught by: Hailu  
Course usually offered in fall term  
Also Offered As: AFRC 240, AFRC 540, AFST 240, NELC 481  
Activity: Lecture  
1 Course Unit  
Notes: Offered through Penn Language Center | Hailu     | Fall            | AFRC 240, AFRC 540, AFST 240, NELC 481 |
| AFST 541    | Elementary Amharic II                           | Continuation of Elementary Amharic I.  
For BA Students: Language Course  
Taught by: Hailu  
Course usually offered in spring term  
Also Offered As: AFRC 241, AFRC 541, AFST 241, NELC 482  
Activity: Lecture  
1 Course Unit  
Notes: Offered through Penn Language Center | Hailu     | Spring          | AFRC 241, AFRC 541, AFST 241, NELC 482 |
| AFST 543    | Intermediate Amharic I                          | Offered through Penn Language Center  
For BA Students: Language Course  
Taught by: Hailu  
Course usually offered in fall term  
Also Offered As: AFRC 242, AFRC 543, AFST 242, NELC 483  
Activity: Lecture  
1 Course Unit  
Notes: Offered through Penn Language Center | Hailu     | Fall            | AFRC 242, AFRC 543, AFST 242, NELC 483 |
| AFST 544    | Intermediate Amharic II                         | Offered through Penn Language Center  
For BA Students: Language Course  
Taught by: Hailu  
Course usually offered in spring term  
Also Offered As: AFRC 243, AFRC 544, AFST 243, NELC 484  
Activity: Lecture  
1 Course Unit  
Notes: Offered through Penn Language Center | Hailu     | Spring          | AFRC 243, AFRC 544, AFST 243, NELC 484 |
| AFST 547    | Advanced Amharic                                | An advanced Amharic course that will further sharpen the students’ knowledge of the Amharic language and the culture of the Amharas. The learners communicative skills will be further developed through listening, speaking, reading and writing. There will also be discussions on cultural and political issues.  
For BA Students: Advanced Language Course  
Taught by: Hailu  
One-term course offered either term  
Also Offered As: AFRC 247, AFRC 548, AFST 247  
Activity: Lecture  
1 Course Unit  
Notes: Offered through Penn Language Center | Hailu     | Fall or Spring   | AFRC 247, AFRC 548, AFST 247 |
| AFST 560    | Introduction to Francophone Studies             | SPRING 2016: This seminar will introduce key authors and issues in Francophone studies through texts that specifically focus on various experiences of war in colonial and postcolonial contexts. Significantly, the first piece of fiction by an African author may well be Bakary Diallo's Force Bonte, (1926), the autobiographical story of a WWI Senegalese Tirailleur, physically deformed by his war experience and trying to through his writing. While Force Bonte is unique as an early piece, similar narratives have not ceased to proliferate in French and Francophone fiction. Indeed, writers from all over the former French Empire have repeatedly offered fictional accounts of colonial subjects' involvement in European wars, and especially WWII, with various degrees of ambivalence. As conflicts and genocides continue, the experience of war fuels a new wave of Francophone accounts at the turn of the twenty-first century. We will use an extensive diachronically and synchronically developed reading (and viewing ) list of texts and films from Senegal, Congo, Rwanda, Guinea, Algeria, Martinique, Mauritius, and (Metropolitan) France from the 1920s to 2014. Using this material as the basis for our exploration we will address several questions: What are some of the important tropes deployed in these narratives and how do they relate to broader issues concerning colonial and postcolonial violence? How do the wars of others (e.g. WWI and WWII) complicate the experience of war and questions of engagement and solidarity? How do such experiences lay the groundwork for other wars, of liberation, for example? Finally how does war impact the articulation of memory, survival and writing in colonial contexts, in the postcolony, and in the European Metropole?  
Primary texts in French. Class discussion in French or English.  
Taught by: Moudileno  
Course not offered every year  
Also Offered As: AFRC 591, COML 590, FREN 590  
Activity: Seminar  
1 Course Unit  
Notes: An introduction to major literary movements and authors from five areas of Francophone: the Maghreb, West Africa, Central Africa, the Caribbean and Quebec. | Moudileno | Fall or Spring   | AFRC 591, COML 590, FREN 590 |
AFST 563 Old Egyptian
This course is an introduction to the language of the Egyptian Old Kingdom. The grammar of the period will be introduced during the early part of the semester, using Ededl’s ALTAGYPTISCHE GRAMMATIK as the basic reference. Other grammatical studies to be utilized will include works by Allen, Baier, Polotsky, Satzinger, Gilula, Doret, and Silverman. The majority of the time in the course will be devoted to reading varied textual material: the unpublished inscriptions in the tomb of the Old Kingdom official Kapure—on view in the collection of the University Museum; several autobiographical inscriptions as recorded by Sethe in URKUNDEN I; and a letter in hieratic (Baer, ZAS 03. 1077. 1-9).
Taught by: Silverman
One-term course offered either term
Also Offered As: ANEL 563
Activity: Lecture
1 Course Unit

AFST 580 Elementary Swahili I
Beginning level of Swahili which provides training and practice in speaking, reading and writing with initial emphasis on speaking and listening. Basic grammar, vocabulary and cultural skills learned gradually with priority on the spoken language. Especially during the second term, folktales, other texts and films will be used to help introduce important aspects of Swahili culture.
For BA Students: Language Course
Taught by: Mshomba
Course usually offered in fall term
Also Offered As: AFRC 180, AFST 180
Activity: Lecture
1 Course Unit
Notes: Offered through Penn Language Center

AFST 581 Elementary Swahili II
This course continues to introduce basic grammar, vocabulary, and the reading and writing of Swahili to new speakers. During this term, folktales, other texts, and film selections are used to help introduce important aspects of Swahili culture and the use of the language in wide areas of Africa.
For BA Students: Language Course
Taught by: Mshomba
Course usually offered in spring term
Also Offered As: AFRC 181, AFST 181
Activity: Lecture
1 Course Unit
Notes: Offered through Penn Language Center

AFST 582 Intermediate Swahili I
For BA Students: Language Course
Taught by: Mshomba
Course usually offered in fall term
Also Offered As: AFRC 280, AFST 280
Activity: Lecture
1 Course Unit
Notes: Offered through Penn Language Center

AFST 583 Intermediate Swahili II
For BA Students: Last Language Course
Taught by: Mshomba
Course usually offered in spring term
Also Offered As: AFRC 282, AFST 281
Activity: Lecture
1 Course Unit
Notes: Offered through Penn Language Center

AFST 584 Advanced Swahili I
This is an advanced Kiswahili course which will engage learners in extended spoken and written discourse. Advanced learners of Kiswahili will listen to, read about, write and speak on authentic video materials, contemporary novels, and newspapers. They will also participate in various discussions on cultural and political issues.
For BA Students: Advanced Language Course
Taught by: Mshomba
One-term course offered either term
Also Offered As: AFRC 284, AFST 284
Activity: Lecture
1 Course Unit
Notes: Offered through Penn Language Center

AFST 586 Advanced Swahili II
For BA Students: Advanced Language Course
Taught by: Mshomba
One-term course offered either term
Also Offered As: AFRC 285, AFST 285
Activity: Lecture
1 Course Unit
Notes: Offered through Penn Language Center

AFST 587 Advanced Yoruba I
For BA Students: Advanced Language Course
Taught by: Awoyale
Course usually offered in fall term
Also Offered As: AFST 370
Activity: Lecture
1 Course Unit
Notes: Offered through Penn Language Center

AFST 588 Advanced Yoruba II
For BA Students: Advanced Language Course
Taught by: Awoyale
Course usually offered in spring term
Also Offered As: AFST 371
Activity: Lecture
1 Course Unit
Notes: Offered through Penn Language Center

AFST 593 Studies-Francophone Literature
Topics will vary. Seminar will focus on one area, author, or "problematique" in Francophone studies. Examples of area-focused seminar: The African Contemporary novel or Francophone Caribbean writers. Example of single-author seminar: "The Poetry and Drama of Aime Cesaire. Examples of thematic approach: writing and national identity; postcolonial conditions, autobiography.
Taught by: Moudileno
Course not offered every year
Also Offered As: ENGL 595
Activity: Seminar
1 Course Unit

AFST 594 Afr Lang Tutor: Elem I
For BA Students: Language Course
Course usually offered in fall term
Also Offered As: AFST 490
Activity: Lecture
1 Course Unit
AFST 595 African Language Tutorial - Elementary II
For BA Students: Language Course
Course not offered every year
Also Offered As: AFST 491
Activity: Lecture
1 Course Unit

AFST 597 African Language Tutorial - Intermediate II
For BA Students: Last Language Course
Also Offered As: AFST 493
Activity: Lecture
1 Course Unit

AFST 598 Afr Lang Tutor: Adv I
For BA Students: Advanced Language Course
Also Offered As: AFST 494
Activity: Lecture
1 Course Unit

AFST 628 Africa in the Wider World: Connections, Contexts, Comparisons
This seminar is aimed at students of history, culture, literature, and the arts in the Americas, Europe, or Asia, who need to know something about African history and culture for their own research or studies. It is intended to help students identify, analyze, and incorporate selected scholarship on Africa into their particular area or disciplinary specializations. Topics covered include slavery and slave societies; diasporas and migrations, linguistic, religious and cultural transfers and survivals; and issues of identity, assimilation, nationalism, and pan-Africanism. We want to ask: how much African history, culture, language, and social structure do Americanists or other non-specialists need to know to do sound scholarship? What comparative questions should we be asking about Africa, and how can we find and utilize data that is reliable and relevant to our own work.
Taught by: Cassanelli
Course usually offered in fall term
Activity: Seminar
1 Course Unit

AFST 630 African History: Core Issues of Social Process
This graduate seminar explores the literature of African history while trying to find ways to understand history which happens on unfamiliar social and cultural terrain. The terrain is unfamiliar because the words professional historians use, and the underlying assumptions about social process, show the marks of many generations of writing about Europe. The standard histories, then, are torn between describing events in terms of European social process, in which case they do violence to the history, or finding a historical language which is closer to being locally grounded but unfamiliar to a western audience. In this course we study a number of core issues of social process. Each one is meant to direct attention to a complex of local social forms, and each is at the heart of a major body of writings of African history. A tentative list of topics includes the following: Oral tradition; knowledge and identity; ecology and ethnicity; forms of local authority and state power; ritual, conquest, and the transformation of political authority; political economy; gender and personal dependency; the ecological history of disease; popular associations and the state; the local bases of nationalism.
Taught by: Feierman
One-term course offered either term
Also Offered As: HIST 630, HSSC 630
Activity: Seminar
1 Course Unit

AFST 650 Topics in African History
Reading and discussion course on selected topics in African history
One-term course offered either term
Also Offered As: AFRC 650, HIST 650
Activity: Seminar
1 Course Unit

AFST 693 Africa Looks to Europe
Topics will vary. Seminar will focus on one area, author, or "problematique" in Francophone studies. Examples of area-focused seminar: The African contemporary novel or Francophone Caribbean writers. Example of single-author seminar: The Poetry and Drama of Aimé Césaire. Examples of thematic approach: writing and national identity; postcolonial conditions; autobiography.
Taught by: Moudillen
Course not offered every year
Also Offered As: FREN 693
Activity: Seminar
1 Course Unit

AFST 696 Postco Theory Francophon
Also Offered As: COML 696, FREN 696
Activity: Seminar
1 Course Unit

AFST 701 Graduate Seminar in African Studies
Topics vary. Please consult The African Studies Center for details.
Course usually offered in spring term
Also Offered As: AFRC 701
Activity: Seminar
1 Course Unit

AFST 705 Seminar in Ethnomusicology
Topics in Ethnomusicology. Spring 2010: Imagining Africa Musically: This seminar considers ways in which scholars write about and imagine the African continent through the lens of musical performance. We will consider a range of writings about Africa as a continent, regionally, and nationally, including north Africa and the Maghreb through series of themes including: diaspora, cosmopolitanism, gender, spirituality, and as world music. This is a reading and listening intensive seminar.
Taught by: Muller
Course usually offered in fall term
Also Offered As: AFRC 705, ANTH 705, FOLK 715, GSWS 705, MUSC 705
Activity: Seminar
1 Course Unit

AFST 740 Research Seminar in Middle Eastern History
Research seminar on selected topics in Middle Eastern history.
One-term course offered either term
Also Offered As: HIST 740
Activity: Seminar
1 Course Unit

AFST 775 South African Literature
An advanced seminar in anglophone African literature, possibly including a few works in translation.
Taught by: Barnard
Course not offered every year
Also Offered As: ENGL 775
Activity: Seminar
1 Course Unit
AFRC 001 Introduction to Africana Studies
The aim of this course is to provide an interdisciplinary examination of the complex array of African American and other African Diaspora social practices and experiences. This class will focus on both classic texts and modern works that provide an introduction to the dynamics of African American and African Diaspora thought and practice. Topics include: What is Africana Studies?; The History Before 1492; Creating the African Diaspora After 1500; The Challenge of Freedom; Race, Gender and Class in the 20th Century; From Black Studies to Africana Studies: The Future of Africana Studies.
For BA Students: Humanities and Social Science Sector
Taught by: Beavers, Butler, Charles, Johnson, Savage, Tillet, Zuberi
One-term course offered either term
Also Offered As: ENGL 071, RELS 007, SOCI 027
Activity: Lecture
1 Course Unit

AFRC 002 Introduction to Sociology
We live in a country which places a premium on individual accomplishments. Hence, all of you worked extremely hard to get into Penn. Yet, social factors also have an impact on life chance. This class provides an overview of how membership in social groups shapes the outcomes of individuals. We will look at a range of topics from the organizational factors which promoted racial inequality in Ferguson, Mo to the refusal of (mostly elite) parents to vaccinate their children. The experience of women and men in the labor market -- and the social factors that lead women to earn less than men -- is another interesting topic taken up in the course. Who gets ahead in America? Course requirements include a midterm, research paper (five to six pages), final and recitation activities. Students are not expected to have any previous knowledge of the topic. Welcome to the course!
For BA Students: Society Sector
Taught by: Imoagene, Zuberi
One-term course offered either term
Also Offered As: SOCI 001
Activity: Recitation
0 Course Units

AFRC 006 Race and Ethnic Relations
The course will focus on race and ethnicity in the United States. We begin with a brief history of racial categorization and immigration to the U.S. The course continues by examining a number of topics including racial and ethnic identity, interracial and interethnic friendships and marriage, racial attitudes, mass media images, residential segregation, educational stratification, and labor market outcomes. The course will include discussions of African Americans, Whites, Hispanics, and Asian Americans and Multiracials.
Taught by: Charles, Kao, Zuberi
One-term course offered either term
Also Offered As: ASAM 006, SOCI 006, URBS 160
Activity: Lecture
1 Course Unit
AFRC 017 Topics in Literature
Freshmen Seminars under the title "Topics in Literature" will afford entering students who are considering literary study, the opportunity to explore a particular and limited subject with a professor whose current work lies in that area. Topics may range from the lyric poems of Shakespeare’s period to the ethnic fiction of contemporary America. Small class-size will insure all students the opportunity to participate in lively discussions. Students may expect frequent and extensive writing assignments, but these seminars are not writing courses; rather they are intensive introductions to the serious study of literature. See the Africana Studies Department’s website at https://africana.sas.upenn.edu for a description of the current offerings.
Taught by: Beavers, Jaji, Tillet
One-term course offered either term
Also Offered As: ENGL 016
Activity: Seminar
1 Course Unit
Notes: Freshmen Seminar, Arts Scholars Program

AFRC 019 AFAM Freshman Seminar
This course will introduce students to a more hemispheric understanding of the American experience, through the writings of many authors from the New World, including the United States, on what it means to be an American. Students will read texts from many genres including but not limited to poetry, film, prose, political speeches and autobiography, to come to terms with histories of native Americans, African-Americans, Latinos, and whites in the United States, as well as peoples of South America and the Caribbean. In the process students will become familiar with scholarship across the social sciences and humanities that consider issues of race, culture, nation, freedom and inequality in the Americas, and how racial slavery and the Afro-American hemispheric experience has informed multiple American visions.
Taught by: Hanchard
Course usually offered in fall term
Activity: Seminar
1 Course Unit

AFRC 041 Homelessness & Urban Inequality
This freshman seminar examines the homelessness problem from a variety of scientific and policy perspectives. Contemporary homelessness differs significantly from related conditions of destitute poverty during other eras of our nation’s history. Advocates, researchers and policymakers have all played key roles in defining the current problem, measuring its prevalence, and designing interventions to reduce it. The first section of this course examines the definitional and measurement issues, and how they affect our understanding of the scale and composition of the problem. Explanations for homelessness have also been varied, and the second part of the course focuses on examining the merits of some of those explanations, and in particular, the role of the affordable housing crisis. The third section of the course focuses on the dynamics of homelessness, combining evidence from ethnographic studies of how people become homeless and experience homelessness, with quantitative research on the patterns of entry and exit from the condition. The final section of the course turns to the approaches taken by policymakers and advocates to address the problem, and considers the efficacy and quandaries associated with various policy strategies.
The course concludes by contemplating the future of homelessness research and public policy.
Taught by: Culhane
One-term course offered either term
Also Offered As: SOCI 041, URBS 010
Activity: Seminar
1 Course Unit
Notes: This freshmen seminar is cross-listed with URBS 010 when the subject matter is related to African, African American, or other Diaspora issues. A recent topic is "Homelessness and Urban Inequality." See the Africana Studies Department's website at https://africana.sas.upenn.edu for a description of the current offerings.

AFRC 050 World Musics and Cultures
This course examines how we as consumers in the "Western" world engage with musical difference largely through the products of the global entertainment industry. We examine music cultures in contact in a variety of ways—particularly as traditions in transformation. Students gain an understanding of traditional music as live, meaningful person-to-person music making, by examining the music in its original site of production, and then considering its transformation once it is removed, and recontextualized in a variety of ways. The purpose of the course is to enable students to become informed and critical consumers of "World Music" by telling a series of stories about particular recordings made with, or using the music of, peoples culturally and geographically distant from the US. Students come to understand that not all music downloads containing music from unfamiliar places are the same, and that particular recordings may be embedded in intriguing and controversial narratives of production and consumption. At the very least, students should emerge from the class with a clear understanding that the production, distribution, and consumption of world music is rarely a neutral process.
For BA Students: Arts and Letters Sector
Taught by: Muller, Rommen
One-term course offered either term
Also Offered As: AFST 050, ANTH 022, FOLK 022, MUSC 050
Activity: Lecture
1 Course Unit
AFRC 056 South Africa: Contemporary Performance
The course begins with four two-hour online classes that provide an overview of South African music, dance, and theater beginning two weeks before the festival. Students will be expected to post to blogs and discussion forums about course materials, audio, video, and readings—provided online prior to leaving for South Africa. These blogs and discussion materials will be fully integrated into the online lectures. The Grahamstown Festival includes a wide range of events: we will focus on South African jazz, gospel, and art music, with some discussion of dance and theater. All students will be required to post daily to blogs and discussion forums while at the Festival. The class will conclude with two days of discussion, synthesis, and a final essay.
Taught by: Muller
Course usually offered summer term only
Also Offered As: AFST 056, COML 056, MUSC 056
Activity: Seminar
1 Course Unit

AFRC 070 Colonial Latin America
This course provides an introduction to the broad literature on Latin America’s rich colonial history. We will begin by tracing some of the early origins of - and points of contact between - the Indian, Iberian, and African men and women who formed the basis of colonial society. As the course progresses, we will explore the variety of ways in which colonial subjects lived, worked, ate, worshipped and socialized. Lectures and reading assignments will draw upon a variety of sources, including court cases, artistic renderings, city maps and street plans, travel accounts of visits to the region, and the material, cultural, and intellectual products made possible by the wealth and dynamism of the seventeenth and eighteenth centuries. The course will conclude with an analysis of the Age of Revolutions, a period of dramatic upheaval that remains at the center of lively scholarly debates. By the end of the semester, students will be able to engage the key questions driving these debates, the most important of which, perhaps, is: what is Latin America’s colonial legacy?
For BA Students: History and Tradition Sector
Taught by: Farnsworth-Alvear, Walker
Course usually offered in fall term
Also Offered As: HIST 070, LALS 070
Activity: Lecture
1 Course Unit
Notes: Fulfills History Tradition Distribution Requirement

AFRC 071 Literatures of Africa and the African Diaspora
This course explores an aspect of the literature of Africa and the African Diaspora; specific course topics will vary from year to year. See the Africana Studies Department’s website at https://africana.sas.upenn.edu for a description of the current offerings.
Course not offered every year
Also Offered As: AFST 071, ENGL 071
Activity: Lecture
1 Course Unit

AFRC 075 Africa Before 1800
Survey of major themes and issues in African history before 1800. Topics include: early civilizations, African kingdoms and empires, population movements, the spread of Islam, and the slave trade. Also, emphasis on how historians use archaeology, linguistics, and oral traditions to reconstruct Africa’s early history.
For BA Students: History and Tradition Sector
Taught by: Babou
Course usually offered in spring term
Also Offered As: AFST 075, HIST 075
Activity: Recitation
1 Course Unit

AFRC 076 Africa Since 1800
Survey of major themes, events, and personalities in African history from the early nineteenth century through the 1960s. Topics include abolition of the slave trade, European imperialism, impact of colonial rule, African resistance, religious and cultural movements, rise of naturalism and pan-Africanism, issues of ethnicity, and “tribalisms” in modern Africa.
For BA Students: History and Tradition Sector
Taught by: Cassanelli
Course usually offered in fall term
Also Offered As: AFST 076, HIST 076
Activity: Recitation
1 Course Unit

AFRC 077 Jazz Style and History
This course is an exploration of the family of musical idioms called jazz. Attention will be given to issues of style development, selective musicians, and to the social and cultural conditions and the scholarly discourses that have informed the creation, dissemination and reception of this dynamic set of styles from the beginning of the 20th century to the present.
Taught by: Ramsey
Course not offered every year
Also Offered As: MUSC 035
Activity: Lecture
1 Course Unit

AFRC 078 Faculty-Student Collaborative Action Seminar in Urban University-Community Relations
A primary goal of the seminar is to help students develop proposals as to how a Penn undergraduate education might better empower students to produce, not simply “consume,” societally-useful knowledge, as well as function as caring, contributing citizens of a democratic society. Please note new location of the class: The Netter Conference Room is on 111 South 38th Street, on the 2nd floor. Among other responsibilities, students focus their community service on college and career readiness at West Philadelphia High School and Sayre High School. Students are typically engaged in academically based community service learning at the schools for two hours each week.
Taught by: Harkavy
One-term course offered either term
Also Offered As: HIST 173, URBS 178
Activity: Seminar
1 Course Unit
AFRC 079 Literatures of Jazz
That modernism is steeped as much in the rituals of race as of innovation is most evident in the emergence of the music we have come to know as jazz, which results from collaborations and confrontations taking place both across and within the color line. In this course we will look at jazz and the literary representations it engendered in order to understand modern American culture. We will explore a dizzying variety of forms, including autobiography and album liner notes, biography, poetry, fiction, and cinema. We'll examine how race, gender, and class influenced the development of jazz music, and then will use jazz music to develop critical approaches to literary form. Students are not required to have a critical understanding of music. Class will involve visits from musicians and critics, as well as field trips to some of Philadelphia's most vibrant jazz venues. Topics vary. See the Africana Studies Department's website at https://africana.sas.upenn.edu for a description of the current offerings.
Taught by: Beavers
Course not offered every year
Also Offered As: ENGL 080
Activity: Lecture
1 Course Unit

AFRC 080 Introduction to American Literature
A consideration of outstanding literary treatments of American culture from its beginnings until the dawn of the 20th century. Works read generally include autobiographies and travel accounts as well as fiction and poetry.
Course usually offered in spring term
Activity: Seminar
1 Course Unit
Notes: This course is cross-listed with ENGL 080 (Introduction to American Literature) when the course content is related to Afro-American issues. Topics vary. Consult the Center for Africana Studies for a detailed course description.

AFRC 081 African-American Literature
This introduction to African-American literature will begin with contemporary, groundbreaking texts such as Claudia Rankines Citizen: An American Lyric and Toni Morrisons A Mercy. These twenty-first century texts will lead us to the questions about freedom, beauty, struggle, pleasure, and resistance that shape the origins of African American literature. The course will be shaped around circles of influence (not a linear mapping of a literary tradition). These circles of the changing same become the art of flow, layering, and rupture. We will dive into the multidirectional flow of slave narratives/neo-slave narratives/black modernism/black postmodernism/black respectability politics/black radicalism, and mastery of form/deformation of mastery. See the Africana Studies Department's website at https://africana.sas.upenn.edu for a description of the current offerings.
Taught by: Beavers, Davis, Tillet
Course not offered every year
Also Offered As: ENGL 081, GSWS 081, MUSC 082
Activity: Lecture
1 Course Unit

AFRC 100 Intro to Art
Topics Vary. See the Africana Studies Department's website at https://africana.sas.upenn.edu for a description of the current offerings.
Taught by: Du Bois Shaw
One-term course offered either term
Also Offered As: ARTH 100
Activity: Seminar
1 Course Unit
Notes: For Freshmen only

AFRC 101 Study of an Author
This is an introduction to literary study through the works of a single author—often Shakespeare, but some versions of this course will feature other writers. We will read several works and approach them—both in discussion and in writing—from a range of critical perspectives. The author’s relation to his or her time, to literary history generally, and to the problems of performance, the likely to be emphasized. Some versions of this course will also serve as an introduction to other members of the English faculty, who will visit the class as guest lecturers. See the Africana Studies Department's website at https://africana.sas.upenn.edu for a description of the current offerings.
For BA Students: Arts and Letters Sector
Taught by: Davis
One-term course offered either term
Also Offered As: ENGL 101, GSWS 101
Activity: Lecture
1 Course Unit

AFRC 106 Study of a Literary Period
This is an introduction to literary study through a survey of works from a specific historical period. Some versions will begin with traditional stories or poems, including a sampling of works in translation. Others will focus exclusively on modern and contemporary American short fiction or poetry. See the Africana Studies Department's website at https://africana.sas.upenn.edu for a description of the current offerings.
Taught by: Davis
One-term course offered either term
Also Offered As: COML 104, ENGL 104
Activity: Lecture
1 Course Unit

AFRC 112 Discrimination: Sexual and Racial Conflict
This course is concerned with the structure, the causes and correlates, and the government policies to alleviate discrimination by race and gender in the United States. The central focus of the course is on employment differences by race and gender and the extent to which they arise from labor market discrimination versus other causes, although racial discrimination in housing is also considered. After a comprehensive overview of the structures of labor and housing markets and of nondiscriminatory reasons (that is, the cumulative effects of past discrimination and/or experiences) for the existence of group differentials in employment, wages and residential locations, various theories of the sources of current discrimination are reviewed and evaluated. Actual government policies and alternatives policies are evaluated in light of both the empirical evidence on group differences and the alternative theories of discrimination.
For BA Students: Society Sector
Taught by: Madden
Course usually offered in spring term
Also Offered As: GSWS 114, SOCI 112
Activity: Lecture
1 Course Unit
AFRC 114 Poetry Writing Workshop
This workshop is intended to help students with prior experience writing poetry develop techniques to generate poems along with the critical tools necessary to revise and complete them. Through in-class exercises, weekly writing assignments, readings of established poets, and class critique, students will acquire an assortment of resources that will help them develop a more concrete sense of voice, rhythm, metaphor, and the image as well as a deeper understanding of how these things come together to make a successful poem. In addition to weekly writings, students will be asked to keep a journal, and to produce a final portfolio of poems.
Taught by: Beavers
Course usually offered in fall term
Also Offered As: ENGL 113
Activity: Seminar
1 Course Unit
Notes: This course is not open to freshmen. Students wishing to take this course must submit a writing sample as part of the selection process.

AFRC 115 Religious Ethics and Modern Society
Religious beliefs of Malcolm X and MLK formed their social action during the Civil Rights for African Americans. This seminar will explore the religious biographies of each leader, how religion shaped their public and private personas, and the transformative and transgressive role that religion played in the history of the Civil Rights movement in the United States and abroad. Students in this course will leave with a clearer understanding of religious beliefs of Christianity, The Nation of Islam, and Islam, as well as religiously based social activism. Other course emphases include the public and private roles of religion within the context of the shaping of ideas of freedom, democracy, and equality in the United States, the role of the "Black church" in depicting messages of democracy and freedom, and religious oratory as exemplified through MLK and Malcolm X. See Africana Studies Department's website at https://africana.sas.upenn.edu for a description of the current offerings.
Taught by: Butler
One-term course offered either term
Also Offered As: RELS 112
Activity: Lecture
1 Course Unit

AFRC 117 African American Religion
The unique history and experiences of African Americans can be traced through religion and belief. Through the mediums of literature, politics, music, and film, students will pore the religious experiences of people of the African Diaspora within the context of the complex history of race in American history. The course will cover a broad spectrum of African American religious experience including Black Nationalism, urban religions, the "black church" and African religious traditions such as Santeria and Rastafarianism. Special attention will be paid to the role of race, gender, sexuality, and popular culture in the African American religious experience.
Taught by: Butler
One-term course offered either term
Also Offered As: ENGL 016, RELS 117
Activity: Lecture
1 Course Unit

AFRC 120 Social Statistics
This course offers a basic introduction to the application/interpretation of statistical analysis in sociology. Upon completion, you should be familiar with a variety of basic statistical techniques that allow examination of interesting social questions. We begin by learning to describe the characteristics of groups, followed by a discussion of how to examine and generalize about relationships between the characteristics of groups. Emphasis is placed on the understanding/interpretation of statistics used to describe and make generalizations about group characteristics. In addition to hand calculations, you will also become familiar with using PCs to run statistical tests.
Taught by: Charles
One-term course offered either term
Also Offered As: SOCI 120
Activity: Recitation
0 Course Units

AFRC 121 Writing for Children
We will read our favorite kids' books, determine the kinds of books we love to read and write, and then write them, aiming at a clear voice appropriate to the story, and as much order or misrule as each writer's kid-muse demands. For inspiration, we'll visit the Maurice Sendak Collection at the Rosenbach Museum and Library and have a nostalgia wallow in the kids' section at the library. Then students write, fast-fast, drafts of stories to workshop, mull and revise. Yes, fun is required. For sure we'll critique, but first we'll try to outrun our interior grown-up! Workshopping happens first with student writer colleagues, and then with the real kids in schools, through our partner West Philadelphia Alliance for Children. Reading to children will give student writers a chance to hear where children laugh, see where they look scared, or notice when they begin to fidget. Returning with revisions will be a promise fulfilled, and an important marker in the literary life of everyone involved. Our class will act as a team of editors, then, to submit stories-and illustrations by authors and/or kids-on the upcoming website, SafeKidsStories.org.
Taught by: Cary
One-term course offered either term
Also Offered As: ENGL 121
Activity: Seminar
1 Course Unit
Notes: This course is not open to freshmen. Students wishing to take this course must submit a writing sample as part of the selection process. May be repeated for credit with a different instructor.
AFRC 134 Creative Non-Fiction Writing
This class is designed to advance students' writing practice, discipline, and workshop and critiquing skills. Student writers will create non-fiction narrative in several forms: blogs, memoir, interviews, Q&As, essays. We will play with promotion, video, and social marketing, even grant proposals, advertisements, public service announcements, queries, and photo captions—all the forms that writers actually use throughout careers of deep reflection followed by hustle-and-pitch. The class will act as an editorial group for SafeKidsStories.org, a site to be launched in the fall of 2015. The idea is to depict safety with the specificity and drama that we usually reserve for conflict. Your writing will explore Big Questions about the social, emotional, relational and physical structures that affect our children and youth; your research, interviews, reporting, and experience will discover and share solutions. If we do the job right, we will shine a light on people in our midst creating structures of safety for kids in an era of fear. If we make it fun to read, look at, and listen to, too, then, like a few historic college courses that participate substantively in their communities, we'll be on our way to stealth culture change.
Taught by: Fetni
One-term course offered either term
Also Offered As: ENGL 135
Activity: Seminar
1 Course Unit

AFRC 135 Law and Society
After introducing students to the major theoretical concepts concerning law and society, significant controversial societal issues that deal with law and the legal systems both domestically and internationally will be examined. Class discussions will focus on issues involving civil liberties, the organization of courts, legislatures, the legal profession and administrative agencies. Although the focus will be on law in the United States, law and society in other countries of Africa, Asia, Europe and Latin America will be covered in a comparative context. Readings include research, reports, statutes and cases.
Taught by: Fetni
One-term course offered either term
Also Offered As: SOCI 135
Activity: Lecture
1 Course Unit

AFRC 137 Latin America: Law and Society in Comparative Context
This course will focus on Latin America, a region that is of great interest for those who seek to understand the law and society of today’s world. Latin America is an important region not only because of its large population and geographic significance, but also because of its rich cultural diversity and political and economic challenges.
Taught by: Cary
Course usually offered in fall term
Also Offered As: HIST 137
Activity: Seminar
1 Course Unit

AFRC 140 Elementary Zulu I in Residence
This elementary course is for beginners and requires no prior knowledge of Zulu. The course will expose students to the Zulu language and culture and will be based in the National Standards for Foreign Language Learning. Students will be engaged in communicative language learning through interpersonal, interpretive and presentational modes of language learning techniques. They will gain knowledge and understanding of the Zulu culture. They will make Zulu language and culture learning experience to connect with other disciplines and further their knowledge of these disciplines through perspectives acquired from their Zulu class. They will also develop insight into the nature of language and culture through comparisons of the Zulu language and culture and their own. Through movies, songs, and other cultural activities online students will acquire the natural use of the language which will enable them to acquire linguistic and cultural skills to become lifelong learners who can participate in Zulu communities in the U.S. and overseas.
Taught by: Mbeje
Course usually offered in fall term
Also Offered As: AFST 140
Activity: Lecture
0.05 Course Units
Notes: OBJECTIVE: Attainment of Level 1 (ceiling) in speaking, listening, reading, and writing skills on the Interagency Language Roundtable (ILR) scale.

AFRC 147 Studies in African American Music
This course explores aspects of the origins, style development, aesthetic philosophies, historiography, and contemporary conventions of African-American musical traditions. Topics covered include: the music of West and Central Africa, the music of colonial America, 19th century church and dance music, minstrelsy, music of the Harlem Renaissance, jazz, blues, gospel, hip-hop, and film music. Special attention is given to the ways that black music produces "meaning" and to how the social energy circulating within black music articulates myriad issues about American identity at specific historical moments. The course will also engage other expressive art forms from visual and literary sources in order to better position music making into the larger framework of African American aesthetics.
Taught by: Ramsey
Course usually offered every year
Also Offered As: FOLK 106, MUSC 235
Activity: Lecture
1 Course Unit

AFRC 160 Elementary Xhosa I
This elementary course is for beginners and requires no prior knowledge of Xhosa. The course will expose students to the Xhosa language and culture and will be based in the National Standards for Foreign Language Learning. Students will be engaged in communicative language learning through interpersonal, interpretive and presentational modes of language learning techniques. They will gain knowledge and understanding of the Xhosa culture. They will make Xhosa language and culture learning experience to connect with other disciplines and further their knowledge of these disciplines through perspectives acquired from their Xhosa class. They will also develop insight into the nature of language and culture through comparisons of the Xhosa language and culture and their own. Through movies, songs, and other cultural activities online students will acquire the natural use of the language which will enable them to acquire linguistic and cultural skills to become lifelong learners who can participate in Xhosa communities in the U.S. and overseas.
Taught by: Mbeje
Course usually offered in fall term
Also Offered As: AFST 160
Activity: Lecture
0.05 Course Units
Notes: OBJECTIVE: Attainment of Level 1 (ceiling) in speaking, listening, reading, and writing skills on the Interagency Language Roundtable (ILR) scale.

This seminar will examine the experiences of recent African immigrants and refugees in Philadelphia in an historical framework. We will employ a variety of sources—newspapers, census data, legal briefs, literature and film, and diaspora internet sites—to explore the lives, aspirations, and perceptions of Philadelphia’s African residents. There will be opportunities for dialogue with high school students, teachers, and parents; with representatives of African community and business organizations; and with local government and service agencies. Students will be required to do a final project which involves volunteering with an African immigrant non-profit or business and/or conducting focused research on specific African communities in Philadelphia.
Taught by: Cassanelli
Also Offered As: AFST 167, HIST 167, URBS 167
Activity: Seminar
1 Course Unit
AFRC 168 History of American Law to 1877
This course surveys the development of law in the U.S. to 1877, including such subjects as: the evolution of the legal profession, the transformation of English law during the American Revolution, the making and implementation of the Constitution, and issues concerning business and economic development, the law of slavery, the status of women, and civil rights.
Taught by: Berry
Course usually offered in fall term
Also Offered As: HIST 168
Activity: Lecture
1 Course Unit

AFRC 169 History of American Law Since 1877
This course covers the development of legal rules and principles concerning individual and group conduct in the United States since 1877. Such subjects as regulation and deregulation, legal education and the legal profession, and the legal status of women and minorities will be discussed.
Taught by: Berry
Course usually offered in spring term
Also Offered As: HIST 169
Activity: Lecture
1 Course Unit

AFRC 170 Elementary Yoruba I
This Elementary Yoruba I course can be taken to fulfill a language requirement, or for linguistic preparation to do research on Nigeria and the diaspora/Africa-related topics. The course emphasizes communicative competence to enable the students to acquire linguistic and extra-linguistic skills in Yoruba. The content of the course is selected from various everyday life situations to enable the students to communicate in predictable common daily settings. Culture, as it relates to language use, is also part of the course content. Students will acquire the speaking, listening, reading, and writing skills at the mid-high novice level, based on the ACTFL scale. The mid-high novice level proficiency skills that the students will acquire constitute threshold capabilities of the second semester range of proficiency to prepare students for Elementary Yoruba II course materials.
For BA Students: Language Course
Taught by: Awoyale
Course usually offered in fall term
Also Offered As: AFST 170, AFST 517
Activity: Lecture
1 Course Unit
Notes: Offered through the Penn Language Center

AFRC 171 Elementary Yoruba II
The main objective of this course is to further sharpen the Yoruba linguistic knowledge that the student acquired in level I. By the end of the course, the student should be able to (1) read, write, and understand simple to moderately complex sentences in Yoruba; and, (2) advance in the knowledge of the Yoruba culture.
For BA Students: Language Course
Taught by: Awoyale
Course usually offered in spring term
Also Offered As: AFRC 517, AFST 171, AFST 518
Prerequisites: Completion of Elementary Yoruba I, or permission of instructor.
Activity: Lecture
1 Course Unit
Notes: Offered through the Penn Language Center

AFRC 172 The American South
This course will cover southern culture and history from 1607-1860, from Jamestown to secession. It traces the rise of slavery and plantation society, the growth of Southern sectionalism and its explosion into Civil War.
For BA Students: History and Tradition Sector
Taught by: Hahn
One-term course offered either term
Also Offered As: HIST 170
Activity: Recitation
1 Course Unit

AFRC 175 Society and Culture of Brazil
With its booming economy, the recent inauguration of its first female president, and its selection as host to the 2012 World Cup and Olympic games, Brazil is growing in global prestige. But amid all these exciting developments are devastating socioeconomic inequalities. Access to safe living conditions, livable wages, higher education, and overall social mobility remain painfully out of reach for many Brazilians, the majority of whom are the descendants of slaves. Why do these problems persist in a country that has had such an enduring and widespread reputation as a "racial democracy"? What are the possibilities of closing the equality gap in Brazil?
Taught by: Walker
Two terms. student may enter either term.
Also Offered As: HIST 175, LALS 175
Activity: Lecture
1 Course Unit

AFRC 176 Afro-American History 1550-1876
This course will study the history of African-Americans from their first encounter with Europeans in the 16th century to their emancipation during the Civil War. This course will concentrate on the variety of black responses to capture, enslavement, and forced acculturation in the New World, the difference in the slave experience of various New World countries, and the methods of black resistance and rebellion to varied slave systems will be investigated. The nature and role of the free black communities in antebellum American will also be studied.
For BA Students: History and Tradition Sector
Taught by: Akins, Williams
Two terms. student may enter either term.
Also Offered As: HIST 176
Activity: Lecture
1 Course Unit

AFRC 177 Afro-American History 1876 to Present
A study of the major events, issues, and personalities in Afro-American history from Reconstruction to the present. The course will also examine the different slave experiences and the methods of black resistance and rebellion in the various slave systems.
For BA Students: History and Tradition Sector
Taught by: Harris, Savage
One-term course offered either term
Also Offered As: HIST 177
Activity: Lecture
1 Course Unit
AFRC 180 Elementary Swahili I
The elementary Swahili course can be taken to fulfill a language requirement, or for linguistic preparation to do research on East Africa/Africa-related topics. The course emphasizes communicative competence to enable the students to acquire linguistic and extra-linguistic skills in Swahili. The content of the course is selected from various everyday life situations to enable the students to communicate in predictable common daily settings. Culture, as it relates to language use, is also part of the course content. Students will acquire the speaking, listening, reading, and writing skills at the mid-high novice level, based on the ACTFL scale. The mid-high level proficiency skills that the students acquire constitute threshold capabilities of the second semester range of proficiency to prepare students for Elementary Swahili II course materials.
For BA Students: Language Course
Taught by: Mshomba
Course usually offered in fall term
Also Offered As: AFST 180, AFST 580
Activity: Lecture
1 Course Unit
Notes: Offered through the Penn Language Center

AFRC 181 Elementary Swahili II
This course continues to introduce basic grammar, vocabulary, and the reading and writing of Swahili to new speakers. During this term, folktales, other texts, and film selections are used to help introduce important aspects of Swahili culture and the use of the language in wide areas of Africa.
For BA Students: Language Course
Taught by: Bolger
Course usually offered in spring term
Also Offered As: AFST 181, AFST 581
Prerequisites: Completion of Elementary Swahili I, or permission of instructor.
Activity: Lecture
1 Course Unit
Notes: Offered through the Penn Language Center

AFRC 190 Introduction to Africa
This course provides an introduction to the study of Africa in all its diversity and complexity. Our focus is cultural, geographical, and historical: we will seek to understand Africa's current place in the world political and economic order and learn about the various social and physical factors that have influenced the historical trajectory of the continent. We study the cultural formations and empires that emerged in Africa before European colonial invasion and then how colonialism reshaped those sociocultural forms. We'll learn about the unique kinds of kinship and religion in precolonial Africa and the changes brought about by the spread of Islam and Christianity. Finally, we'll take a close look at contemporary issues such as ethnic violence, migration, popular culture and poverty, and we'll debate the various approaches to understanding those issues.
For BA Students: Society Sector
Taught by: Hasty
Course usually offered in fall term
Also Offered As: AFST 190, ANTH 190
Activity: Lecture
1 Course Unit

AFRC 209 African Art
This selective survey will examine a variety of the circumstances of sub-Saharan African art, ranging from imperial to nomadic cultures and from ancient times to contemporary participation in the international market. Iconography, themes and style will be considered, as well as questions of modernity, religious impact, tradition and colonialism.
Course not offered every year
Also Offered As: AFST 209, ARTH 209
Activity: Lecture
1 Course Unit

AFRC 218 Race, Racism and American Law
The goal of this course is to study the role the law has played, and continues to play, in addressing the problems of racial discrimination in the United States. Contemporary issues such as racial profiling, affirmative action, and diversity will all be covered in their social and legal context. The basis for discussion will be assigned texts, articles, editorials and cases. In addition, interactive videos will also be used to aid class discussion. Course requirements will include a term paper and class presentations.
Taught by: Anderson
One-term course offered either term
Also Offered As: LGST 218
Activity: Lecture
1 Course Unit

AFRC 222 African Women's Lives: Past and Present
Restoring women to African history is a worthy goal, but easier said than done. The course examines scholarship over the past forty years that brings to light previously overlooked contributions African women have made to political struggle, religious change, culture preservation, and economic development from pre-colonial times to present. The course addresses basic questions about changing women's roles and human rights controversies associated with African women within the wider cultural and historical contexts in which their lives are lived. It also raises fundamental questions about sources, methodology, and representation, including the value of African women's oral and written narrative and cinema production as avenues to insider perspectives on African women's lives.
Taught by: Blakley
Course not offered every year
Also Offered As: AFST 222, GSWS 222
Activity: Lecture
1 Course Unit

AFRC 225 African Languages and Culture
The aim of the course is to provide an overall perspective on African languages and linguistics. No background in linguistics is necessary. Students will be introduced to theoretical linguistics—its concepts, theories, ways of argumentation, data collection, data analysis, and data interpretation. The focus will be on the languages and linguistics of Africa to provide you with the knowledge and skills required to handle the language and language-related issues typical of African conditions. We will cover topics related to formal linguistics (phonology/phonetics, morphology, syntax, and semantics), aspects of pragmatics as well as the general socio-linguistic character of African countries. We will also cover language in context, language and culture, borrowing, multilingualism, and cross-cultural communication in Africa.
Taught by: Mbeje
One-term course offered either term
Also Offered As: AFST 225
Activity: Lecture
1 Course Unit
**AFRC 230 Special Topics in Sociology**  
Topics vary. Recent courses offered include "Africana Urbanization," Race Relations in American Cities," and "Sociology of the Black Community."  
SPRING 2015: Race, Science and Society - What is the role of the life sciences in shaping our understanding of race? How has racial stratification influenced scientists and how have scientists constructed racial difference and helped to maintain or contest racial inequities in society? This seminar draws on an interdisciplinary body of biological and social scientific literature to explore the connections between race, science, and society in the United States from the eighteenth century to the current genmic age. After laying a historical foundation, we will focus on the recent expansion of genomic research and technologies that treat race as a biological category that can be identified at the molecular level, including race-specific pharmaceuticals, commercial ancestry testing, and racial profiling with DNA forensics. We will discuss the significance of this increase in race consciousness in genomic research and technology at a time when colorblindness and post-racialism are gaining popularity. Students will investigate further specific topics related to race, genetics, and biotechnologies in their research papers.  
Taught by: Charles, Zuberi, Roberts  
One-term course offered either term  
Also Offered As: AFRC 533, SOCI 230, SOCI 530  
Activity: Seminar  
1 Course Unit  
Notes: This course is cross-listed with SOCI 430 (Special Topics in Sociology) when the subject matter is related to African, African American, or other African Diaspora issues.

**AFRC 231 Cinema Francophone**  
This course will introduce students to recent films by major directors from Francophone Africa. While attention will be given to aesthetic aspects and individual creativity, the viewing and discussions will be mostly organized around a variety of (overlapping) themes: History; Tradition/Modernity; Urban Life; Gender and Sexuality; Politics. Class conducted in French.  
Taught by: Moudileno  
Course not offered every year  
Also Offered As: AFST 231, CIMS 210, FREN 231  
Activity: Seminar  
1 Course Unit

**AFRC 232 Race and Ethnic Politics**  
This course examines the role of race and ethnicity in the political discourse through a comparative survey of recent literature on the historical and contemporary political experiences of the four major minority groups (Blacks or African Americans, American Indians, Latinos or Hispanic Americans, and Asian Americans). A few of the key topics will include assimilation and acculturcation seen in the Asian American community, understanding the political direction of Black America in a pre and post Civil Rights era, and assessing the emergence of Hispanics as the largest minority group and the political impact of this demographic change. Throughout the semester, the course will introduce students to significant minority legislation, political behavior, social movements, litigation/court ruling, media and various forms of public opinion that have shaped the history of racial and ethnic minority relations in this country. Readings are drawn from books and articles written by contemporary political scientists.  
Taught by: Gillion  
Course not offered every year  
Also Offered As: PSCI 231  
Activity: Lecture  
0 Course Units  

**AFRC 235 Law and Social Change**  
Beginning with discussion of various perspectives on social change and law, this course then examines in detail the interdependent relationship between changes in legal and societal institutions. Emphasis will be placed on (1) how and when law can be an instrument for social change, and (2) how and when social change can cause legal change. In the assessment of this relationship, emphasis will be on the laws of the United States. However, laws of other countries and international law relevant to civil liberties, economic, social and political progress will be studied. Throughout the course, discussions will include legal controversies relevant to social change such as issues of race, gender and the law. Other issues relevant to State-Building and development will be discussed. A comparative framework will be used in the analysis of this interdependent relationship between law and social change.  
Taught by: Fetni  
One-term course offered either term  
Also Offered As: SOCI 235  
Activity: Lecture  
1 Course Unit

**AFRC 237 Undergrad Research Sem**  
Course usually offered in spring term  
Activity: Seminar  
1 Course Unit

**AFRC 240 Elementary Amharic I**  
The Elementary Amharic I course can be taken to fulfill a language requirement, or for linguistic preparation to do research on Ethiopia/Africa-related topics. The course emphasizes communicative competence to enable the students to acquire linguistic and extra-linguistic skills in Amharic. The content of the course is selected from various everyday life situations to enable the students to communicate in predictable common daily settings. Culture, as it relates to language use, is also part of the course content. Students will acquire the speaking, listening, reading, and writing skills at the mid-high novice level, based on the ACTFL scale. The mid-high novice level proficiency skills that the students will acquire constitute threshold capabilities of the second semester range of proficiency to prepare students for Elementary Amharic II course materials.  
For BA Students: Language Course  
Taught by: Hailu  
Course usually offered in fall term  
Also Offered As: AFRC 540, AFST 240, AFST 540, NELC 481  
Activity: Lecture  
1 Course Unit  
Notes: Offered through the Penn Language Center

**AFRC 241 Elementary Amharic II**  
Continuation of Elementary Amharic I.  
For BA Students: Language Course  
Taught by: Hailu  
Course usually offered in spring term  
Also Offered As: AFRC 541, AFST 241, AFST 541, NELC 482  
Prerequisites: Completion of Elementary Amharic I, or permission of the instructor.  
Activity: Lecture  
1 Course Unit  
Notes: Offered through the Penn Language Center
AFRC 242 Intermediate Amharic I
For BA Students: Language Course
Taught by: Hailu
Course usually offered in fall term
Also Offered As: AFRC 543, AFST 242, AFST 543, NELC 483
Activity: Lecture
1 Course Unit
Notes: Offered through the Penn Language Center

AFRC 243 Intermediate Amharic II
For BA Students: Last Language Course
Taught by: Zemichael
Course usually offered in spring term
Also Offered As: AFRC 544, AFST 243, AFST 544, NELC 484
Activity: Lecture
1 Course Unit
Notes: Offered through the Penn Language Center

AFRC 247 Advanced Amharic
An advanced Amharic course that will further sharpen the student's knowledge of the Amharic language and the culture of the Amharas. The learner's communicative skills will be further developed through listening, speaking, reading, and writing. There will also be discussions on cultural and political issues.
For BA Students: Advanced Language Course
Taught by: Zemichael
One-term course offered either term
Also Offered As: AFRC 548, AFST 247, AFST 547
Activity: Lecture
1 Course Unit
Notes: Offered through the Penn Language Center

AFRC 252 Human Rights
Sociology provides a unique way to look at human behavior and the world. We live in a world of diverse and conflicting values in which human rights and respect for human dignity have provided a platform for convergence. One important instance of such convergence has been the development of international norms prohibiting genocide, crimes against humanity, war crimes and ethnic cleansing. While there is agreement on fundamental principles as reflected in the Universal Declaration of Human Rights, differences in interpretation remain. A platform for convergence requires the engagement of a number of constituencies, in particular, state and inter-state entities, corporations, civil society and individuals, as well as the mutual reinforcement of their rights and duties. This course will critically cover the history, practice and social significance of human rights.
Taught by: Zuberi
Course not offered every year
Also Offered As: SOCI 252
Activity: Lecture
1 Course Unit

AFRC 258 Caribbean Music and Diaspora
This course considers Caribbean musics within a broad and historical framework. Caribbean musical practices are explored by illustrating the many ways that aesthetics, ritual, communication, religion, and social structure are embodied in and contested through performance. These initial inquiries open onto an investigation of a range of theoretical concepts that become particularly pertinent in Caribbean contexts – concepts such as post-colonialism, migration, ethnicity, hybridity, syncretism, and globalization. Each of these concepts, moreover, will be explored with a view toward understanding its connections to the central analytical paradigm of the course – diaspora. Throughout the course, we will listen to many different styles and repertoires of music ranging from calypso to junkanoo, from rumba to merengue, and from dance hall to zouk. We will then work to understand them not only in relation to the readings that frame our discussions but also in relation to our own North-American contexts of music consumption and production.
Taught by: Rommen
Course not offered every year
Also Offered As: ANTH 256, LALS 258, MUSC 257, MUSC 258
Activity: Lecture
1 Course Unit

AFRC 268 Contemporary Issues in the African Society
This course will deal with law and society in Africa. After surveying the various legal systems in Africa, the focus will be on how and to what extent the countries of Africa “re-Africanized” their legal systems by reconciling their indigenous law with western law and other legal traditions to create unified legal systems that are used as instruments of social change and development. Toward this end, the experiences of various African countries covering the various legal traditions will be included. Specific focus will be on laws covering both economic and social relations. This emphasis includes laws of contracts and civil wrongs, land law, law of succession, marriage and divorce and Africa’s laws of International Relations, among other laws. Throughout this course a comparative analysis with non-African countries will be stressed.
Taught by: Imoagene, Zuberi
Also Offered As: AFST 268, SOCI 268
Activity: Lecture
1 Course Unit

AFRC 269 Constitutional Law: Public Power & Civil Rights to 1912
This course explores the creation and transformations of the American constitutional system’s structures and goals from the nation’s founding through the period of Progressive reforms, the rise of the Jim Crow system, and the Spanish American War. Issues include the division of powers between state and national governments, and the branches of the federal government; economic powers of private actors and government regulators; the authority of governments to enforce or transform racial and gender hierarchies; and the extent of religious and expressive freedoms and rights of persons accused of crimes. We will pay special attention to the changing role of the Supreme Court and its decisions in interpreting and shaping American constitutionalism, and we will also read legislative and executive constitutional arguments, party platforms, and other influential statements of American constitutional thought.
Taught by: Smith
One-term course offered either term
Also Offered As: PSCI 271
Activity: Recitation
1 Course Unit
AFRC 270 Intermediate Yoruba I
For BA Students: Language Course
Taught by: Awoyale
Course usually offered in fall term
Also Offered As: AFST 270, AFST 529
Activity: Lecture
1 Course Unit
Notes: Offered through the Penn Language Center

AFRC 271 Intermediate Yoruba II
For BA Students: Last Language Course
Taught by: Awoyale
Course usually offered in spring term
Also Offered As: AFRC 534, AFST 271, AFST 532
Activity: Lecture
1 Course Unit
Notes: Offered through the Penn Language Center

AFRC 276 African American Life and Culture in Slavery
This course will examine the lives of enslaved African Americans in the United States, both in the North and the South. We will engage historiographical debates, and tackle questions that have long concerned historians. For example, if slaves were wrenched from families and traded, could they sustain family relationships? If slaves worked from sun-up until sun-down, how could they create music? We will engage with primary and secondary sources to expand our understandings of values, cultural practices, and daily life among enslaved people. Topics will include: literacy, family, labor, food, music and dance, hair and clothing, religion, material culture, resistance, and memories of slavery. Several disciplines including History, Archaeology, Literature, and Music, will help us in our explorations. Written, oral, and artistic texts for the course will provide us with rich sources for exploring the nuances of slave life, and students will have opportunities to delve deeply into topics that are of particular interest to them.
Taught by: Williams
Course not offered every year
Also Offered As: HIST 274
Activity: Lecture
1 Course Unit
Notes: This course will also count as the AFRC 176 requirement for the AFRC major.

AFRC 280 Intermediate Swahili I
For BA Students: Language Course
Taught by: Mshomba
Course usually offered in fall term
Also Offered As: AFST 280, AFST 582
Activity: Lecture
1 Course Unit
Notes: Offered through the Penn Language Center

AFRC 281 Topics in African American Literature
In this advanced seminar, students will be introduced to a variety of approaches to African American literatures, and to a wide spectrum of methodologies and ideological postures (for example, The Black Arts Movement). The course will present an assortment of emphases, some of them focused on geography (for example, the Harlem Renaissance), others focused on genre (autobiography, poetry or drama), the politics of gender and class, or a particular grouping of authors. Previous versions of this course have included "African American Autobiography," "Backgrounds of African American Literature," "The Black Narrative" (beginning with eighteenth century slave narratives and working toward contemporary literature), as well as seminars on urban spaces, jazz, migration, oral narratives, black Christianity, and African-American music. See Africana Studies Department's website at https://africana.sas.upenn.edu for a description of the current offerings.
Taught by: Beavers, Davis, Jackson, Tillet
Course not offered every year
Also Offered As: ENGL 281
Activity: Seminar
1 Course Unit
Notes: Spaces will be reserved for English Majors.

AFRC 282 Intermediate Swahili II
For BA Students: Last Language Course
Taught by: Mshomba
Course usually offered in spring term
Also Offered As: AFST 281, AFST 583
Prerequisites: Intermediate Swahili 1, or permission of Instructor.
Activity: Lecture
1 Course Unit
Notes: Offered through the Penn Language Center

AFRC 284 Advanced Swahili I
This is an advanced Kiswahili course which will engage learners in extended spoken and written discourse. Advanced learners of Kiswahili will listen to, read about, write, and speak on authentic video materials, contemporary novels, and newspapers. They will also participate in various discussions on cultural and political issues.
For BA Students: Advanced Language Course
Taught by: Mshomba
One-term course offered either term
Also Offered As: AFST 284, AFST 584
Prerequisites: AFST 280, LING 280, AFRC280 or permission of Instructor.
Activity: Lecture
1 Course Unit
Notes: Offered through the Penn Language Center

AFRC 285 Advanced Swahili II
For BA Students: Advanced Language Course
Taught by: Mshomba
Course usually offered in spring term
Also Offered As: AFST 285, AFST 586
Activity: Lecture
1 Course Unit
Notes: Offered through the Penn Language Center
AFRC 294 Facing America
This course explores the visual history of race in the United States as both self-fashioning and cultural mythology by examining the ways that conceptions of Native American, Latino, and Asian identity, alongside ideas of Blackness and Whiteness, have combined to create the various cultural ideologies of class, gender, and sexuality that remain evident in historical visual and material culture. We will also investigate the ways that these creations have subsequently helped to launch new visual entertainments, including museum spectacles, blackface minstrelsy, and early film, from the colonial period through the 1940s.
Taught by: Shaw
Course not offered every year
Also Offered As: ARTH 274, ARTH 674, ASAM 294, CIMS 293
Activity: Lecture
1 Course Unit

AFRC 303 Undergraduate Seminar
Topic varies. This course is cross-listed with ARTH 301 (Undergraduate Seminar) when the subject matter is related to African, African American, or other African Diaspora issues. See the Africana Studies Department's website at https://africana.sas.upenn.edu for a description of the current offerings.
Taught by: Shaw
Course not offered every year
Activity: Seminar
1 Course Unit
Notes: This course is cross-listed with RELS 310 (Religious Diversity in America) when the subject matter is related to African, African American, or other African Diaspora issues. A recent topic is Religious Diversity and Social Change in West Philadelphia.

AFRC 307 Race, Science and Justice
This course draws on an interdisciplinary body of biological and social scientific literature to explore critically the connections between race, science, and justice in the United States, including scientific theories of racial inequality, from the eighteenth century to the genomic age. After investigating varying concepts of race, as well as their uses in eugenics, criminology, anthropology, sociology, neuroscience, and medicine, we will focus on the recent expansion of genomic research and technologies that treat race as a biological category that can be identified at the molecular level, including race-specific pharmaceuticals, commercial ancestry testing, and racial profiling with DNA forensics. We will discuss the significance of scientific investigations of racial difference for advancing racial justice in the United States.
Taught by: Roberts
One-term course offered either term
Also Offered As: SOCI 307
Activity: Lecture
1 Course Unit

AFRC 308 Religious Diversity in America
SPRING 2017 TOPIC: American Jesus - Images and beliefs about Jesus have always been a compelling part of American life. This course seeks to examine the social, political, religious and artistic ways that Jesus has been appropriated and used in American life, making him a unique figure for exploring American religious life. Special attention will be given to how Jesus is used to shape social and political concerns, including race, gender, sexuality, and culture. See the Africana Studies Department's website at https://africana.sas.upenn.edu for a description of the current offerings.
Taught by: Butler
Course not offered every year
Activity: Seminar
1 Course Unit
Notes: This course is cross-listed with RELS 310 (Religious Diversity in America) when the subject matter is related to African, African American, or other African Diaspora issues. A recent topic is Religious Diversity and Social Change in West Philadelphia.

AFRC 310 Sustainable Development in Ghana
This course is mandatory for students participating in the International Development Summer Institute (IDSI). IDSI is a service learning and training program for undergraduates that provides students with the opportunity to have an applied learning and cultural experience in Ghana. The program consists of 5 weeks of pre-program preparation at Penn and a 4-week long training program on the campus of Kwame Nkrumah University of Science and Technology (KNUST) in Kumasi, Ghana. More Info: http://www.seas.upenn.edu/undergraduate/service-learn/idsi/index.php
Course usually offered in fall term
Prerequisite: Participation in the International Development Summer Institute (IDSI)
Activity: Seminar
1 Course Unit

AFRC 315 Africa, Decolonization, and Internationalism
In 1955, delegates from the Gold Coast, which would soon become the independent nation of Ghana, attended the first large-scale Afro-Asian conference alongside representatives from Indonesia, India, China, and other nations. The Bandung Conference is just one example of the importance of international linkages in the era of decolonization. This course will address decolonization in Africa within an international context and examine how African nationalism was forged in an interconnected world. Students will learn how African political thinkers engaged with, contributed to, and were shaped by intercontinental currents of thought, including Pan-Africanism, Pan-Arabism, communism, socialism, and the Non-Aligned Movement.
Taught by: Weitzberg
Course usually offered in spring term
Activity: Lecture
1 Course Unit
AFRC 320 Transoceanic Encounters: East Africa and the Indian Ocean
East Africa has been linked culturally, economically, and politically to the wider Indian Ocean world for centuries. In historical scholarship, the Indian Ocean is often portrayed in overly romanticized terms as a hybrid, cosmopolitan space. This course, which brings together some of the best work on East Africa and the Indian Ocean, will provide a more nuanced view of the region. By critically examining a variety of primary and secondary sources (including novels, photography exhibits, music, and historical texts), students will learn about the legacies of slavery, conquest, and inequality as well as the ways in which the region became a space of multicultural exchange and intercontinental interaction. We will explore the idea of African diasporas in their plurality and examine whether the theoretical tools used to study the Atlantic World can be applied to the Indian Ocean.

Taught by: Weitzberg
Course usually offered in spring term
Also Offered As: HIST 374
Activity: Lecture
1 Course Unit

AFRC 321 Understanding African Conflict
The end of colonial rule was the spring board for the start of cold wars in various regions of Africa. Where peace could not be maintained violence erupted. Even where secession has been attained, as in the new country of South Sudan, the threat of civil war lingers. While domestic politics have led to the rise of armed conflicts and civil wars in many African countries, the external factors should also not be ignored. Important in all current conflicts is the concern to international peace and security. Overall this course will: (1) investigate the general nature of armed conflicts in Africa (2) provide in-depth analysis of the underlining factors (3) and discuss the regional and the international responses to these conflicts and their implications. Special emphasis will be placed upon African conflicts and civil wars in: great Lakes area, Mali, Nigeria, Senegal, Sudan, Somalia, South Sudan, and Uganda.

Taught by: Ali-Dinar
Course usually offered in fall term
Activity: Seminar
1 Course Unit

AFRC 322 AMERICAN SLAVERY AND THE LAW
In this course, we will work both chronologically and thematically to examine laws, constitutional provisions, and local and federal court decisions that established, regulated, and perpetuated slavery in the American colonies and states. We will concern ourselves both with change over time in the construction and application of the law, and the persistence of the desire to control and subjugate enslaved people. Our work will include engagement with secondary sources as well as immersion in the actual legal documents. Students will spend some time working with Mississippi murder cases from the 19th century. They will decipher and transcribe handwritten trial transcripts, and will historicize and analyze the cases with attention to procedural due process as well as what the testimony can tell us about the social history of the counties in which the murders occurred. The course will end with an examination of Black Codes that southern states enacted when slavery ended.

Taught by: WILLIAMS
Course usually offered in spring term
Also Offered As: HIST 322
Activity: Seminar
1 Course Unit

AFRC 324 Dress and Fashion in Africa
Throughout Africa, social and cultural identities of ethnicity, gender, generation, rank and status were conveyed in a range of personal ornamentation that reflects the variation of African cultures. The meaning of one particular item of clothing can transform completely when moved across time and space. As one of many forms of expressive culture, dress shape and give forms to social bodies. In the study of dress and fashion, we could note two distinct broad approaches, the historical and the anthropological. While the former focuses on fashion as a western system that shifted across time and space, and linked with capitalism and western modernity; the latter approach defines dress as an assemblage of modification the body. The Africanist proponents of this anthropological approach insisted that fashion is not a dress system specific to the west and not tied with the rise of capitalism. This course will focus on studying the history of African dress by discussing the forces that have impacted and influenced it overtime, such as socio-economic, colonialism, religion, aesthetics, politics, globalization, and popular culture. The course will also discuss the significance of the different contexts that impacted the choices of what constitute an appropriate attire for distinct situations. African dress in this context is not a fixed relic from the past, but a live cultural item that is influenced by the surrounding forces.

Taught by: Ali-Dinar
Course usually offered in spring term
Also Offered As: ANTH 342, ARTH 324
Activity: Lecture
1 Course Unit

AFRC 325 Performance in the African Diaspora
The purpose of this course is to engage students in the rigorous process of mining experiences for material that can be transformed into a public performance piece. In-class writing, group discussions, and field work in the Philadelphia area. AUGUST WILSON AND BEYOND. The people need to know the story. See how they fit into it. See what part they play. - August Wilson, King Hedley II. In this seminar, students will read groundbreaking playwright August Wilson's 20th Century Cycle: ten plays that form an iconic picture of African American traumas, triumphs, and traditions through the decades, told through the lens of Pittsburgh's Hill District neighborhood. Other readings include supporting material on Wilson's work and African American theatre, the works of contemporary playwrights whom Wilson has influenced (such as Suzan-Lori Parks and Tarell Alvin McCraney), and context on Penn's relationship with West Philadelphia. As an Academically Based Community Service (ABCS) course, this seminar gives students the opportunity to enhance their understanding of the plays, and history and culture that shaped them, by forming meaningful relationships with West Philadelphia residents. Wilson's plays provide the bridge between the two groups. The course culminates with students writing an original theatre piece inspired by the readings and relationships, which they will share at an end-of-semester performance.

Taught by: Beavers, Berger
One-term course offered either term
Also Offered As: ENGL 380
Activity: Seminar
1 Course Unit

Notes: Formerly AFRC 309. Writing Out Loud.
AFRC 326 Theories in Gender and Sexuality Studies  
FALL 2015: QUEER VALUES - What are queer cultural experiences and values? Many academics and social movements have noted that the radical aspirations of queer theory and activism not only disrupt but also shore up neoliberal ideologies. In this course students will explore the historical co-emergence of queer cultures and neoliberalism by examining the promises and pitfalls of queer politics over the past quarter century. The coining of queer theory by Theresa de Lauretis in 1990 was intended as a disruptive joke. Its provocation resided in joining queer, an appropriation of street slang bandied about among New York City activists and artists in the 1980s, to theory, the passport of privilege in academic life. The irreverence of her joke exemplifies a central ethic of queer experience that renders palpable the tensions between margins and centers. The course will traverse scholarship from economic and queer anthropology, history, sociology & science studies, philosophy, political theory and literary studies. This wide survey of literature will allow students to develop an understanding of the political and economic processes that have conditioned the emergence of queerness as a diverse range of ethical commitments in particular sociocultural contexts globally. Students will investigate the affective dimensions of the emergence of queer theory, studies and activism within the United States and elsewhere in the context of global neoliberal social reforms. The course is split into four units: 1) In the Place of Queer Origins; 2) Queer Values; 3) Queer Circulations and Subjectivities; and 4) Queer Temporalities. 
Taught by: Keirbeck  
Course usually offered in fall term  
Also Offered As: GSWS 326  
Prerequisites: A prior course in gender, sexuality and women's studies.  
Activity: Seminar  
1 Course Unit

AFRC 335 "Where My Girls At?": African American Women Performers in The 20th Century  
African American women performers from blues woman Bessie Smith to Paris revue star Josephine Baker, from jazz darling Billie Holiday to rock legend Tina Turner, and from hip hop giant Lauryn Hill to millennial star Beyoncé, have constantly redefined and expanded American popular music. Using the long 20th century as our historical marker, this course will explore how African American women performers, across genres and time, have consciously and sometimes contradictorily navigated the racial and sexual limits of American popular culture in order to assert their own particular narratives of artistic and political freedom. 
Taught by: Tillet  
Course usually offered in spring term  
Also Offered As: ENGL 281, GSWS 336  
Activity: Seminar  
1 Course Unit

AFRC 345 Race and Sex in Early America  
This course explores the lost worlds of sinners, witches, sexual offenders, rebellious slaves, and Native American prophets from the seventeenth to nineteenth centuries. Using the life stories of unusual individuals from the past, we try to make sense of their contentious relationships with their societies. By following the careers of the trouble-makers, the criminals, and the rebels, we also learn about the foundations of social order and the impulse to reform that rocked American society during the nineteenth century. 
Taught by: Brown  
Course usually offered in fall term  
Also Offered As: GSWS 345, HIST 345  
Activity: Lecture  
0 Course Units

AFRC 346 Gender in Modern American History  
This course explores how immigration, industrialization, racial segregation, and the growing authority of science transformed the fundamental conditions of women's lives in the late nineteenth and early twentieth centuries. Building on previous efforts by female reformers to perfect society, women at the turn of the century organized large social movements dedicated to improving the lives of women and children and gaining public access to political power. We will examine the fruits of this activism as well as the consequences of subsequent events for the rise of several important social movements in the latter half of the century -- including civil rights, women's liberation, and gay rights -- in which women played a vital role. The course concludes with an assessment of feminism in the present day, with special emphasis on the responses of younger women to its legacy. 
Taught by: Brown, Peiss  
Course usually offered in spring term  
Also Offered As: GSWS 346, HIST 346  
Activity: Recitation  
1 Course Unit

AFRC 352 Topics In 19th-Century American Literature  
This course explores an aspect of 19th-Century American literature intensively; specific course topics will vary from year to year. 
Taught by: Davis  
Course not offered every year  
Also Offered As: ENGL 353  
Activity: Seminar  
1 Course Unit  
Notes: Formerly ENGL 383. Benjamin Franklin Seminar

AFRC 371 Topics in the Literature of Africa and the African Diaspora  
This course explores an aspect of the literature of Africa and the African Diaspora intensively; specific course topics will vary from year to year. See the Africana Studies Department's website at https://africana.sas.upenn.edu for a description of the current offerings. 
Course not offered every year  
Also Offered As: ENGL 371  
Activity: Seminar  
1 Course Unit  
Notes: Benjamin Franklin Seminar

AFRC 372 Africa & the Mid-East  
This seminar will explore the historical relationship between these two regions from the early modern age to the present. We will examine the history of trade, particularly the slave trade, and its cultural and political legacy. We will compare the experiences of European imperialism--how the scramble for Africa dovetailed with the last decades of the Ottoman Empire--with an eye to how this shaped nationalist movements in both regions. The course will also explore the decades of independence with a special eye towards pan-Africanism and pan-Arabism. We will also study the ramifications of the Arab-Israeli conflict on the relationship between African and Middle-Eastern countries, from Uganda to Ethiopia, from OPEC to Darfur. This course will pay close attention to migrations through the regions, whether forced or economic or religious. Whenever possible we will explore, through film and literature, how people in Africa and the Middle East see their connections, and their differences. 
Taught by: Eve Troutt Powell, Young  
One-term course offered either term  
Also Offered As: AFST 373, HIST 371, HIST 412  
Activity: Seminar  
1 Course Unit
AFRC 381 Topics in African American Literature
In this advanced seminar, students will be introduced to a variety of approaches to African American literatures, and to a wide spectrum of methodologies and ideological postures (for example, The Black Arts Movement). The course will present an assortment of emphases, some of them focused on geography (for example, The Harlem Renaissance), others focused on genre (autobiography, poetry or drama), the politics of gender and class, or a particular grouping of authors. Previous versions of this course have included "African American Autobiography," "Backgrounds of African American Literatures," "The Black Narrative" (beginning with eighteenth century slave narratives and working toward contemporary literature), as well as seminars on urban spaces, jazz, migration, oral narratives, black Christianity, and African-American music. See the Africana Studies Department's website at https://africana.sas.upenn.edu for a description of the current offerings.
Course not offered every year
Also Offered As: ENGL 381
Activity: Seminar
1 Course Unit
Notes: Benjamin Franklin Seminar

AFRC 387 Topics in Africana Studies
Topics vary: Black Feminist Approaches to History & Memory - The term black feminism emerged in public discourse amid the social, political, and cultural turbulence of the 1960s. The roots of black feminism, however, are much older, easily reaching back to the work of black women abolitionists and social critics of the nineteenth century. The concept continued to grow and evolve in the work of twentieth century black women writers, journalists, activists, and educators as they sought to document black women's lives. Collectively, their work established black feminism as a political practice dedicated to the equality of all people. More recently, black feminism has been deployed as a tool for theoretical and scholarly analysis that is characterized by an understanding that race, class, gender, and sexuality are inextricably interconnected. Using materials such as slave narratives, social criticism, and archival sources, this course will explore the theoretical and practical applications of black feminist thought in nineteenth and twentieth century North American culture and politics. In particular, we will consider the symbols and practices (storytelling, myth-making, art, archival research) that black women use to document lives. We will ask: how do these methods of documentation inform our understanding of the past and the production of historical knowledge? How can we understand black feminism as both theory and practice? And what are the implications of black feminist approaches for current research and scholarship? We will give particular attention to concepts such as gender, race, memory, the archive, and embodied knowledge to complicate our understanding of historical documentation, epistemology, and authenticity. The course material will include scholarship by Harriet Jacobs, Audre Lorde, Saidiya Hartman, Hazel Carby, Hershey Young, Evelyn Brooks Higginbotham, Toni Morrison, and others. (Image: From In Praise of Shadows, Kara Walker (2009).) Taught by: Osiiju, Sanders-Johnson, Willis
One-term course offered either term
Also Offered As: COMM 387, GSWS 387, HIST 387, LALS 387, SOCI 340
Activity: Seminar
1 Course Unit

AFRC 391 Survey Francophone Literature
A brief introduction about the stages of French colonialism and its continuing political and cultural consequences, and then reading in various major works — novels, plays, poems — in French by authors from Quebec, the Caribbean, Africa (including the Maghreb), etc. of interest to majors in International Relations, Anthropology and African Studies as well as majors in French. Taught in French.
Taught by: Moudileno
Course not offered every year
Also Offered As: AFST 390, FREN 390
Activity: Seminar
1 Course Unit

AFRC 392 Topics in Cinema Studies
This topics course explores aspects of Cinema Studies intensively. Specific course topics vary from year to year. See the Africana Studies Department's website at https://africana.sas.upenn.edu for a description of the current offerings.
Course not offered every year
Also Offered As: ARTH 389, CIMS 392, COML 391, ENGL 392, SLAV 392
Activity: Seminar
1 Course Unit

AFRC 400 Seminar in Africana Studies
This course is an examination and analysis of the changing images and achievements of African Americans in motion pictures and television. The first half of the course focuses on African-American film images from the early years of D.W. Griffith's "renegade bucks" in The Birth of a Nation (1915); to the comic servants played by Steppin Fetchit, Hattie McDaniel, and others during the Depression era; to the post-World War II New Negro heroes and heroines of Pinky (1949) and The Defiant Ones (1958); to the rise of the new movement of African American directors such as Spike Lee (Do the Right Thing), Julie Dash (Daughters of the Dust), Charles Burnett, (To Sleep With Anger) and John Singleton (Boyz N the Hood). The second half explores television images from the early sitcoms "Amos 'n Andy" and "Beulah" to the "Cosby Show," "Fresh Prince of Bel Air" and "Martin." Foremost this course will examine Black stereotypes in American films and television—and the manner in which those stereotypes have reflected national attitudes and outlooks during various historical periods. The in-class screenings and discussions will include such films as Show Boat (1936), the independently produced "race movies" of the 1930s and 1940s, Cabin in the Sky (1943), The Defiant Ones (1958), Imitation of Life (the 1959 remake) & Super Fly (1972).
Taught by: Bogle
One-term course offered either term
Also Offered As: CIMS 370
Activity: Seminar
1 Course Unit

AFRC 431 Advanced Special Topics in Sociology
This course is cross-listed with SOCI 430 (Advanced Topics in Sociology) when the subject matter is related to African, African American, or other African Diaspora issues. Recent courses offered include "Race, Colonialism and Methods," "Residential Segregation," and Race, Space and Inequality. See the Africana Studies Department's website at https://africana.sas.upenn.edu for a description of the current offerings.
Taught by: Charles, Zuberi
Course not offered every year
Also Offered As: AFRC 630, SOCI 430, SOCI 630
Activity: Seminar
1 Course Unit
AFRC 433 Social Movement
Social movements and political protest have become some of the most effective tools for citizens and non-citizens to influence the political system. This course is designed to introduce students to the theoretical and methodological approaches taken in understanding these behaviors. Analyzing social movements that range from civil discontent to contentious political protest, the course will address a variety of questions: What is the origin of movement behavior and why do individuals turn to these actions in lieu of simply engaging in institutional modes of political action such as voting? What were the strategies of these movements? What are the political conditions that allow social movements to resonate with the American public? In addition to addressing these topics, this course surveys the policy successes of major social and political movements. From the Civil Rights and Women’s Right Movement to the recent 2010 Tea Party movement, this course explores the various public policies that have resulted from citizens’ protest actions. While state-level and local-level government responsiveness will be addressed, special attention will be given to how political protest influences public policy in all three branches of the federal government.
Taught by: Gillion
One-term course offered either term
Also Offered As: PSCI 433
Activity: Seminar
1 Course Unit

AFRC 435 Modern Presidency & Race
This seminar is designed to serve as a "capstone" experience for advanced undergraduates interested in American politics. It exposes students to some of the issues currently being studied and debated by the leading scholars in the field. For each topic we will read works that take competing or opposing positions on an issue; for example we will examine the current controversy over the causes and consequences of divided government. Students will write a research paper analyzing one of the debates.
Taught by: GILLION
Course not offered every year
Also Offered As: PSCI 434
Activity: Seminar
1 Course Unit

AFRC 436 Africana Studies Undergraduate Seminar
Taught by: Johnson
Course usually offered in spring term
Activity: Seminar
1 Course Unit

AFRC 437 Race & Criminal Justice
This seminar analyzes the connection between race, crime, punishment, and politics in the United States. The primary focus is on the role of race in explaining why the country's prison population exploded since the early 1970s and why the United States today has the highest incarceration rate in the world. Topics to be covered include: the early history of race in the development of the criminal justice system, including an examination of lynchings and the convict-leasing system; the relationship between the crime rate, patterns of offending and arrests, and the incarceration rate; public opinion and "law-and-order" politics; U.S. penal policies compared with other industrialized countries; capital punishment; the growth of the prison-industrial complex; the "war on drugs"; the courts, prisoners' rights, and political prisoners; felon disenfranchisement, elections, and democracy; and the future of penal reform. The class will take field trips to a maximum-security jail in Philadelphia and to a state prison in the Philadelphia suburbs. This seminar is intended for both advanced undergraduates and graduate students.
Taught by: Gottschalk
Course not offered every year
Also Offered As: AFRC 638, PSCI 437, PSCI 638
Activity: Seminar
1 Course Unit

AFRC 450 Black France: History and Representations
This class will focus on the rich history of the African, African-American and Caribbean presence in France. The seminar will enable students to gain a better understanding of the multifarious connections that have historically not only shaped national identities, but also served to establish the Black Atlantic as a site of cultural exchange and subject formation, particularly as pertains to the period extending from the end of the nineteenth-century to the present time. In particular, we will look at individual and collective migrations including World War soldiers, African-American expatriate writers and performers, Pan-African intellectuals, and workers from the former Empire. This will allow us to both document the historical significance of the various and complex contributions made by these select groups and people, and to examine the modalities of their representation within the evolving French society. Ultimately, the course is designed to investigate the idea of "blackness" from a European perspective, while relating it to wider debates about race and multiculturalism in a global context.
Taught by: Moudelino
One-term course offered either term
Also Offered As: FREN 490
Activity: Seminar
1 Course Unit
AFRC 480 Liberation and Ownership
Who is going to own what we all have a part of creating? The history of the Americas, and of all peoples everywhere, is an evolving answer to the question of ownership. Ownership is about: the ties that bind and those that separate; the creation of community and the imposition of hierarchies; the dream of home ownership and ecological despoliation; dependency and the slave yearning to breathe free. Of all the issues relevant to democracy, oppression, and economic injustice, ownership is arguably the most important and least understood. Utilizing a variety of disciplinary perspectives, and by focusing on particular global sites, students will assess and refine their views regarding ownership in light of their own social, political, religious, and/or ethical commitments.
Taught by: Lamas
Course usually offered in fall term
Also Offered As: URBS 480
Activity: Seminar
1 Course Unit

AFRC 491 African Language Tutorial - Elementary II
For BA Students: Language Course
One-term course offered either term
Also Offered As: AFST 491
Prerequisite: Permission of Penn Language Center
Activity: Lecture
1 Course Unit
Notes: Offered through Penn Language Center

AFRC 493 African Language Tutorial - Intermediate II
Continuation of AFST 492
For BA Students: Last Language Course
Course usually offered in spring term
Also Offered As: AFST 493
Prerequisite: Permission of Penn Language Center
Activity: Lecture
1 Course Unit

AFRC 495 African Language Tutor: Adv II
Continuation of AFST 494.
Course usually offered in spring term
Also Offered As: AFST 495
Prerequisite: Permission of Penn Language Center
Activity: Lecture
1 Course Unit

AFRC 497 Language & Culture II
Continuation of AFST 496
Course usually offered in spring term
Also Offered As: AFST 497
Prerequisites: Permission of Penn Language Center.
Activity: Lecture
1 Course Unit

AFRC 517 Elementary Yoruba II
The main objective of this course is to further sharpen the Yoruba linguistic knowledge that the student acquired in level I. By the end of the course, the student should be able to (1) read, write, and understand simple to moderately complex sentences in Yoruba; and (2) advance in the knowledge of the Yoruba culture.
For BA Students: Language Course
Taught by: Awoyle
Course usually offered in spring term
Also Offered As: AFRC 171, AFST 171, AFST 518
Activity: Lecture
1 Course Unit
Notes: Offered through Penn Language Center

AFRC 522 Psychology of the African-American
Using the Afro-centric philosophical understanding of the world, this course will focus on psychological issues related to African Americans, including the history of African American psychology, its application across the life span, and contemporary community issues.
Taught by: Stevenson
Course usually offered in spring term
Also Offered As: EDUC 522
Activity: Lecture
1 Course Unit

AFRC 524 INEQUALITY AND RACE POLICY
Taught by: Gillion
Course not offered every year
Also Offered As: PSCI 535
Activity: Seminar
1 Course Unit

AFRC 527 Advanced Seminars in Africana Studies
SPRING 2017: Market Women, Madames, Mistresses & Mother Superior studies gender, labor, sexuality, and race in the Caribbean. In our historical examination of primary source documents alongside literature, and popular media, we will question some of the iconic representations of Caribbean and Latin American women in order to understand the meaning, purpose and usages of these women s bodies as objects of praise, possession, obsession and/or ridicule by communities, governments and religions within and outside of the region. Beginning in the late-18th century and ending with contemporary migration narratives, this course considers the relationship between slave society and colonial pasts on gender performance in the modern Caribbean, Latin America, and their diasporas.
Taught by: Sanders Johnson
One-term course offered either term
Also Offered As: GSWS 527, HIST 660, LALS 527
Activity: Seminar
1 Course Unit

AFRC 528 Advanced Topics
This course is cross-listed with SWRK 528 (Advanced Topics) when the subject matter is related to African, African American, or other African Diaspora issues. Recent topics include, "Religion, Youth and Popular Culture" and "Anxious Identities." See the Africana Studies Department’s website at https://africana.sas.upenn.edu for a description of the current offerings.
One-term course offered either term
Also Offered As: SOCI 530, SWRK 798
Activity: Seminar
1 Course Unit
AFRC 533 Advanced Selected Topics
This course is cross-listed when the subject matter is related to African, African American, or other African Diaspora issues. Courses recently offered are, "Political Culture and American Cities, Social Movements and Social Change, Critical Race Theory. See the Africana Studies Department's website at https://africana.sas.upenn.edu for a description of the current offerings. This course brings together the vantage points of urban political economy, history and urban anthropology. Readings and discussions will cross those literatures, folding in considerations of race, ethnicity and gender in the American city life, with a focus on the relation between culture and political economy. We will reconstruct the history of the different tracks of urban studies in the U.S., beginning with its roots in sociology and anthropology in the Chicago School and in political science in reform-oriented studies of public administration. We will revisit the community power debate of the 1950s-1970s, which shook out significantly along disciplinary lines, and will examine the development of the urban political economy perspective in the 1980s and 1990s, as well as developments within U.S. urban anthropology since the 1960s. We will employ local case study materials, and at every point we will try to understand the intellectual trajectories of the urbanist discourses in relation to dynamics contemporaneously shaping urban politics and policy. Course requirements are seminar preparation which includes each student's leading discussion around specified reading assignments – and a research paper, the topic of which must be approved by week 5.
Taught by: Charles, Zuberi, Reed, Roberts
Course not offered every year
Also Offered As: AFRC 230, LALS 530, PSCI 534, SOCI 530
Activity: Seminar
1 Course Unit

AFRC 534 Intermediate Yoruba II
For BA Students: Last Language Course
Taught by: Awoyale
Course usually offered in spring term
Also Offered As: AFRC 271, AFST 271, AFST 532
Activity: Lecture
1 Course Unit
Notes: Offered through Penn Language Center

AFRC 540 Elementary Amharic I
An introductory course for students with no previous knowledge of Amharic. Amharic belongs to the southern branch of Hemeto-Semitic languages which is also referred to as "Afrasian." Amharic is the official language of Ethiopia and is spoken by 14 million native Amharas and by approximately 19 million of the other ethnic groups in Ethiopia. The goals of this course are to introduce students to the culture, customs, and traditions of the Amharas. Students will develop communicative skills through listening, speaking, reading, and writing.
For BA Students: Language Course
Taught by: Hailu
Course usually offered in fall term
Also Offered As: AFRC 240, AFST 240, AFST 541, NELC 481
Activity: Lecture
1 Course Unit
Notes: Offered through the Penn Language Center

AFRC 541 Elementary Amharic II
Continuation of Elementary Amharic I.
For BA Students: Language Course
Taught by: Hailu
Course usually offered in spring term
Also Offered As: AFRC 241, AFST 241, AFST 541, NELC 482
Activity: Lecture
1 Course Unit
Notes: Offered through the Penn Language Center

AFRC 543 Intermediate Amharic I
Offered through the Penn Language Center
For BA Students: Language Course
Taught by: Hailu
Course usually offered in fall term
Also Offered As: AFRC 242, AFST 242, AFST 543, NELC 483
Activity: Lecture
1 Course Unit

AFRC 544 Intermediate Amharic II
Offered through the Penn Language Center
For BA Students: Last Language Course
Taught by: Hailu
Course usually offered in spring term
Also Offered As: AFRC 243, AFST 243, AFST 544, NELC 484
Activity: Lecture
1 Course Unit

AFRC 545 Historically Black Colleges and Universities: Current and Historical Issues
Students taking this course will learn about the historical context of HBCUs in educating African Americans, and how their role has changed since the late 1800’s. Students will also be expected to connect financial, societal, and/or economic connections between the role of HBCUs past and present. Specific contemporary challenges and success related to HBCUs that will be covered relate to control, enrollment, accreditation, funding, degree completion, and outreach/retention programming. Students will become familiar with HBCUs in their own right, as well as in comparison to other postsecondary institutions.
Taught by: Gasman
Course usually offered in fall term
Also Offered As: EDUC 543
Activity: Seminar
1 Course Unit

AFRC 547 Topics in Religion
Religions of the African Diaspora - Religion shapes and defines the lives of many persons in the Africans Diaspora. This course will explore both the historical and present day manifestations of religions practices by those in the African Diaspora, including Voodoo, Candomble, Obeah, Rastafari, African Initiated Churches, Pentecostalism, and Catholicism. Theoretical issues including sexuality, gender, and material culture will also be covered in the course.
Taught by: Butler
One-term course offered either term
Also Offered As: RELS 501
Activity: Seminar
1 Course Unit
AFRC 570 Topics in Afro-American Literature

"To be a Negro in this country and to be relatively conscious" wrote James Baldwin "is to be in a state of rage almost all the time." While more attention has been paid to how other feelings like forgiveness or love have been the moral underpinnings to African American social movements, this class makes an effort to look at the history of and value this more difficult but equally important African American cultural expression of black rage, one that is often maligned as a destructive and subject to hyper-surveillance and suppression. We will take an interdisciplinary approach to understanding this phenomenon by looking at the discourse surrounding events, like Nat Turner's rebellions, Stonewall, the Attica Uprising, and Black Lives Matter, historicize the construction of "black rage" as a medical disorder and legal defense, study its offshoots, like "protest psychosis" and the "Angry Black Woman," and examine how artists as vast as Richard Wright, Nina Simone, Alice Walker, Glen Ligon, Public Enemy, Kara Walker, and Solange have explored it as a site of black resistance. Focusing on one of the most misunderstood African American political emotions -- black rage -- this course will examine how artists have steadily moved it from the margins of black life into the mainstream in American culture.

Taught by: Beavers, Tillet
Course not offered every year
Also Offered As: COML 573, ENGL 570, GSWS 570
Activity: Seminar
1 Course Unit

AFRC 587 Race, Nation, Empire

This graduate seminar examines the dynamic relationships among empires, nations and states; colonial and post-colonial policies; and anti-colonial strategies within a changing global context. Using the rubrics of anthropology, history, cultural studies, and social theory, we will explore the intimacies of subject formation within imperial contexts- past and present- especially in relation to ideas about race and belonging. We will focus on how belonging and participation have been defined in particular locales, as well as how these notions have been socialized through a variety of institutional contexts. Finally, we will consider the relationships between popular culture and state formation, examining these as dialectical struggles for hegemony.

Taught by: Thomas
Course usually offered in spring term
Also Offered As: ANTH 587
Activity: Seminar
1 Course Unit

AFRC 590 Recent issues in Critical Theory

Topics vary. This course is a critical exploration of recent literary and cultural theory, usually focusing on one particular movement or school, such as phenomenology, psychoanalysis, the Frankfurt School, or deconstruction. See Africana Studies Department's website at https://africana.sas.upenn.edu for a description of the current offering.

Taught by: Jaji
Course not offered every year
Also Offered As: COML 590, ENGL 590
Activity: Seminar
1 Course Unit

AFRC 591 Francophone Postcolonial Studies

SPRING 2016: This seminar will introduce key authors and issues in Francophone studies through texts that specifically focus on various experiences of war in colonial and postcolonial contexts. Significantly, the first piece of fiction by an African author may well be Bakary Diallo's Force Bonte, (1926), the autobiographical story of a WWI Senegalese Tirailleur, physically deformed by his war experience and trying to through his writing. While Force Bonte is unique as an early piece, similar narratives have not ceased to proliferate in French and Francophone fiction. Indeed, writers from all over the former French Empire have repeatedly offered fictional accounts of colonial subjects' involvement in European wars, and especially WWII, with various degrees of ambivalence. As conflicts and genocides continue, the experience of war fuels a new wave of Francophone accounts at the turn of the twenty-first century. We will use an extensive diachronically and synchronically developed reading (and viewing) list of texts and films from Senegal, Congo, Rwanda, Guinea, Algeria, Martinique, Mauritius, and (Metropolitan) France from the 1920s to 2014. Using this material as the basis for our exploration we will address several questions: What are some of the important tropes deployed in these narratives and how do they relate to broader issues concerning colonial and postcolonial violence? How do the wars of others (e.g. WWI and WWII) complicate the experience of war and questions of engagement and solidarity? How do such experiences lay the groundwork for other wars, of liberation, for example? Finally how does war impact the articulation of memory, survival and writing in colonial contexts, in the postcolony, and in the European Metropole? Primary texts in French. Class discussion in French or English.

Taught by: Moudileno
Course not offered every year
Also Offered As: AFST 560, FREN 590, FREN 591
Activity: Seminar
1 Course Unit
Notes: An introduction to major literary movements and authors from five areas of Francophonie: the Maghreb, West Africa, Central Africa, the Caribbean and Quebec.
AFRC 594 POST-COLONIALISM LITERATURE
Writing in 2001, literary critic Jahan Ramazani introduced his study The Hybrid Muse by noting that unlike authors of fiction, the achievements of postcolonial poets have been strangely neglected. In this course we will consider whether and why that may be changing, focusing on Africana poets from the Caribbean and Africa. We will begin by considering Isidore Okpewho s influential study of oral poetry and myth in Africa, and then move chronologically through a set of weekly readings likely to include Nicolas Guillen (Cuba), Aime Cesaire (Martinique), Leopold Senghor (Senegal), Okpot Bitek (Uganda), Chris Okigbo (Nigeria), Kofi Awoonor (Ghana), Kamau Braithwaite (Trinidad), Derek Walcott (St. Lucia), David Dabydeen (Guyana/UK), Dionne Brand (Trinidad/Canada), Julia de Burgos (Puerto Rico), M. NourbeSe Philip (Tobago/Canada) and Chris Abani (Nigeria/US). Among the broad questions we will consider are why women s voices appear to be underrepresented, how oral poetic traditions and translation inflect this body of work, the grounds of comparison across African and Caribbean spaces, and the particular contributions of poets who are also critics. The reading list may be adjusted to address interests of seminar members, and prospective students are welcome to send suggestions for particular authors, readings, or units to Tsitsi Jaji. This is an introductory-level graduate class, open to advanced undergraduate majors by permission. No particular background knowledge is expected. Assignments will consist of weekly response papers, an in-class presentation, and a choice of a final conference-style paper (10-12pp) or syllabus.
Taught by: Jaji
Also Offered As: ENGL 595
Activity: Seminar
1 Course Unit

AFRC 610 Topics in American History
This course is cross-listed with HIST 610 (Colloquium in American History) when the subject matter is related to African American, African, or other African Diaspora issues. See the Africana Studies Department's website at https://africana.sas.upenn.edu/ for a description of the current offerings.
Taught by: Savage
Course usually offered in fall term
Also Offered As: HIST 610
Activity: Seminar
1 Course Unit

AFRC 617 Theories of Racial and Ethnic Differentiation
This course provides an overview of prominent theories of race and ethnicity, and is concerned with 1) Understanding the nature and persistence of race and ethnicity as meaningful social groupings in contemporary American society, and 2) Explaining the social significance of these group identities—that is, how these groupings are related to social stratification, to socio-cultural relations, and to the political and economic dynamics in American society. Special attention will also be given to such topics as immigration and the intersection of gender, race, and class.
Taught by: Charles
Course not offered every year
Also Offered As: SOCI 617
Activity: Seminar
1 Course Unit

AFRC 630 Advanced Special Topics in Sociology
DEMOGRAPHY OF RACE: This course examine demographic and statistical methods used to capture of impact of racial stratification in society. This course covers the skills and insights used by demographers and social statisticians in the study of racial data. A key challenge facing researchers is the interpretation of the vast amount of racial data generated by society. As these data do not directly answer important social questions, data analysis and statistics must be used to interpret them. The course will examine the logic used to communicate statistical results from racial data in various societies. We will question the scientific claims of social science methodology by extending the critical perspective to biases that may underlie research methods. We will discuss good practices within the context of the historical development of the methods.
Taught by: Zuberi
One-term course offered either term
Also Offered As: AFRC 431, DEMG 630, SOCI 430, SOCI 630
Activity: Seminar
1 Course Unit
Notes: This course is cross-listed with SOCI 630 (Advanced Topics in Sociology) when the subject matter is related to African American or other African Diaspora issues. A frequent topic of this course is "Race, Colonialism and Methods"

AFRC 638 Race and Criminal Justice
This advanced seminar analyzes the connection between race, crime, punishment, and politics in the United States. The primary focus is on the role of race in explaining why the country's prison population increased six-fold since the early 1970s and why the United States today has the highest incarceration rate in the world. Topics to be covered include: the early history of race in the development of the criminal justice system, including an examination of lynchings and the convict-leasing system; the relationship between the crime rate, patterns of offending and arrests, and the incarceration rate; public opinion and law-and-order politics; U.S. penal policies compared with other industrialized countries; capital punishment; the growth of the prison-industrial complex; the "war on drugs"; the courts, prisoners’ rights, and political prisoners; felon disenfranchisement, elections, and democracy; and the future of penal reform. This seminar is designed for advanced undergraduates, as well as graduate students. The readings and assignments will be adjusted accordingly for graduate students. The class will likely take field trips to a maximum-security jail in Philadelphia and to a state prison in the Philadelphia suburbs.
Taught by: Gottschalk
Course not offered every year
Also Offered As: AFRC 437, PSCI 437, PSCI 638
Activity: Seminar
1 Course Unit

AFRC 640 Proseminar in Africana Studies
This course focuses on the historical and cultural relationship between Africans and their descendants abroad.
Taught by: Beavers, Butler, Charles, Rommen, Savage, Thomas, Williams, Zuberi
Two terms. student must enter first term.
Also Offered As: ANTH 640, COMM 740, MUSC 705, RELS 617
Activity: Seminar
1 Course Unit
AFRC 641 Topics in African American History
Topics vary. See the Africana Studies Department's website at https://africana.sas.upenn.edu for a description of the current offerings.
Taught by: Williams, Savage
Course usually offered in spring term
Also Offered As: HIST 641
Activity: Seminar
1 Course Unit

AFRC 645 Graduate Research Seminar
SPRING 2017: This seminar is suitable for graduate students in any discipline in which historical research may be relevant. We will work with both secondary and primary sources, and students will have the opportunity to visit and undertake research in an archive.
Taught by: Williams
One-term course offered either term
Also Offered As: HIST 645
Activity: Seminar
1 Course Unit

AFRC 650 Topics in African History
Reading and discussion course on selected topics in African history.
Taught by: Babou, Cassanelli
Also Offered As: AFST 650, HIST 650
Activity: Seminar
1 Course Unit

AFRC 650 Topics in Trans Regional History
Reading and discussion course on selected topics in Transregional History. See the Africana Studies Department's website at https://africana.sas.upenn.edu for a description of the current offerings.
Comparative Slavery and Emancipation: What do historians gain by approaching the past with an awareness of the body as a material and historically contingent entity? In this course we consider several different ways of imagining historical bodies and the body in history. Our readings will explore how events and new social, racial, economic and political formations influence how contemporaries imagined and described bodies and their capacities. We will also explore whether the body itself might be a dynamic source of historical change. Among the topics we will discuss are: medical theories about bodies, epidemics and their impact; sensory capacities; capacities for physical labor; cultures of violence; reproductive capacities and politics; coerced migration; fashion, beauty, and grace; and the state's interest in mobilizing bodies to serve imperial, economic, and military agendas. This course complements but does not duplicate "Race and Gender in Comparative Perspective" offered in Spring 2012. It is an intensive readings course with written assignments: short papers throughout the semester and a synthetic final paper.
Taught by: Brown
One-term course offered either term
Also Offered As: ARTH 501, GSWS 670, HIST 670
Activity: Seminar
1 Course Unit

AFRC 705 Seminar in Ethnomusicology
This course is cross-listed with MUSC 705 (Seminar in Ethnomusicology) when the subject matter is related to African, African American, or other African Diaspora issues. Recent courses offered include "Reading Women in Jazz," "Popular Music and the Ethics of Style in the Caribbean," "Music and Tourism in the Caribbean," and "Imagining Africa Musically." See the Africana Studies Department's course list at https://africana.sas.upenn.edu for a description of the current offering.
Taught by: Muller, Rommen
Course usually offered in fall term
Also Offered As: AFST 705, ANTH 705, FOLK 715, MUSC 705
Activity: Seminar
1 Course Unit

AFRC 706 Introduction to Africa and African Diaspora Thought
This course examines the processes by which African peoples have established epistemological, cosmological, and religious systems both prior to and after the institution of Western slavery.
One-term course offered either term
Activity: Seminar
1 Course Unit

AFRC 708 Cultural and Literary Theory of Africa and the African Diaspora
This course introduces students to the theoretical strategies underlying the construction of coherent communities and systems of representation and how those strategies influence the uses of expressive culture over time. Topics vary. See the Africana Studies Department's website at https://africana.sas.upenn.edu for a description of the current offerings.
One-term course offered either term
Also Offered As: COML 708, ENGL 775, FREN 700
Activity: Seminar
1 Course Unit

AFRC 710 Political Economy and Social History of Africa and the African Diaspora
This course provides the opportunity for students to investigate the relationship between the emergence of African peoples as historical subjects and their location within specific geopolitical and economic circumstances. Topics vary. FALL 2017: FASCISM AND RACISM: A LOVE STORY- What is the relationship between fascism and racism in modern politics, and how have black political thinkers and organizations understood this relationship? This graduate level course is designed to familiarize students with the historical and contemporary literature on fascism as a phenomena of modern politics, and the importance of racial politics and ideologies to its constitution. Students will become familiar with the contributions of Black political actors, organizations and thinkers in Europe, Africa, Asia and the New World to fascism's defeat in the 1920's and 1930's, as well as more contemporary efforts to curb more contemporary fascist movements, regimes and aesthetics in late modernity. Antonio Gramsci, Robert Paxton, Michael Mann, C.L.R. James, George Padmore, Aime Cesaire, Suzanne Cesaire and Hannah Arendt are among the thinkers, theorists and activists students will encounter in this course. The overarching aim of his course is to identify fascism in both historical and contemporary contexts as a very specific form of political organization and rule, and its interrelationship with racism, nationalism and xenophobia.
Taught by: Hanchard, Zuberi
Two terms. student must enter first term.
Also Offered As: COML 710, HIST 710, LALS 710, PSCI 711, SOCI 702
Activity: Seminar
1 Course Unit
AFRC 712 Comprehensive School Reform as Applied Public Policy
This course examines how K-12 education policy is designed and implemented in the United States. It uses a systems analysis as the framework for looking at who makes what kinds of demands on the education policy system, how these demands are placed on the policy agenda, the decision making process, and resulting education policies and policy outcomes. The course pays particular attention to the roles of federal, state and local governments in education policy, and the impact of our intergovernmental system on the design and implementation of policy. Students will also examine major education policies and debate key education policy issues that arise at each level of government.
Taught by: Hershberg
One-term course offered either term
Also Offered As: EDUC 712
Activity: Seminar
1 Course Unit

AFRC 720 Graduate Prospectus and Grant-Writing Seminar
Taught by: Williams
One-term course offered either term
Activity: Seminar
1 Course Unit
Notes: Graduate student must be "All but dissertation" (ABD).

AFRC 770 Afro-American American Literature
How does Elizabeth Alexanders poem Praise Song for the Day, written for the inauguration of Barack Obama, relate to Amiri Barakas 9/11 poem Somebody Blew America? This seminar will explore the unnaming and experimentation that shape African American literature and theory in the early years of the 21st century, frameworks of the seminar will include the post-9/11 novel, the poetics of the black, black abstraction, twenty-first century practices of the black diaspora Age of Obama turn to the satirical. Critical texts such as How to See a Work Total Darkness and Abstractionist Aesthetics will be as central as cutting edges such as The Psychic Hold of Slavery and signature essays such as On Failing to the Past Present. This course will focus on the new literary voices that have the 21st century and, also, writers whose 21st century art is the late stage of literary trajectory. Special attention will be given to Toni Morrison, Colson Whitehead, Octavia Butler, Claudia Rankine, Mat Johnson, and Paul Beatty.
Course not offered every year
Also Offered As: COML 773, ENGL 770
Activity: Seminar
1 Course Unit

AFRC 777 Special Topics
This course is cross-listed with SOCI 777 (Special Topics) when the subject matter is related to African American or other African Diaspora issues. Topics vary: See the Africana Studies Department's website at https://africana.sas.upenn.edu for a description of current offerings.
Taught by: Zuberi, Bonilla-Silva
Course not offered every year
Also Offered As: SOCI 777
Activity: Seminar
1 Course Unit

AFRC 798 Advanced Topics
This course is cross-listed with SWRK 798 (Advanced Topics) when the subject matter is related to African, African American, or other African Diaspora issues. Recent topics are "Difference" and Social Policy; and "Critical Race Theory." See the Africana Studies Department's website at https://africana.sas.upenn.edu for a description of the current offerings.
Course not offered every year
Also Offered As: SWRK 798
Activity: Seminar
1 Course Unit

AFRC 721 Seminar in Afro-American Music
This seminar treats selected aspects of the history, aesthetics, criticism and historiography of African-American music. Topics vary. See the Africana Studies Department's website at https://africana.sas.upenn.edu for a description of the current offerings.
Taught by: Ramsey
Course not offered every year
Also Offered As: FOLK 770, MUSC 770
Activity: Seminar
1 Course Unit

Ancient History (ANCH)

ANCH 025 Ancient Middle Eastern History and Civilization
A cultural history of Middle Eastern civilization from the invention of writing to the rise of Islam.
For BA Students: History and Tradition Sector
Course usually offered in fall term
Also Offered As: HIST 024, NELC 101
Activity: Lecture
2 Course Units
ANCH 026 Ancient Greece
The Greeks enjoy a special place in the construction of western culture and identity, and yet many of us have only the vaguest notion of what their culture was like. A few Greek myths at bedtime when we are kids, maybe a Greek tragedy like Sophokles’ Oidipous when we are at school: these are often the only contact we have with the world of the ancient Mediterranean. The story of the Greeks, however, deserves a wider audience, because so much of what we esteem in our own culture derives from them: democracy, epic poetry, lyric poetry, tragedy, history writing, philosophy, aesthetic taste, all of these and many other features of cultural life enter the West from Greece. The oracle of Apollo at Delphi had inscribed over the temple, “Know Thyself.” For us, that also means knowing the Greeks. We will cover the period from the Late Bronze Age, c. 1500 BC, down to the time of Alexander the Great, concentrating on the two hundred year interval from 600-400 BC.
For BA Students: History and Tradition Sector
Taught by: McInerney
Course usually offered in fall term
Also Offered As: CLST 026, HIST 026
Activity: Lecture
1 Course Unit

ANCH 027 Ancient Rome
The Roman Empire was one of the few great world states—one that unified a large area around the Mediterranean Sea—an area never subsequently united as part of a single state. Whereas the great achievements of the Greeks were in the realm of ideas and concepts (democracy, philosophy, art, literature, drama) those of the Romans tended to be in the pragmatic spheres of ruling and controlling subject peoples and integrating them under the aegis of an imperial state. Conquest, warfare, administration, and law making were the great successes of the Roman state. We will look at this process from its inception and trace the formation of Rome’s Mediterranean empire over the last three centuries BC; we shall then consider the social, economic and political consequences of this great achievement, especially the great political transition from the Republic (rule by the Senate) to the Principate (rule by emperors). We shall also consider limitations to Roman power and various types of challenges, military, cultural, and religious, to the hegemony of the Roman state. Finally, we shall try to understand the process of the development of a distinctive Roman culture from the emergence new forms of literature, like satire, to the gladiatorial arena as typical elements that contributed to a Roman social order.
For BA Students: History and Tradition Sector
Taught by: Cam Grey
Course usually offered in spring term
Also Offered As: CLST 027, HIST 027
Activity: Lecture
1 Course Unit

ANCH 046 Myths and Religions of the Ancient World
This course will survey the religions of the ancient Middle East, situating each in its historical and socio-cultural context and focusing on the key issues of concern to humanity: creation, birth, the place of humans in the order of the universe, death, and destruction. The course will cover not only the better-known cultures from the area, such as Egypt and Mesopotamia, but also some lesser-known traditions, such as those of the Hurrians, or of the ancient Mediterranean town of Ugarit. Religion will not be viewed merely as a separate, sealed-off element of the ancient societies, but rather as an element in various cultural contexts, for example, the relationship between religion and magic and the role of religion in politics will be recurring topics in the survey. Background readings for the lectures will be drawn not only from the modern scholarly literature, but also from the words of the ancients themselves in the form of their myths, rituals, and liturgies.
For BA Students: History and Tradition Sector
Taught by: Frame
Course usually offered in spring term
Also Offered As: RELS 014
Activity: Lecture
1 Course Unit

ANCH 133 The History of God
This course introduces the history of God as understood by modern scholars of religion. Why do people believe in gods in the first place? How is the God of the Old Testament different from earlier Near Eastern deities, or different from God as represented in the New Testament and the Quran? When and why did people come to question the existence of God, and how has the idea of God changed in the last century in light of experiences like the Holocaust, social movements like feminism, and the rise of new technologies like the Internet? The course will address these questions as it surveys the approaches scholars have developed to comprehend the history of a being who would seem beyond human comprehension.
Taught by: Steve Weitzman
Also Offered As: JWST 132, RELS 132
Activity: Seminar
1 Course Unit

ANCH 146 Ancient Mediterranean Empires
What constituted an empire in antiquity and how was imperialism legitimized? Which measures were used to maintain and organize imperial power? How did foreign rule affect the daily life of people all over the Mediterranean? In this course we will discuss and compare ancient empires from Achaemenid Persia to Alexander the Great and the Hellenistic kingdoms of his successors to the emergence of Rome as one of the most successful and influential empires in world history. Topics that will be discussed include ancient ideas and concepts of imperial rule, patterns of political, economic and cultural power and their interrelations as well as imperial crises and local resistance. All texts will be discussed in translation. There are no prerequisites, although it would be useful to have some background in ancient history.
Taught by: Wilker
Course usually offered in fall term
Also Offered As: CLST 146
Activity: Lecture
1 Course Unit
ANCH 202 Cleopatra
Cleopatra VII (70/69 30 BCE) is one of the most famous women in world history. She has been remembered, admired, and reproached as a power-hungry Hellenistic queen, as the last pharaoh of Egypt, as a self-confident female ruler, and as the vicious seductress of Julius Caesar and Mark Antony. Her supposedly extravagant lifestyle, her political schemes, but also her integrity in choosing suicide over submission have inspired poets, artists, and historians from her own time to our modern world. In this seminar, we will take a closer look at some of the common perceptions and stereotypes that have shaped the image of Cleopatra for more than 2000 years. The main focus, however, will be on the historical queen, her biography, and the political and cultural contexts of her life. We will use ancient literary texts, papyri, inscriptions, coins, and archaeological evidence to analyze Cleopatra's rise to power, how she presented herself to her subjects and how she was perceived by others, as well as her role in the tumultuous events that led to the end of the Hellenistic period and the rise of imperial Rome under the rule of Augustus.

Taught by: Julia Wilker
Also Offered As: CLST 202
Activity: Lecture
1 Course Unit

ANCH 217 Periclean Athens
This class is devoted to the culture and history of Athens in the 5th century BC, the golden age of Greek culture. We will examine such topics as the growth of democracy, Athenian religion and the architectural embellishment of the Acropolis and the Agora. We will look at the development of Athenian drama and explore the relationship between Athenian democracy and naval power.

Taught by: James Ker
Course usually offered in spring term
Also Offered As: CLST 217
Activity: Seminar
1 Course Unit

ANCH 218 Augustan Cultural Revolution
The principate of Augustus is one of history's most decisive turning points, in that it brought about the transformation of the Roman Republic into an Empire. This political revolution depended on a cultural one, and Augustus used literary and artistic production not just as media of communication for the dissemination of favorable propaganda, but as a means of refashioning Roman culture. The result was that fundamental changes were made to seem natural and inevitable even as almost every aspect of political, social, and cultural life were decisively transformed. This course examines the phenomenon by considering closely the history and the literary and artistic production of the period.

Taught by: Farrell, Rose
Course not offered every year
Also Offered As: CLST 218
Activity: Lecture
1 Course Unit

ANCH 220 Near East in Hellenistic and Roman Times
In this course, we will study the history of the Hellenistic and Roman period from a Near Eastern perspective. From the conquests of Alexander the Great to the end of Roman rule in late antiquity, this region was the scene of conflicts, but also of peaceful and fruitful interactions between Greeks, Romans, Egyptians, Jews, Syrians, Arabs and many other societies. What was the impact of Greek and Roman rule and how did the inhabitants of the region react to these fundamental changes? On the other hand, how did they influence the culture and worldview of their conquerors? We will use historical texts, documents and archaeological evidence to discuss the political, cultural and religious encounters that made the Near East a key region of Greco-Roman history. All texts will be discussed in translation. No prerequisites, although it would be useful to have taken ANCH 026 and/or ANCH 027.

Taught by: Wilker
Course not offered every year
Also Offered As: NELC 284
Activity: Seminar
1 Course Unit

ANCH 257 RELIGION & THE POLIS
The Penn-in-Athens program, directed by Classics Professor Jeremy McInerney, runs May through June. During this exciting four-week program, students examine ancient religion and practice. Class is first taught online and then on site in Athens and other parts of Greece.

Taught by: McInerney
Course not offered every year
Also Offered As: CLST 257
Activity: Seminar
1 Course Unit
Notes: This course is taught exclusively in English

ANCH 275 The Roman Underbelly

Taught by: Cam Grey
Course not offered every year
Activity: Seminar
1 Course Unit

ANCH 301 Lies My Ancient History Teacher Told Me
The neat, comforting narratives that we construct of the histories of ancient Greece and Rome cover up a collection of controversies and debates that continue to rage in contemporary scholarship. Can we use the Homeric epics as sources of early Greek history? Who was responsible for the Peloponnesian War? How can we best explain Rome’s acquisition of empire? How new was the political revolution of Augustus? What were the main reasons for the rise of Christianity? In this course, we explore these and other controversies, focusing on both modern scholarship and the ancient sources. All texts will be discussed in translation. No prior knowledge of Ancient History is required, although it would be useful to have taken ANCH 026 and/or ANCH 027.

Taught by: Grey
Course not offered every year
Also Offered As: CLST 300
Activity: Seminar
1 Course Unit
ANCH 303 Power and Peril: The Paradox of Monarchy among Ancient Greeks, Romans, and Jews
We imagine Ancient Greece and Rome as the cradles of democracy and republicanism, the early Judea as pious theocracy, but the evidence tells us that monarchy was the most common and prevalent form of government in antiquity (and the premodern world in general). Despite their ubiquity, the King was a polarizing figure in reality and in conception. On the one hand, some idealized the monarchy as the ideal leader, and monarchy provided the language with which to describe and even imagine the very gods but on the other, monarchs were widely reviled in both theory and practice, from the Greek tyrant to biblical Saul. The Emperor Augustus loudly denied his own affinity to the office of king, even as he ruled alone and was revered as a god. In other words, kings stood both for the ideal ruler and the worst form of government. This class confronts the paradox of the King. This class will take a special look at the idea and institution of kingship in the Near East, among the Jews, Greeks, and Romans to assess and discuss similarities, differences, and mutual influences among these cultures. Through the lens of the king we will explore the idea of god, government, human frailty, and utopianism. Why did the rule of one prevail, why was it so attractive to so many? How was royal rule legitimized? What role did religious beliefs play for keeping a monarchical system stable? What did people expect from their rulers and what happened if the ruler failed to fulfill these expectations? How was the concept of monarchical rule adopted and transferred into other spheres, such as religious belief systems or hopes for messianic kingship? While kingship is a rich field of scholarly inquiry, the question of its ubiquity, and the entanglement and divergences of these three cultures is rarely studied in context and in comparison.
Taught by: Julia Wilker, Natalie Dohrmann
Also Offered As: CLST 323
Activity: Seminar
1 Course Unit

ANCH 305 Jewish Diaspora in the Roman Empire
Under the Roman Empire, Jewish communities developed and flourished especially in the cities of the Eastern Mediterranean, in Egypt, Syria, Asia Minor, Greece, Northern Africa, and Italy proper. In many of these cities, the Jews formed a considerable part of the population; they influenced the cultural, social, and political communal life and developed an identity that was distinctively different from that in Judea. In this seminar, we will trace Jewish life in the Diaspora under Roman rule. How did Jews and non-Jews interact? What was the legal status of Jewish communities under the Roman Empire? What caused conflicts and how were they solved? What can the history of Jewish Diaspora communities tell us about minorities in the Roman Empire in general? We will use literary texts, inscriptions, papyri, and archaeological material to answer these questions and many more.
Taught by: Julia Wilker
Also Offered As: JWST 305
Activity: Seminar
1 Course Unit

ANCH 311 Disasters in the Ancient World
Natural disasters occupy a powerful place in our imagination. Stories of floods, plagues, earthquakes and storms excite and horrify us, and communities mobilize their resources quickly in response to these events. In the ancient Mediterranean world, natural disasters could take on potent meaning, indicating the anger or disfavor of the gods, acting as warnings against certain courses of action, or confirmations of individuals’ fears or suspicions about the world in which they lived. In this course, we explore the evidence for some disasters in the ancient Mediterranean world, the ways in which contemporaries reacted to those disasters and interpreted their causes. This project is, of necessity, multidisciplinary, involving textual, archaeological, geological, and comparative materials and drawing on methodologies from history, political and archaeological science, and the emerging field of disaster studies. In the process, we will gain an appreciation of the social structures of communities in the period, the thought-world in which they operated, and the challenges and opportunities that attend a project of this sort. No prior knowledge of Ancient History is required, although it would be useful to have taken an introductory survey course. Texts will be discussed in translation.
Taught by: Grey&Ristvet
Course not offered every year
Also Offered As: ANTH 311, CLST 311
Activity: Seminar
1 Course Unit

ANCH 323 Greek World After Alexander the Great
This class is designed as a detailed investigation of the world created by Alexander the Great. We will cover the three hundred year period known as the Hellenistic Age from the career of Alexander the Great (354-323 BC) until the defeat of Antony and Cleopatra at the Battle of Actium (31 BC). This was a period during which the world of the Greeks underwent extraordinary and far-reaching changes, as Greek culture was established as far afield as northwestern India, central Asia and Egypt. In the same period kingdoms controlled by Alexander’s Successors used Greek culture to define their rule, establishing a Greek culture of the elite in regions which previously had been dominated by the Persians. As Greek and non-Greek worlds collided, a new interpretation of Greek culture emerged, giving rise, among other things, to universities and professional schools, state subsidized health care, triumphalist architecture, the heroization of the noble savage, and coinage with royal portraits, the deification of men and a multitude of other social, artistic and political forms familiar to us. It was an age of radical change, dislocation, as Greek populations colonized regions previously unknown to them.
Taught by: McInerney
Course not offered every year
Also Offered As: CLST 323
Activity: Lecture
1 Course Unit
ANCH 330 History of Macedonia
In this course, we will study the rise and development of Macedonia from a tiny kingdom on the northern fringes of the Greek world to one of the major powers of the region and beyond. Regarded by the Greeks as an at least semi-barbarian culture on the periphery, Macedonia became the dominant power in the Greek world during the fourth century BC and its king Alexander the Great set out to conquer the world. After his death, Macedonia was one of the Hellenistic kingdoms competing for power and influence in the Mediterranean until it finally came under Roman control. Topics that will be discussed include questions of ethnicity and identity, Macedonian kingship, culture and society (including the role of women) and the role of Macedonian traditions in the Hellenistic era in general. Special emphasis will be laid on the discussion of ancient texts and documents as well as archaeological evidence.
Taught by: Wilker
Course not offered every year
Also Offered As: CLST 332
Activity: Seminar
1 Course Unit

ANCH 334 Jerusalem in Antiquity
Course not offered every year
Also Offered As: CLST 334
Activity: Lecture
1 Course Unit

ANCH 384 The Hellenistic and Roman Near East
In this course we will study the history of the Hellenistic and Roman period from a Near Eastern perspective. From the conquests of Alexander the Great to the end of Roman rule in late antiquity, this region was the scene of conflicts, but also of peaceful and fruitful interactions between Greeks, Romans, Egyptians, Jews, Syrians, Arabs and many other societies. What was the impact of Greek and Roman rule and how did the peoples of the region react to these fundamental changes? On the other hand, how did they influence the culture and worldview of their conquerors? We will use historical texts, documents and archaeological evidence to discuss these political, cultural and religious encounters that made the Near East to a key region of Greco-Roman history. All texts will be discussed in translation. No prerequisites, although it would be useful to have some background in Hellenistic and/or Roman history.
Taught by: Julia Wilker
Also Offered As: NELC 384
Activity: Seminar
1 Course Unit

ANCH 399 Independent Study
This course is taken by students doing independent work with a faculty advisor, such as students approved to work on a senior research paper in pursuit of honors in the major.
One-term course offered either term
Activity: Independent Study
1 Course Unit

ANCH 499 Independent Study
One-term course offered either term
Activity: Independent Study
1 Course Unit

ANCH 545 Spatial Analysis of the Past
Humans continuously move through, interact with, and modify their spaces, leaving a palimpsest of human activity all around us. The ability for digital methods to deal with larger datasets, at higher accuracies, and at multiple scales, lends itself particularly well to the study of diachronic human-space interaction. In this class, we will examine space at a range of scales from landscapes, to urban settings, to archaeological contexts and architecture. We digitally represent space using a variety of 3d and 2d data types, from models of land surfaces and buildings, to multispectral satellite imagery and urban plans. We will first gain experience creating, gathering, and manipulating spatial datasets in preparation for analysis. We will next practice a variety of analytical techniques on these data and examine case studies that have used spatial methods to draw important archaeological and historical conclusions. Tools covered in this class will include geographical information systems (GIS), global navigation satellite systems (GNSS), raster image processing, photogrammetry, and 3d spatial modeling softwares. Finally, we will gain experience with the visualization of our data and results, and the presentation of those results through open online publication.
Taught by: Peter Cobb
Course not offered every year
Also Offered As: AAMW 545, ANTH 515, CLST 545
Activity: Lecture
1 Course Unit
Notes: Archaeological fieldwork experience and basic digital skills preferred. Undergraduates can register with permission of the instructor.
ANCH 611 Greek Epigraphy
An introduction to the principles and practices of Greek Epigraphy. Study of selected Greek inscriptions.
Taught by: McInerney
Course not offered every year
Also Offered As: AAMW 611, CLST 611, GREK 611
Activity: Seminar
1 Course Unit

ANC 616 Ancient Economies
Scholars have long debated the nature of the ancient economy, the terms in which it can best be approached, and the decision-making processes that underpinned economic behavior in antiquity. In particular, controversy has surrounded the extent to which the economies of Greco-Roman antiquity can be modeled using contemporary tools of analysis. In recent scholarship, many of the tenets laid down by Moses Finley in his The Ancient Economy have been re-evaluated, with the result that the field is currently in a state of intellectual ferment. It is the purpose of this course to explore the terms in which contemporary debates over ancient economic systems are formulated, with reference to a variety of societies and periods, from the palace economies of the Mycenaean period to the system of taxation introduced in the early fourth century by the emperor Diocletian and his colleagues in the Tetrarchy.
Taught by: Grey
One-term course offered either term
Also Offered As: CLST 616
Activity: Seminar
1 Course Unit

ANCH 702 Greek Sanctuaries
Sanctuaries remain an important focal point for the study of Greek religion. Both as sites for worship, dedication, oracular activity and other cult activity and as sites for the mediation of elite and state competition sanctuaries are, along with the polis, the most essential structuring institutions of Greek life. This seminar takes a selection of larger and smaller extra-urban sanctuaries and examines their growth, articulation and function.
Taught by: McInerney
Course not offered every year
Also Offered As: AAMW 702, CLST 702
Activity: Seminar
1 Course Unit

ANCH 721 Seminar in Greek Architecture
Topic varies.
Taught by: Haselberger
Course not offered every year
Also Offered As: AAMW 721, ARTH 721
Activity: Seminar
1 Course Unit

ANCH 999 Independent Study
One-term course offered either term
Activity: Independent Study
1 Course Unit

Ancient Near East Languages (ANEL)

ANEL 440 First Year Akkadian I
Introduction to the grammar of the Akkadian language with emphasis on developing skills in the cuneiform writing system and reading of selected texts.
Course usually offered in fall term
Also Offered As: ANEL 640
Activity: Lecture
1 Course Unit

ANEL 441 1st Year Akkadian II
Introduction to the grammar of the Akkadian language with emphasis on developing skills in the cuneiform writing system and reading of selected texts.
Course usually offered in spring term
Also Offered As: ANEL 641
Prerequisites: ANEL 440, ANEL 640 or permission of the instructor.
Activity: Lecture
1 Course Unit

ANEL 460 Middle Egyptian
Introduction to the grammar of Middle Egyptian.
Taught by: Silverman
Two terms. student must enter first term.
Also Offered As: AFST 460
Activity: Lecture
1 Course Unit

ANEL 461 Middle Egyptian Texts: Literary
This course will deal with those texts of the Middle Kingdom that are written in the classical form of the language. It will include both monumental inscriptions, such as autobiographical stela inscriptions (P. Newberry, BENI HASSAN) and stelae (Seth, LESESTUCKE) as well as narratives in prose (DeBuck, READING BOOK). Religious texts (ibid. and COFFIN TEXTS) will also be studied and analyzed. Distinctions between the grammar of the literary and non-literary genres will be discussed.
Taught by: Silverman
One-term course offered either term
Prerequisite: ANEL 460
Activity: Lecture
1 Course Unit

ANEL 540 Akkadian Literary Texts
Readings in Akkadian literary texts from ancient Mesopotamia.
Taught by: Frame
One-term course offered either term
Prerequisite: ANEL 441/641
Activity: Lecture
1 Course Unit

ANEL 541 Akkadian Historical Texts
Readings in Akkadian historical texts from ancient Mesopotamia
Taught by: Frame
One-term course offered either term
Prerequisite: ANEL 441/641
Activity: Lecture
1 Course Unit
ANEL 542 Akkadian Letters
Readings in Akkadian letters from ancient Mesopotamia.
Taught by: Frame
One-term course offered either term
Prerequisite: ANEL 441/641
Activity: Lecture
1 Course Unit

ANEL 546 Intermediate Sumerian
Taught by: Tinney
Two terms. student must enter first term.
Activity: Lecture
1 Course Unit

ANEL 540 First Year Akkadian I
Introduction to the grammar of the Akkadian language with emphasis on developing skills in the cuneiform writing system and reading of selected texts.
Course usually offered in fall term
Also Offered As: ANEL 440
Activity: Lecture
1 Course Unit

ANEL 541 1st Year Akkadian II
Introduction to the grammar of the Akkadian language with emphasis on developing skills in the cuneiform writing system and reading of selected texts.
Course not offered every year
Also Offered As: ANEL 441
Prerequisites: ANEL 440, ANEL 640 or permission of the instructor.
Activity: Lecture
1 Course Unit

ANEL 544 Readings Akkadian Texts I
Readings in Akkadian texts on selected topics.
Taught by: Frame
Course not offered every year
Activity: Seminar
1 Course Unit

ANEL 545 Readings Akkadian Texts II
Readings in Akkadian texts on selected topics.
Taught by: Frame
Course not offered every year
Activity: Seminar
1 Course Unit
ANEL 646 The Land of Sumer: Writing, Language, and Culture
This self-contained course sets the Sumerian language, writing system and use of writing in their social and historical context. The aim is to provide students of ancient history and culture from diverse disciplines with a good grounding in Sumerian culture, familiarity with the Sumerian language and cuneiform writing system and the requisite knowledge for critical assessment of published translations and of the secondary literature. The course is organized as two threads, culture on the one hand and language on the other. The two threads are united by taking examples in the language exercises, vocabulary assignments, etc., as far as possible from the domain of the week’s cultural topics. The net effect is to examine the culture both through contemporary secondary literature and through direct contact with elementary primary texts of relevance to the various topics of discussion. The language component of the course will be carried out in a combination of transliteration and cuneiform, with an expectation that all students will gain familiarity with at least the core 80 syllabic signs, and about 100 additional logographic signs.
Taught by: Tinney
Course not offered every year
Activity: Lecture
1 Course Unit

ANEL 647 Sumerian Daily Texts
Taught by: Tinney
Course not offered every year
Activity: Seminar
1 Course Unit

ANEL 660 Old Egyptian Texts: Religious
This course will examine the texts and grammar of religious and wisdom literature. The religious texts utilized will come from the spells of the Pyramid Texts (K. Sethe, DIE ALTAGYPTISCHEN PYRAMIDENTEXTS), and the offering formulae carved on stelae and tomb walls. Sources for the latter will include published and unpublished material from Dendera, Giza, and other sites in the collections of the University Museum (H. Fischer, DENDERA IN THE THIRD MILLENNIUM, B.C., C. Fisher, THE MINOR CEMETERIES AT GIZA and W. Barta, AUFBAU UND BEDEUTUNG DER ALTAGYPTISCHEN OPFERFORMEL). For the wisdom literature, the texts of Kagemni (Jequier, LE PAPYRUS PRISSE ET SES VARIANTES) and Prince Hordjedef (Brunner-Traut, ZAS 76 (1940), 3-9 will be read.
Taught by: Silverman
One-term course offered either term
Prerequisite: ANEL 563
Activity: Lecture
1 Course Unit

ANEL 661 Old Egyptian Texts: Secular
This is the beginner course in Modern Standard Arabic (MSA). It will introduce you to the speaking, listening, reading and writing skills in the standard means of communication in the Arab World. The course is proficiency-based, implying that all activities within the course are aimed at placing you, the learner, in the context of the native-speaking environment from the very beginning. Evaluation is done by the more traditional testing methods (vocabulary tests, dictations, grammar and translation exercises). We anticipate that by the end of this course (ARAB 031) students will range in proficiency from Novice High to Intermediate Low on the ACTFL scale; in other words (using the terminology of the government’s Foreign Service Institute), from ‘incipient survival’ to ‘full survival’ in the native-speaking environment.
Taught by: Silverman
One-term course offered either term
Prerequisite: ANEL 563
Activity: Lecture
1 Course Unit

ANEL 664 Coptic
The course will be an introduction to the writing, grammar, and literature of Coptic.
Taught by: Silverman
Course not offered every year
Also Offered As: RELS 616
Activity: Lecture
1 Course Unit

ANEL 665 Demotic
The course will be an introduction to the writing, grammar, and literature of Demotic, the phase of the language in use during the latter periods of Egyptian history.
Taught by: Houser Wegner
Course not offered every year
Activity: Lecture
1 Course Unit

ANEL 667 Readings in Demotic
Course not offered every year
Activity: Lecture
1 Course Unit

ANEL 740 Akkadian Religious and Scientific Texts
Readings in Akkadian of religious and scientific texts from ancient Mesopotamia.
Taught by: Frame
One-term course offered either term
Prerequisite: ANEL 441/641
Activity: Lecture
1 Course Unit

ANEL 741 Akkadian Legal Texts
Readings in Akkadian legal texts and law corpora from ancient Mesopotamia.
Taught by: Frame
One-term course offered either term
Prerequisite: ANEL 441/641
Activity: Lecture
1 Course Unit
**ANEL 742 Akkadian Economic Texts**
Readings in Akkadian economic texts from ancient Mesopotamia. 
Taught by: Frame 
Course not offered every year 
Prerequisite: ANEL 441/641 
Activity: Seminar 
1 Course Unit

**ANEL 743 Peripheral Akkadian**
Readings in selected texts in Akkadian from the periphery of Mesopotamia, including Alalah, Ugarit, Nuzi, Suza and El-Amarna. 
One-term course offered either term 
Prerequisite: ANEL 441/641 
Activity: Lecture 
1 Course Unit

**ANEL 744 Readings Akkadian Texts III**
Readings in Akkadian texts on selected topics. 
Taught by: Frame 
Course not offered every year 
Activity: Seminar 
1 Course Unit

**ANEL 745 Readings Akkadian Texts IV**
Readings in Akkadian texts on selected topics. 
Taught by: Frame 
Course not offered every year 
Activity: Seminar 
1 Course Unit

**ANEL 746 Readings in Sumerian Texts**
Selected readings in Sumerian texts. 
Taught by: Tinney 
One-term course offered either term 
Prerequisite: ANEL 246/646 
Activity: Lecture 
1 Course Unit

**ANEL 748 Sumerian Seminar**
Extensive readings in a variety of Sumerian texts. 
Taught by: Tinney 
One-term course offered either term 
Activity: Seminar 
1 Course Unit

**ANEL 749 Seminar in Cuneiform Texts**
Extensive readings in selected cuneiform texts. 
One-term course offered either term 
Prerequisite: ANEL 441 
Activity: Seminar 
1 Course Unit

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**Anthropology (ANTH)**

**ANTH 001 Archaeology: Window to the Human Past**
This course will introduce students to the methods and theory of archaeology by exploring how we turn archaeological data into statements about cultural behavior. We will discuss the place of archaeology in the broader field of anthropology and debate issues facing the discipline today. The course will rely on case studies from around the world and from many different time periods to introduce students to the research process, field and lab methods, and essential questions of archaeological anthropology. Students will have the opportunity to work hands-on with archaeological materials through visiting the galleries and working with Penn Museum collections.

For BA Students: History and Tradition Sector
Course usually offered in fall term 
Activity: Recitation 
1 Course Unit

**ANTH 002 Introduction to Cultural Anthropology**
An introduction to the anthropological study of human social and cultural diversity throughout the world, with special emphasis on the development of the idea of culture as an analytical concept. The course includes sections on the ethnographic research method and on the library of ethnographic material relating to cultural change in different parts of the world that anthropology has produced since the 19th century.

For BA Students: Society Sector
Course usually offered in fall term 
Activity: Recitation 
1 Course Unit

**ANTH 003 Introduction to Human Evolution**
How did humans evolve? When did humans start to walk on two legs? 
How are humans related to non-human primates? This course focuses on the scientific study of human evolution describing the emergence, development, and diversification of our species, Homo sapiens. First we cover the fundamental principles of evolutionary theory and some of the basics of genetics and heredity as they relate to human morphological, physiological, and genetic variation. We then examine what studies of nonhuman primates (monkeys and apes) can reveal about our own evolutionary past, reviewing the behavioral and ecological diversity seen among living primates. We conclude the course examining the "hard" evidence of human evolution - the fossil and material culture record of human history from our earliest primate ancestors to the emergence of modern Homo sapiens. You will also have the opportunity, during recitations, to conduct hands-on exercises collecting and analyzing behavioral, morphological, and genetic data on both humans and nonhuman primates and working with the Department of Anthropology's extensive collection of fossil casts.

For BA Students: Living World Sector
Course usually offered in fall term 
Activity: Recitation 
1 Course Unit
ANTH 004 The Modern World and Its Cultural Background
An introduction to the diversity of cultures in the world. This course is divided into two parts. The first briefly examines different models of understanding human diversity: ethnicities, religions, languages, political forms, economic structures, cultures, and “civilizations”. Students will learn to think about the world as an interconnected whole, and know the significance of culture on a global scale. The second part is an introduction to area studies, in which we undertake a survey of the different regions of the world. We conduct the survey paying attention to the different aspects of human diversities, which we examine in the first part of this course. Students will acquire a greater appreciation and understanding of cultural differences in the more comprehensive social context.
For BA Students: Humanities and Social Science S
Course usually offered in spring term
Activity: Recitation
1 Course Unit

ANTH 005 Great Transformations
This course explores the history and archaeology of the last 20,000 years from the development of agriculture to the industrial revolution. Why did people across the world abandon foraging for farming? How and why did cities and states develop? Why did societies succeed or fail? How have humans transformed themselves and the natural world, including the landscape and the climate? We will explore the methods that archaeologists use to consider these questions and analyze evidence for social and economic change from the Middle East, the Americas, Asia, Africa, Australia and Europe. In addition, students will have a chance to conduct hands-on exercises with artifacts from the Penn Museum and an opportunity to do some experimental archaeology during recitations.
For BA Students: History and Tradition Sector
Course usually offered in spring term
Activity: Recitation
1 Course Unit

ANTH 012 Globalization And Its Historical Significance
This course describes and analyses the current state of globalization and sets it in historical perspective. It applies the concepts and methods of anthropology, history, political economy and sociology to the analysis and interpretation of what is actually happening in the course of the semester that relates to the progress of globalization. We focus on a series of questions not only about what is happening but about the growing awareness of it and the consequences of the increasing awareness. In answering these questions we distinguish between active campaigns to cover the world (e.g. Christian and Muslim proselytism, free-trade agreements, democratization) and the unplanned diffusion of new ways of organizing trade, capital flows, tourism and remote interaction via the Internet. The body of the course deals with particular dimensions of globalization, reviewing both the early and recent history of each. The overall approach is historical and comparative, setting globalization on the larger stage of the economic, political and cultural development of various parts of the modern world. The course is taught collaboratively by an anthropologist, an historian, and a sociologist, offering the opportunity to compare and contrast distinct disciplinary approaches. It seeks to develop a general social-science-based theoretical understanding of the various historical dimensions of globalization: economic, political, social and cultural.
For BA Students: Humanities and Social Science S
Taught by: Spooner
Course usually offered in fall term
Also Offered As: HIST 012, SOCI 012
Activity: Lecture
1 Course Unit

ANTH 022 World Music and Cultures
This course examines how we as consumers in the "Western" world engage with musical difference largely through the products of the global entertainment industry. We examine music cultures in contact in a variety of ways – particularly as traditions in transition. Students gain an understanding of traditional music as live, meaningful person-to-person music making, by examining the music in its original site of production, and then considering its transformation once it is removed, and recontextualized in a variety of ways. The purpose of the course is to enable students to become informed and critical consumers of "World Music" by telling a series of stories about particular recordings made with, or using the music of, peoples culturally and geographically distant from the US. Students come to understand that not all music downloads containing music from unfamiliar places are the same, and that particular recordings may be embedded in intriguing and controversial narratives of production and consumption. At the very least, students should emerge from the class with a clear understanding that the production, distribution, and consumption of world music is rarely a neutral process.
For BA Students: Arts and Letters Sector
Taught by: Muller, Rommen, Sykes
Course usually offered in fall term
Also Offered As: AFRC 050, AFST 050, FOLK 022, MUSC 050
Activity: Lecture
1 Course Unit
Notes: Open to all students

ANTH 055 Cultural Heritage, Politics and War in the Middle East
Political upheaval in the Middle East has brought cultural heritage studies to the forefront. From playing a role in the making of national identity and economy of Middle Eastern countries to falling prey to armed conflicts, cultural heritage remains an important element of the political and social scene. This seminar will examine the relatedness of cultural heritage to questions of identity and politics in the Middle East, and the impact of recent wars on such heritage. The seminar will start by outlining the ancient and modern history of the Middle East, and reviewing the production of cultural heritage and its contemporary management in several Middle Eastern countries. It will then proceed to discuss the following major topics: 1) Cultural diversity of modern Middle Eastern societies, the perception of cultural heritage in these societies, and the survival of long-living historical places, old traditions, and material culture of all kinds. 2) The influence of ancient cultures on common fixation and beliefs of modern identity in Middle Eastern societies (e.g. particular ethnic and religious group see themselves as direct descendants of one or a number of ancient groups such as Phoenicians, Israelites, Assyrians). 3) The use of archeological and historical data to create narratives of the past that promote specific political ideologies in the modern Middle East and, in some cases fabricate novel cultural and political realities. 4) The damage done to Cultural Heritage by recent wars in Iraq, Syria, and Lebanon, and (i) how these wars are/were the makers of a new time that disrupted the living past through the destruction of cultural landscapes; and (ii) the involvement of cultural heritage institutions and archaeologists in rescuing cultural heritage in the event of war.
Course not offered every year
Also Offered As: NELC 033
Activity: Seminar
1 Course Unit
ANTH 086 Desire and Demand: Culture and Consumption in the Global Marketplace
Does consumption shape culture or does culture shape consumption? As even the most mundane purchase becomes socially symbolic and culturally meaningful we can persuasively argue that the concept of "need" has been transformed. Analyzing a variety of physical and virtual consumer venues, the goal of this seminar is to understand and analyze historical and contemporary issues related to a culture of consumption. We investigate social and political-economic factors that impact when and how people purchase goods and argue that behavior attached to consumption includes a nexus of influences that may change periodically in response to external factors. Readings and research assignments are interdisciplinary and require a critical analysis of global/local linkages. The city of Philadelphia becomes the seminar's laboratory as we ask: how have issues of culture, consumption, and global capitalism become intertwined around the world?
Taught by: Diggs-Thompson
One-term course offered either term
Activity: Seminar
1 Course Unit
Notes: Freshman Seminar

ANTH 100 Topics In Anthropology and the Modern World: Afghanistan, Iran, Pakistan
This course relates anthropological models and methods to current problems in the Modern World. The overall objective is to show how the research findings and analytical concepts of anthropology may be used to illuminate and explain events as they have unfolded in the recent news and in the course of the semester. Each edition of the course will focus on a particular country or region that has been in the news.
Taught by: Spooner
Course usually offered in spring term
Also Offered As: ANTH 654, NELC 281, NELC 681, SAST 161
Activity: Lecture
1 Course Unit

ANTH 103 Empires: From Akkad to America
Empires have been an enduring phenomenon for more than 4,000 years, from the rise of Akkad in Mesopotamia to the American invasion in Iraq. How and why do empires emerge? How do empires work? Why do empires endure (or collapse)? This class will study the origins, structures and consequences of imperialism by comparing ancient and modern empires from all over the world. In addition to a study of the political aspects of imperialism, we will analyze the cultural and economic facets of imperialism, particularly acculturation, cultural hybridity and issues of identity. We will analyze a wide-range of data, including art and artifacts from the Penn Museum, administrative and historical records, novels and films. Empires covered may include Egypt, Assyria, Achaemenid Persia, Rome, Han China, Sassanian Persia, the Abbasid Caliphate, the Mongols, Mughal India, Mali, Inka, Aztec, Spain, Ottoman, France and America.
Taught by: Ristvet
Course not offered every year
Also Offered As: ANTH 630
Activity: Seminar
1 Course Unit

ANTH 104 Sex and Human Nature
This course is an introduction to the scientific study of sex in humans. Within an evolutionary framework, the course examines genetic, physiological, ecological, social and behavioral aspects of sex in humans. After providing the basic principles of evolutionary biology, the course delves into the development of sexual anatomy and physiology. Among the subjects to be explored are sex determination, the nature of orgasms, and the sexual development of females and males from birth to adulthood. The role of ecology and social life in shaping human mating patterns is also evaluated using ethnographic and cross-cultural materials from a variety of human cultures. In particular, the course examines why humans marry or pair bond, whether there is a biological basis of love, which biological and psychological factors produce jealousy. Finally, the course explores topics relevant to human sexuality today, such as the "hook-up culture", contraception and abortion, sex work, sexual transmitted diseases, and the ethical and legal dimensions of human sexuality.
For BA Students: Living World Sector
Taught by: Schurr
Course not offered every year
Also Offered As: BIBB 150, GSWS 103
Activity: Lecture
1 Course Unit

ANTH 105 Human Adaptation
ANTH 105 explores the evolutionary process using humans (Homo sapiens) as a case study. This complex biological and cultural species is best understood within the framework of evolution as it has operated for over a billion years. Learn why humans are imperfect, not an end product of evolutionary change, and are still evolving with unpredictable consequences. Using 3 complexes that have come to characterize humans (bipedalism, rotary chewers, and big brains) we will trace the evolutionary history from the first life forms on earth to the human lineage that emerged in just the last 5 million years. The consequences for humans of this evolutionary history are profound and we witness this everyday in our own bodies. Touch fossil casts representing the whole of human evolution using the Penn Museum's prodigious casting program.
Taught by: Monge
Course not offered every year
Activity: Lecture
1 Course Unit

ANTH 106 Anthropological Genetics
This course explores the use of genetics to understand human biological variation and evolution. Among the areas of genetics to be explored are dermatoglyphics (fingerprints), craniometrics (skulls and teeth), anthropometrics (body dimensions), simple Mendelian traits, molecular genetics, genetics of complex traits (skin color, height, obesity), population genetics, and disease adaptations.
Taught by: Schurr
Course not offered every year
Prerequisite: ANTH 003
Activity: Lecture
1 Course Unit
ANTH 116 Caribbean Culture and Politics
This course offers anthropological perspectives on the Caribbean as a geo-political and socio-cultural region, and on contemporary Caribbean diaspora cultures. We will examine how the region's long and diverse colonial history has structured relationships between race, ethnicity, class, gender and power, as well as how people have challenged these structures. As a region in which there have been massive transplantations of peoples and their cultures from Africa, Asia, and Europe, and upon which the United States has exerted considerable influence, we will question the processes by which the meeting and mixing of peoples and cultures has occurred. Course readings include material on the political economy of slavery and the plantation system, family and community life, religious beliefs and practices, gender roles and ideologies, popular culture, and the differing ways national, ethnic, and racial identities are expressed on the islands and throughout the Caribbean diaspora.
Taught by: Thomas
Course not offered every year
Also Offered As: AFRC 116, LALS 116
Activity: Lecture
1 Course Unit

ANTH 121 Origin and Cultures of Cities
The UN estimates that 2.9 of the world's 6.1 billion people live in cities and that this percentage is rapidly increasing in many parts of the world. This course examines urban life and urban problems by providing anthropological perspectives on this distinctive form of human association and land use. First we will examine the "origin" of cities, focusing on several of the places where cities first developed, including Mesopotamia and the Valley of Mexico. We will then investigate the internal structure of non-industrial cities by looking at case studies from around the world and from connections between the cities of the past and the city in which we live and work today. For BA Students: History and Tradition Sector
Taught by: Zettler
Course usually offered in fall term
Also Offered As: NELC 103, URBS 121
Activity: Lecture
1 Course Unit

ANTH 122 Becoming Human
Human evolutionary studies is a composite product of the fieldwork of both Paleolithic archaeology and human paleontology (or what we refer to as "stones and bones"). This marriage of two subdisciplines of anthropology produces a unique set of data that is intellectually managed and driven by theories within anthropology as a whole and even beyond -- to fields such as biology, psychology, and primate ethology, as we try to understand the origins of language, culture, and our unique physical characteristics. In this course, we will jointly discuss and debate the actual evidence of human evolution, describing what the actual evidence is and exploring how far can we take these interpretations.
For BA Students: Natural Science and Math Sector
One-term course offered either term
Activity: Lecture
1 Course Unit

ANTH 123 Communication & Culture
The course looks at varieties of human expression -- such as art, film, language and song -- as communicative practices that connect persons together to form a common culture. Discussion is centered around particular case studies and ethnographic examples. Examination of communicative practices in terms of the types of expressive signs they employ, their capacity to formulate and transmit cultural beliefs and ideals (such as conceptions of politics, nature, and self), and to define the size and characteristics of groups and communities sharing such ideals. Discussion of the role of media, social institutions, and technologies of communication (print, electronic). Emphasis on contemporary communicative practices and the forms of culture that emerge in the modern world.
For BA Students: Society Sector
Taught by: Agha
One-term course offered either term
Activity: Recitation
1 Course Unit

ANTH 133 Native Peoples and the Environment
The relationship between the activities of native peoples and the environment is a complex and contentious issue. One perspective argues that native peoples had little impact on the environment because of their low population densities, limited technology, and conservation ethic and worldview. At the other extreme, biodiversity, nature itself, is considered the product of a long history of human activities. This seminar will examine the myth of the ecologically noble savage, the myth of the pristine environment, the alliance between native peoples and green politics, and the contribution of native peoples to appropriate technology, sustainable development and conservation of biodiversity.
Taught by: Erickson
Course not offered every year
Also Offered As: LALS 133
Activity: Seminar
1 Course Unit
Notes: Freshman Seminar

ANTH 139 Ancient Civilizations of the World
The archaeology of the complex societies of the Old and New Worlds from the end of the Paleolithic up to and including the earliest civilizations.
For BA Students: History and Tradition Sector
Taught by: Zettler
Course not offered every year
Also Offered As: NELC 182, URBS 139
Activity: Lecture
1 Course Unit

ANTH 141 Public Policy, Museums, and the Ethics of Cultural Heritage
This course will focus upon and examine the ethics of international heritage and the role that Museums play in the preservation of identity and cultural heritage. The mission of this course will be to inform and educate students about the role of Museums within the 21st century. What is the role and position of antiquities and important cultural objects in Museums? How should Museums acquire these objects and when should they be returned to countries and cultural groups? Examples from current issues will be included in the reading and discussions along with objects and issues within the Penn Museum.
Taught by: Leventhal
Course usually offered in fall term
Also Offered As: ARTH 141
Activity: Lecture
1 Course Unit
ANTH 143 Being Human: Biology, Culture & Human Diversity
This course will investigate human biology from evolutionary and biocultural perspectives. Using this approach, the class will explore what it means to be human. We will examine humans as mammals, as primates, and as hominins (our own lineage). We will also study the basics of human genetics, growth and development, immune function, nutrition, life history, and adaptations to diet and disease. In addition, we will review biological variation in contemporary and past societies and the evolutionary processes that helped to shape them.
Taught by: Schurr
One-term course offered either term
Activity: Lecture
1 Course Unit

ANTH 148 Food and Fire: Archaeology in the Laboratory
This course will let students explore the essential heritage of human technology through archaeology. People have been transforming their environment from the first use of fire for cooking. Since then, humans have adapted to the world they created using the resources around them. We use artifacts to understand how the archaeological record can be used to trace breakthroughs such as breaking stone and bone, baking bread, weaving cloth and firing pottery and metals. The seminar will meet in the Penn Museum's Center for the Analysis of Archaeological Materials. Students will become familiar with the Museum's collections and the scientific methods used to study different materials. Class sessions will include discussions, guest presentations, museum field trips, and hands-on experience in the laboratory.
For BA Students: Humanities and Social Science S
Taught by: Katherine Moore
One-term course offered either term
Also Offered As: CLST 148, NELC 183
Activity: Lecture
1 Course Unit

ANTH 149 Intro to Native American and Indigenous Studies
This course offers a broad introduction to the linked fields of Native American Studies and Indigenous Studies. Students will gain foundational understandings of the ways that Indigenous peoples and academic researchers engage with Indigenous knowledges in diverse worldwide settings, while also exploring the impacts of settler colonialism and the influence of recent decolonizing methodologies. Students will examine topics from a variety of disciplinary traditions, using historical texts, anthropological studies, oral literature, and modern media. Special case studies will focus on: links between oral traditions and archaeological research; relations among archives, museum representation, and Indigenous heritage; legal interventions and protections for Indigenous sovereignty; and language restoration and cultural recovery.
Taught by: M. Bruchac
Activity: Seminar
1 Course Unit

ANTH 151 Archaeology of American History- The Colonial Period
Over the last fifty years archaeologists have been exploring historic sites in the United States dating from both the Colonial Period and the 19th/20th centuries. What can archaeology now tell us about the origins of American society, the invasion of North America by various European peoples (Spanish, English, Dutch), the impact on native peoples, the rise of African American and Asian American cultures, major crisis (e.g. the revolution, Civil War, and the Great Depression), the settlement of the Far American West, and the final emergence of a truly national culture in the 20th century? A basic question will be how an American history based on both archaeology and archival sources is different and more complete than an image of the past drawn only from written sources.
For BA Students: History and Tradition Sector
Taught by: Schuyler
One-term course offered either term
Also Offered As: ANTH 752
Activity: Seminar
1 Course Unit

ANTH 158 The Neolithic Revolution
The advent of food production/agriculture in prehistory, sometimes referred to as the "Neolithic Revolution," represents key economic, social, and biological transitions for human groups. Food production was characterized by the possibility for the accumulation of food surpluses, which could be used as a form of wealth. It also resulted in the reorganization of social and ritual life as people settled more permanently in villages or were involved in pastoral lifeways. Additionally, densely packed living conditions and a close association with domesticated animals led to the spread of diseases, and new forms of labor related to farming tasks, as well as diets focused on a narrower range of foods, created biological stresses in these populations. This course examines several examples of the "Neolithic Revolution" throughout the world, including the Middle East, China, Europe, Mesoamerica, South America, and the North American Southwest.
Taught by: Olszewski
Course not offered every year
Activity: Lecture
1 Course Unit

ANTH 190 Introduction to Africa
During the semester we will focus on people and communities of sub-Saharan Africa and on the ways people represent, reflect on, and react to various aspects and issues in their lives and the institutions which dominate their communities. We will focus particularly on the history, contemporary expression, and inter-relationships among politics, religion, and aesthetic practice. Members of Penn's African Studies community will share their expertise with the class and introduce the University's Africa resources. Texts consist of weekly readings, films, and recordings; and class members will be expected to attend several lectures outside of class.
For BA Students: Society Sector
Taught by: Hasty
Course usually offered in fall term
Also Offered As: AFRC 190, AFST 190
Activity: Lecture
1 Course Unit
ANTH 199 Independent Study in Anthropology
A study under faculty supervision of a problem area or topic not included in the formal curriculum.
One-term course offered either term
Prerequisites: Junior or senior standing and written permission of instructor and undergraduate chair
Activity: Independent Study
1 Course Unit
Notes: See Department for Advisor

ANTH 204 Theoretical Foundations
Ever wonder what the point was of reading the "founding fathers" of the discipline (and yes, they were most often fathers)? Ever feel like the "old stuff" and the "old questions" have no relevance to your contemporary interests? This course, designed primarily for cultural anthropology majors, will provide clues. This is NOT a comprehensive history of the discipline. Instead, we will examine some of the main issues that have been foundational to anthropology, and will explore how approaches to these issues have changed over time. To do so, we will contextualize our analysis of transformations in anthropological knowledge production within historical and contemporary political economies. By exploring core issues that continue to inspire and inform anthropological theory and ethnographic practice, we will solidify our commitment to a holistic and relational understanding of social processes.
Course not offered every year
Prerequisite: Students should have completed at least one anthropology course before registering for ANTH 204
Activity: Seminar
1 Course Unit

ANTH 210 Death: Anthropological Perspectives
This course will cover the topic of DEATH from a bio/cultural perspective including the evolution of life history (aging and demography - mortality) as well as from an archaeological perspective (prehistoric) and early history of mortuary practices. Nothing in the lifespan of humans is so revealing on the interface of culture and biology as is death and the experience of death. This course is not concerned specifically with how an individual experiences death, but in the ways that culture and biology have come to define and deal with physical death and the death experience.
Taught by: Monge
Course not offered every year
Activity: Lecture
1 Course Unit

ANTH 219 Archaeology Field Project
First-hand participation in research project in historical archaeology in Southern New Jersey. Transportation provided by the university. Students will assist in excavations and archival research on local archaeological sites. Class is open to all undergraduates, no previous archaeological experience is required. Attendance will involve Fridays or Saturdays, all day from 8:00 to 5:00 including travel time to the excavations and back to the University Museum. Students enroll for only one day (F or S). Enrollment is limited so specific permission of the instructor is required (Robert L. Schuyler: schuyler@sas.upenn.edu; (215)898-6965; U Museum 412). A follow up laboratory course (Anth 220 in the spring semester) will also be available during which the artifacts and documentary sources collected in the fall will be analyzed at the University Museum. Course may be repeated for credit.
For BA Students: Humanities and Social Science S
Taught by: Schuyler
Course usually offered in fall term
Also Offered As: ANTH 719
Activity: Seminar
1 Course Unit
Notes: Permission of instructor required

ANTH 220 Archaeology Laboratory Field Project
Follow-up for ANTH 219. Students may enroll in either or both courses, and in any sequence; however, preference will be given to those previously enrolled in ANTH 219 that Fall. Class will meet in three hour sections on Fridays or Saturdays and will involve the analysis of artifacts, documentary records, oral historic sources and period illustrations collected on Southern New Jersey historic sites that Fall. No previous archaeological or lab experience is required. (Robert L. Schuyler: schuyler@sas.upenn.edu; (215) 898-6965; U Museum 412). Course may be repeated for credit.
For BA Students: Humanities and Social Science S
Taught by: Schuyler
Course usually offered in spring term
Also Offered As: ANTH 720
Activity: Laboratory
1 Course Unit

ANTH 221 Material World in Archaeological Science
By focusing on the scientific analysis of inorganic archaeological materials, this course will explore processes of creation in the past. ANTH 221 will take place in the Center for the Analysis of Archaeological Materials (CAAM) and will be team taught in three modules: analysis of lithics, analysis of ceramics and analysis of metals. Each module will combine laboratory and classroom exercises to give students hands-on experience with archaeological materials. We will examine how the transformation of materials into objects provides key information about past human behaviors and the socio-economic contexts of production, distribution, exchange and use. Discussion topics will include invention and adoption of new technologies, change and innovation, use of fire, and craft specialization.
Taught by: Boileau/Dibble/Jansen
Course not offered every year
Also Offered As: ANTH 521, ARTH 230, CLST 244, NELC 284, NELC 584
Activity: Lecture
1 Course Unit
ANTH 223 Indigenous Archaeology
This seminar is an introduction to Indigenous archaeologies. These approaches have been defined as archaeology "with, for and by Indigenous peoples." However, they are in fact more than this. Not only do they seek to make archaeology more representative of and responsible to Indigenous communities; they also seek to contribute to a more accurate understanding of the archaeological record through the incorporation of Native epistemologies. This course covers such topics as the history of American archaeology, indigenous knowledge and cultural values, NAGPRA, museumification, decolonizing methodologies, and current debates.
Taught by: Bruchac
Course not offered every year
Also Offered As: ANTH 523
Activity: Lecture
1 Course Unit

ANTH 230 Forensic Anthropology
This course will investigate and discuss the various techniques of analysis that biological anthropologists can apply to forensic cases. Topics include human osteology, the recovery of bodies, the analysis of life history, the reconstruction of causes of death, and various case studies where anthropologists have contributed significantly to solving forensic cases. Discussions will include the limitations of forensic anthropology and the application of DNA recovery to skeletal/mummified materials.
Taught by: Monge
Course not offered every year
Also Offered As: ANTH 633, CRIM 230
Activity: Lecture
1 Course Unit

ANTH 236 Iraq: Ancient Cities & Empires
This course surveys the cultural traditions of ancient Mesopotamia, the land between the Tigris and Euphrates Rivers, a region commonly dubbed "cradle of civilization" or "heartland of cities," from an archaeological perspective. It will investigate the emergence of sedentism and agriculture; early villages and increasingly complex Neolithic and Chalcolithic cultures; the evolution of urban, literate societies in the late 4th millennium; the city-states and incipient supra-regional polities of the third and second millennium; the gradual emergence of the Assyrian and Babylonian "world empires," well-known from historical books of the Bible, in the first millennium; and the cultural mix of Mesopotamia under the successive domination of Greeks, Persians and Arabs. The course seeks to foster an appreciation of the rich cultural heritage of ancient Mesopotamia, an understanding of cultural continuities in the Middle East and a sense of the ancient Near Eastern underpinnings of western civilization. No Prerequisite.
Taught by: Zettler
Course not offered every year
Also Offered As: ANTH 636, NELC 241, NELC 641, URBS 236
Activity: Lecture
1 Course Unit

ANTH 238 Introduction to Medical Anthropology
Introduction to Medical Anthropology takes central concepts in anthropology -- culture, adaptation, human variation, belief, political economy, the body -- and applies them to human health and illness. Students explore key elements of healing systems including healing technologies and healer-patient relationships. Modern day applications for medical anthropology are stressed.
For BA Students: Humanities and Social Science S
Taught by: Barg
Course usually offered in fall term
Also Offered As: HSOC 238
Activity: Lecture
1 Course Unit

ANTH 244 Disease and Human Evolution
This course will explore the role played by disease in human evolution, from the emergence of the human lineage to the present day. We will evaluate both infectious and non-infectious diseases, and examine the way in which populations and disease organisms have co-evolved. Related issues to be explored include the nature of the virulence and pathogenicity of infectious agents, and the impact of vaccination on pathogen evolution. In addition, we will discuss the epidemiological transition and the rise of complex diseases of modernization (e.g., diabetes, cancer) that has occurred in the past several centuries. Overall, the course will provide a broader understanding of the influence of disease processes on the evolution of the human species.
Taught by: Schurr
Course not offered every year
Activity: Lecture
1 Course Unit

ANTH 246 Molecular Anthropology
In this course, we will explore the molecular revolution in biological anthropology. In particular, we will examine how molecular data can be used to illuminate anthropological question concerning human origins, evolution and biological variation. Some of the specific topics to be covered in this course are the phylogenetic relationships among primates, kinship in apes and monkeys, the hominoid trichotomy, modern human origins and migrations, Neanderthal and Denisovan admixture with modern humans, biogenetics of skin color, and physiological, phenotypic and disease adaptations.
Taught by: Schurr
Course not offered every year
Also Offered As: ANTH 649
Prerequisites: ANTH 003, Intro to Human Evolution; some background in biology and genetics will also be useful.
Activity: Seminar
1 Course Unit

ANTH 247 Archaeology Laboratory Field Project-Summer
This course is a summer version of ANTH 220 (see that course for full description). In summer more emphasis will be placed on field visitations. Course open to all students; no instructor permission needed. Course may be repeated for credit and students may take both ANTH 247 and ANTH 220. Questions: Contact Robert L. Schuyler; schuyler@sas.upenn.edu; (215) 898-76965; University Museum 412/6398.
Taught by: Schuyler
Course usually offered summer term only
Also Offered As: ANTH 747
Activity: Laboratory
1 Course Unit
ANTH 248 Food and Feasting: Archaeology of the Table
Food satisfies human needs on many levels. ANTH 248 explores the importance of food in human experience, starting with the nutritional and ecological aspects of food choice and going on to focus on the social and ritual significance of foods and feasts. Particular attention will be paid to the way that archaeologists and biological anthropologists find out about food use in the past. Contemporary observations about the central significance of eating as a social activity will be linked to the development of cuisines, economies, and civilizations in ancient times. The course will use lectures, discussions, films, food tastings, and fieldwork to explore the course themes.
Taught by: Moore
Course not offered every year
Activity: Lecture
1 Course Unit

ANTH 249 Evolutionary Medicine
Evolutionary medicine is the application of modern evolutionary theory to studies of health and disease in humans. In taking this approach, the course will explore the role that disease played in human evolution. We will examine both infectious and non-infectious diseases, and assess the way in which populations and disease organisms have co-evolved. Related issues to be examined are the nature of the virulence and pathogenicity of infectious agents, and their efforts to subvert the immune system's responses to infection. We will also explore the evolved responses that enable individuals to protect, heal and recuperate themselves from infections and injuries, such as fever and sickness behavior, and the fitness enhancing aspects of these processes. Finally, we will study how past adaptations of early humans to their environments now affects modern humans, who have very different diets, life expectancy, activity patterns, and hygiene than their ancestors.
Taught by: Schurr
Course not offered every year
Prerequisites: ANTH 003 and ANTH 143 (or permission for undergraduates)
Activity: Seminar
1 Course Unit

ANTH 254 Archaeology of the Inca
The Inca created a vast and powerful South American empire in the high Andes Mountains that was finally conquered by Spain. Using Penn’s impressive museum collections and other archaeological, linguistic, and historical sources, this course will examine Inca religion and worldview, architecture, sacred temples, the capital of Cuzco, ritual calendar, ceque system, textiles, metalworking, economic policies and expansionist politics from the dual perspectives of Inca rulers and their subjects. Our task is to explain the rise, dominance, and fall of the Incas as a major South American civilization.
For BA Students: History and Tradition Sector
Taught by: Erickson
Course not offered every year
Also Offered As: LALS 254
Activity: Seminar
1 Course Unit

ANTH 258 Visualizing the Past/Peopling the Past
This highly interdisciplinary course approaches fundamental issues in Anthropology and Computer Science. Using an anthropological perspective, this course focuses on the history, theory, and methods of how archaeology and visualizations of the past are created, presented and used in scholarly media (e.g., traditional publications, conference papers, and project databases), and popular culture (e.g., artists reconstructions, movies, TV documentaries, museum exhibits, games, the internet, and art), and contemporary computer technology (e.g., 3D modeling, Animation, virtual reality, and simulation). From the computer science perspective, the challenge becomes how we can transform known and often incomplete information into engaging and plausible digital models of a past culture and its people. Students gain acquisition of fundamental computer programming, data analysis, and 3D modeling and animation tools. The course material is broad and requires conceptual integration by the student. The instructors use the SEAS Open Learning Classroom for programing and the Penn Museum to explore artifact collections through Object-Based Learning and evaluate public exhibits and complete an original Final Project to people and visualize the past.
Taught by: Badler/Erickson
Course not offered every year
Also Offered As: CIS 106, LALS 268
Activity: Lecture
1 Course Unit

ANTH 260 Cultures of Science and Technology
Science and technology figure centrally in the economic, political, and socio-cultural changes that impact our worlds. Happenings in the life sciences, including the discovery of new genes, pathways, and processes, are drawing conceptual frameworks and how they 1) affect individuals, self-identities, subjectivity, kinship, and social relationships; 2) have interacted with or reinforced political programs, racial classifications, unequal access to knowledge, and patterns of social injustice; 3) inform contemporary institutional structures, strategies of governance, and practices of citizenship. The seminar starts from the premise that scientific facts are made, not things existing a priori in the world and that are merely picked up by researchers and consumed by lay audiences. Likewise, technologies are created through a process of intense negotiation between producers and their sophisticated users. Focusing on the biosciences, we explore the production of science and technology and how they 1) affect individuals, self-identities, subjectivity, kinship, and social relationships; 2) have interacted with or reinforced political programs, racial classifications, unequal access to knowledge, and patterns of social injustice; 3) inform contemporary institutional structures, strategies of governance, and practices of citizenship. We will combine methods and perspectives from social and cultural anthropology, and the social studies of science and technology, and will draw from historical case studies, contemporary ethnographies of science, scientific and medical journals, documentary films and media reports.
Taught by: Petryna
Course not offered every year
Also Offered As: STSC 268
Activity: Seminar
1 Course Unit
ANTH 267 Living World in Archaeological Science
By focusing on the scientific analysis of archaeological remains, this course will explore life and death in the past. It takes place in the Center for the Analysis of Archaeological Materials (CAAM) and is team taught in three modules: human skeletal analysis, analysis of animal remains, and analysis of plant remains. Each module will combine laboratory and classroom exercises to give students hands-on experience with archaeological materials. We will examine how organic materials provide key information about past environments, human behavior, and cultural change through discussions of topics such as health and disease, inequality, and food.
Taught by: White, Monge, Moore
Course not offered every year
Also Offered As: ANTH 567, CLST 268, CLST 568, NELC 286, NELC 586
Activity: Lecture
1 Course Unit

ANTH 268 Anthropology of Museums
This course examines museums as sites where issues of Indigenous identity, memory, place and power intersect. Museums have long been engaged in the selective preservation, representation, and contextualization of Indigenous objects, cultures, and histories. We will examine antiquarian impulses that inspired the collecting of curiosities, scientific studies that drove the collection of biological specimens, and nationalist ideals that shaped monuments to house imperialist memories. Museums are now sites for complex, often contentious discourse around Indigenous collections. Students will review histories of local and national collecting processes, with a particular focus on Native American collections and concerns. We will also consider how Indigenous curators and new kinds of museums have developed innovative displays and interpretations.
Taught by: Bruchac
Activity: Seminar
1 Course Unit

ANTH 273 Global Health: Anthropological Perspectives
In some parts of the world spending on pharmaceuticals is astronomical. In others, people struggle for survival amid new and reemerging epidemics and have little or no access to basic or life-saving therapies. Treatments for infectious diseases that disproportionately affect the world’s poor remain under-researched and global health disparities are increasing. This interdisciplinary seminar integrates perspectives from the social sciences and the biomedical sciences to explore 1) the development and global flows of medical technologies; 2) how the health of individuals and groups is affected by medical technologies, public policy, and the forces of globalization as each of these impacts local worlds. This course is a Benjamin Franklin Seminar. The seminar is structured to allow us to examine specific case material from around the world (Haiti, South Africa, Brazil, Russia, China, India, for example), and to address the ways in which social, political-economic, and technological factors — which are increasingly global in nature — influence basic biological mechanisms and disease outcomes and distribution. As we analyze each case and gain familiarity with ethnographic methods, we will ask how more effective interventions can be formulated. The course draws from historical and ethnographic accounts, medical journals, ethical analyses, and films, and familiarizes students with critical debates on globalization and with local responses to globalization processes.
Taught by: Petryna
One-term course offered either term
Also Offered As: HSOC 239
Activity: Seminar
1 Course Unit

ANTH 294 Cities of the Future: Urbanization in the Global South
This course examines the futures of urbanization in most of the world. With cities in “developing” countries set to absorb 95% of urban population growth in the next generation, the course explores the plans, spaces and social experiences of this dramatic urban century. How do proliferating urban populations sustain themselves in the cities of Latin America, Africa and Asia? What kinds of social and political claims do these populations make more just and sustainable cities? The course investigates the ongoing experiences in urban planning, infrastructure development and environmental governance in cities of the Global South. In so doing, it imagines new forms of citizenship, development and sustainability that are currently unfolding in these cities of the future.
Taught by: Anand
Course not offered every year
Also Offered As: URBS 294
Activity: Seminar
1 Course Unit

ANTH 301 Senior Thesis
Individual research under faculty supervision culminating in a thesis.
One-term course offered either term
Activity: Independent Study
1 Course Unit
Notes: Permit required

ANTH 305 Anthropology & Policy: History, Theory, Practice
From the inception of the discipline, anthropologists have applied their ethnographic and theoretical knowledge to policy issues concerning the alleviation of practical human problems. This approach has not only benefitted peoples in need but it has also enriched the discipline, providing anthropologists with the opportunity to develop new theories and methodologies from a problem-centered approach. The class will examine the connection between anthropology and policy, theory and practice (or ‘praxis’), research and application. We will study these connections by reading about historical and current projects. As an ABCS course, students will also volunteer in a volunteer organization of their choice in the Philadelphia area, conduct anthropological research on the organization, and suggest ways that the anthropological approach might support the efforts of the organization.
Course not offered every year
Also Offered As: ANTH 609
Activity: Seminar
1 Course Unit

ANTH 307 Contemporary Native Americans
This course examines the social and political lives of contemporary Native American Indians in the United States and Canada. Topics include: Indigenous identity; homelands and natural resources; popular culture and media; Indigenous arts and cultural expression; museum representations; athletics; gender relations; tribal recognition and sovereignty; and resistance movements. We will consider the origins of federal programs and legislation that have become essential to the protection of Native American freedoms. Students can expect to gain an appreciation of the complexity and cultural diversity of Native communities and tribal nations and insights into their interactions with other cultures over time.
Taught by: Bruchac
Course not offered every year
Also Offered As: ANTH 607
Activity: Lecture
1 Course Unit
ANTH 308 Ethnohistory of the Native Northeast
Ethnohistory is a multi-disciplinary form of ethnographic study and documentary research that employs both anthropological and historical approaches. This course examines the foundations of the ethnohistorical method as a means to interpret cross-cultural colonial interactions and conflicts, and to better understand the complex histories of Native American Indian peoples from Pennsylvania and northward and eastward. Students will develop skills and strategies for interpreting and contextualizing primary and secondary source materials, oral traditions, colonial records, historical maps, and material culture. Hands-on study will include visits to local archives and historical sites to view relevant documents and landscapes.
Taught by: Bruchac
One-term course offered either term
Activity: Seminar
1 Course Unit

ANTH 309 Psychoanalysis and Anthropology
This course will introduce students to the rich literature that has grown up around the encounter between psychoanalysis and anthropology, from totem and taboo, to studies of the Oedipus complex, child-rearing practices, ritual symbolism, mythology, and dreams. The class will also look to the future, endeavoring to examine as well such issues as the role of computers (are they self objects?) and the internet (including such online games as “Second Life”), dreams in space alien abduction narratives, sexuality in advertising, political psychology, and other contemporary issues.
Taught by: Urban/Blum
Course not offered every year
Also Offered As: ANTH 519, PSYS 309
Activity: Seminar
1 Course Unit

ANTH 319 Pottery & Archaeology
Pottery is the most ubiquitous material recovered from most archaeological sites of the last 10,000 years; all archaeologists must be capable of working with it. This course presents the basics on the recovery, documentation, and analysis of archaeological pottery. Instruction includes treatment of pottery in the field, museum, and laboratory. Students will develop critical awareness of the potentials and problems of interpreting pottery within the wider social contexts of production, exchange and consumption. This course will foster an appreciation of the range and complexity of pottery studies and encourage students to understand the materials and technological processes used in the manufacture of pottery.
Taught by: Boileau
Course not offered every year
Also Offered As: CLST 309
Activity: Seminar
1 Course Unit

ANTH 328 Performing Culture, Native American Arts
This course analyzes cultural performances as sites for the formation, expression, and transmission of social identity. Students will read ethnographies, critiques, and reports of performance genres including ritual, theater, music, dance, art, and spoken word, with a particular focus on Native American and Indigenous arts and expressions. Topics include: expressive culture as survivalism; debates around authenticity and invented traditions; public identity and sexuality; political resistance; the effects of globalization; transnationalism and hybridity; cultural appropriation; and the transformation of folk performances in the wake of modern media.
Taught by: Bruchac
One-term course offered either term
Activity: Lecture
1 Course Unit

ANTH 329 Psychoanalytic and Anthropological Perspectives on Childhood
This course will consider the interaction between culture and individual psychology, and between nature and nurture from birth to adulthood. Through an examination of phases of human development described by psychoanalysis, and evidence concerning psychoanalytic ideas from around the world, we will consider questions such as: How do people become who they are, both similar to others and uniquely individual? How do we develop emotionally? What features are and are not universal for our species? What is and is not known about these questions. The instructors are both psychoanalysts, one a psychiatrist, one a pediatrician.
Taught by: Blum/Shapiro
Course not offered every year
Also Offered As: ANTH 529, PSYS 329
Activity: Seminar
1 Course Unit

ANTH 334 Feminist Ethnography
This course will investigate the relationships among women, gender, sexuality, and anthropological research. We will begin by exploring the trajectory of research interest in women and gender, drawing first from the early work on gender and sex by anthropologists like Margaret Mead and Ruth Benedict; moving through the 1970s and 1980s arguments about gender, culture, and political economy; arriving at more current concerns with gender, race, sexuality, and empire. For the rest of the semester, we will critically read contemporary ethnographies addressing pressing issues such as nationalism, militarism, neoliberalism and fundamentalism. Throughout, we will investigate what it means not only to “write women’s worlds”, but also to analyze broader socio-cultural, political, and economic processes through a gendered lens. We will, finally, address the various ways feminist anthropology fundamentally challenged the discipline’s epistemological certainties, as well as how it continues to transform our understanding of the foundations of the modern world.
Taught by: Thomas
Course not offered every year
Also Offered As: AFRC 334, AFRC 634, ANTH 634, GSWS 334, GSWS 634
Prerequisites: Should have some fundamental knowledge of Cultural Anthropology.
Activity: Seminar
1 Course Unit
ANTH 337 CROSS CULTURAL METHODS IN HEALTH AND PUBLIC POLICY
This course will introduce students to applied anthropology methods for doing research that can change policy and practices. Examples of policy and practice change include clinical practices in health care settings, social welfare policy, and legal advocacy. Students will be trained in multiple anthropology research methods, including brief participant-observation, qualitative interviewing, life story interviewing, and ethnographic content analysis of textual material. Students will also learn how to use NVivo software for analyzing qualitative and some quantitative data from their field notes, interviews, and analysis of popular articles/websites. Finally, students will practice writing products for non-academic audiences, such as policymakers, the media, and the general public. The course will emphasize using anthropology research methods to address real-world problems in policy and practice.
Taught by: SAHOTA
Activity: Seminar
1 Course Unit

ANTH 347 Anthropology of Corporations
Modern business corporations can be characterized as having their own internal cultures, more or less distinct from one another. They also exist within encompassing cultures and cultural flows. At the same time, corporations are producers and disseminators, and thus have effects on their surrounding environments, effects that extend from the local to the global. This course examines modern corporations from these three perspectives through theoretical and ethnographic readings, guest speakers from the corporate world, and independent research conducted by the students. Course requirements include student presentations of their research and readings; one or more take-home exams; and a final research paper.
One-term course offered either term
Activity: Seminar
1 Course Unit

ANTH 359 Nutritional Anthropology
This course will explore the significance as it relates to food behaviors and nutritional status in contemporary human populations. The topics covered will be examined from a biocultural perspective and include 1) definition and functions of nutrients and how different cultures perceive nutrients, 2) basic principles of human growth and development, 3) methods to assess dietary intake, 4) food taboos, 5) feeding practices of infants and children, 6) food marketing, 7) causes and consequences of under- and over-nutrition, and 8) food insecurity and hunger.
Course not offered every year
Also Offered As: HSOC 359, URBS 359
Activity: Seminar
1 Course Unit

ANTH 362 Intro to Digital Archaeology
Digital methods allow archaeologists to approach research questions about the human past with increasing accuracies on larger datasets and at multiple scales. This class introduces students to the three main steps of digital archaeology: data management, analysis, and sharing. Data management involves the design, creation, and curation of digital objects that capture the archaeological process and evidence. Students will gain deep familiarity in working with the main types of digital archaeological data: structured data (relational databases), 3D models/spatial data, and raster images. The class will provide abundant hands-on experience with the latest equipment and software for working with many different kinds of data. We will learn about data analysis techniques through a close examination of a variety of case studies in the literature that demonstrate how other archaeologists have applied digital methods to their archaeological questions. Finally, we will discuss the importance of sharing data through open access data publication and we will apply our skills with structured data to existing online archaeological datasets. The goal of this class is to prepare students to make methodological decisions during future research endeavors, both in the field and in the archaeological lab.
Taught by: PETER COBB
Also Offered As: AAMW 562, CLST 362, CLST 562
Prerequisite: Prior archaeological classwork and/or experience preferred
Activity: Lecture
1 Course Unit

ANTH 402 APPLIED RESEARCH SKILLS IN GLOBAL COMMUNITY HEALTH
While political borders remain, social and human borders fall with the increasing movement of people, ideas, and resources across geographies. What is global becomes local. While biomedical and counting science advance, the human experience and influence remain core to understanding behavior, beliefs, and awareness. What is human remains paramount. The Maya Western Highlands of Guatemala are undergoing health changes (trauma, maternal-infant health, diabetes, mental health) through economic development and continued human migration to and from the US. In this context, Applied Skills in Global Community Health will provide academic and professional skills development in understanding the role of culture, history and politics in the health of a population in transition (demographic, nutritional, epidemiologic, economic). Classroom work will occur in the spring of each year combined with a short (1 or 2 wk) or long term (10 wk) field experiences in the Western Highlands of Guatemala.
Taught by: BARG, BREAM
Course usually offered in spring term
Activity: Seminar
1 Course Unit
Notes: PARTICIPATION IN FIELD WORK REQUIRED, SPANISH LANGUAGE PROFICIENCY REQUIRED FOR 10 WEEK FIELD SCHOOL OPTION

ANTH 404 Introduction to the Human Skeleton
An introduction to the anatomy and biology of the human skeleton. Laboratory work will be supplemented by lectures and demonstrations on the development structure, function, and evolution of the human skeleton.
Taught by: Monge
Course not offered every year
Activity: Lecture
1 Course Unit
ANTH 407 Human Evolution
An examination of fossils and other evidence documenting human evolution. Lectures and readings are supplemented with slide and fossil reproduction materials.
Taught by: Monge
Course not offered every year
Prerequisite: ANTH 003
Activity: Lecture
1 Course Unit

ANTH 415 Archaeology of Animals
This course introduces the study of animal bones from archaeological sites. Faunal analysis is an interdisciplinary science which draws methods from archaeology, biology, and paleontology. Bones, shells, and other remains yield evidence for the use of animals by humans, and evidence for the biology of animals and for past environments. The course will focus on research approaches to important transitions in human-animal relationships: the development of human hunting and fishing, animal domestication, early pastoralism, and the emergence of market economies in animal products. Class presentations will include lectures and discussion concerning research design and archaeological case material, with additional videos, slidework with field and laboratory equipment, and supervised work identifying and describing archaeological materials from the University Museum’s collections. This class is taught in the Zooarchaeology Laboratory of the Center for the Analysis of Archaeological Materials.
Taught by: Moore
Course not offered every year
Prerequisites: ANTH 001 or permission from instructor.
Activity: Lecture
1 Course Unit

ANTH 419 Mining Archaeology
In ancient times, materials such as stone and metals were used to produce artifacts including pigments, jewelry, tools, and weapons. This course is designed to introduce students to research on the early exploitation of mineral resources. Which techniques were used to access and process raw materials in antiquity? Which archaeological methods can be used to investigate these features and artifacts? The course will provide worldwide examples through time, ranging from Stone Age flint mining, Iron Age rock salt mining to Medieval silver mining. Ethnographic studies and hands-on activities will contribute to our understanding of mining in archaeology, and artifacts from the Museum’s collections will undergo scientific analysis in the Center for the Analysis of Archaeological Materials.
Taught by: Jansen
One-term course offered either term
Also Offered As: CLST 419, NELC 419
Activity: Lecture
1 Course Unit

ANTH 424 Political Ecologies of the City
Cities have been centres of aspiration for much of human history. They have provided a limited yet critical locus for social mobility, both in political and economic terms. As large agglomerations of political and economic power, urban residents have also consumed growing proportions of the earth’s mineral, food and water resources from the national (and international) body. The contradictory aspects of urban aspiration frame this course. Drawing on the frameworks of political ecology, in this course we think through the cities of the global south to understand how cities are made. To do this, we will first focus on the construction on the liberal city and how it has been occupied, both formally and informally, by urban subjects in most of the world. Next, we will learn about projects through which natural resources have been directed to and through the city. Finally we will conclude with a particular attention to how urban resources are claimed by marginalized migrants, and the particular sorts of governance institutions these practices engender.
Taught by: Anand
Course not offered every year
Also Offered As: URBS 424
Activity: Seminar
1 Course Unit

ANTH 429 Anthropology of the Environment
This seminar draws from social scientific and scientific literatures to explore current themes in the anthropology of the environment. We will investigate the links between climate change science and social science, and the ways in which anthropologists can contribute via in-depth fieldwork methodology and long engagement in issues of society-environment interactions. We will also explore how potential environmental, social, and biological impacts of global warming on the future are being assessed through conceptual paradigms linked to risk, probability, scenario forecasting, tipping points, planetary boundaries, and extinction.
Taught by: Petryna
Activity: Seminar
1 Course Unit

ANTH 433 Andean Archaeology
Consideration of the culture history of the native peoples of the Andean area, with emphasis on the pre-conquest archaeology of the Central-Andean region.
Taught by: Erickson
Course not offered every year
Also Offered As: LALS 433
Activity: Lecture
1 Course Unit
**ANTH 440 Plants and Society**

Interactions between humans and the living landscape around us have played - and continue to play - a fundamental role in shaping our worldview. This course is designed to introduce students to the diverse ways in which humans interact with plants. We will focus on the integration of ethnographic information and archaeological case studies in order to understand the range of interactions between humans and plants, as well as how plants and people have profoundly changed one another. Topics will include the origins of agriculture; cooking and plant processing; human health and the world of ethnomedicine; and poisonous and psychoactive plants. We will examine ancient plant material firsthand at the Center for the Analysis of Archaeological Materials (CAAM) and will handle botanical ecofacts from the Penn Museum’s collections. Students will also carry out a substantial research project focused on an archaeological culture and plant species of their own interest.

Taught by: WHITE

Course not offered every year

Also Offered As: CLST 441

Activity: Seminar

1 Course Unit

**ANTH 441 Cross Cultural Approaches to Health and Illness**

This course will explore the ways that health and illness-related beliefs and behaviors develop within communities. We will identify the forces that shape these beliefs and behaviors and ultimately affect who gets sick, who gets well, and the very nature of the illness experience. Emphasis will be given to the relationships among sociocultural, political and biological factors and the ways that these factors interact to produce the variation that we see in health and illness related attitudes, behaviors and outcomes across cultures.

Course not offered every year

Also Offered As: HSOC 441

Activity: Seminar

1 Course Unit

**ANTH 451 Historical Archaeology**

Archaeology of the Modern World from the Columbian voyage (1492) to the 20th century. Topics such as the rise of early modern Europe, European exploration and colonization, African American Archaeology, Asian American Archaeology, the rise of colonial society, contact with native peoples, the Industrial Revolution, and the archaeology of the 20th century will be covered.

Taught by: Schuyler

Course not offered every year

Also Offered As: ANTH 751

Activity: Seminar

1 Course Unit

**ANTH 454 Quantitative Analysis of Anthropological Data**

Problem-oriented approach to application of quantitative methods in anthropological research. Emphasis on formulation of specific problems using real data sets by each student in his or her area of interest. The logic of problem solving using quantitative arguments, the investigation of data reliability and representativeness, and the use of statistical arguments in the presentation of results covered in detail. Use of computers as research tools will be an integral part of the presentation.

Taught by: Dibble

One-term course offered either term

Activity: Lecture

1 Course Unit

**ANTH 511 Ethics, Archaeology Cultural Heritage**

This seminar will explore some of the most important issues that are now a central part of archaeological, anthropological and historical research throughout the world. The identification and control of cultural heritage is a central part of the framework for research within other communities. Issues for this course will also include cultural identity, human rights, repatriation, colonialism, working with communities and many other topics. Field research today must be based upon a new series of ethical standards that will be discussed and examined within this class. Major topics include: cultural heritage - definitions and constructs, cosmopolitanism and collecting, archaeology and looting, cultural heritage preservation, museums - universal and national, museum acquisition policies, cultural identity, international conventions (including underwater issues), national laws of ownership, community based development, cultural tourism, development models, and human rights.

Taught by: Leventhal

Course not offered every year

Also Offered As: HIST 512

Activity: Seminar

1 Course Unit

**ANTH 512 Experimental Lithic Technology**

Stone tools are the most significant source of information about past human behavior and evolution over the past 2.5 million years. But because stone technology has been largely abandoned, archaeologists often rely on experiments to help them determine how such tools were made and used. This course will review the kinds of experiments most often used (both actualistic and replicative), but will focus on understanding the mechanics of stone flaking through controlled experiments. As part of their study, students will take part in both designing and implementing a series of experiments involving mechanical flaking of molded glass cores, and will apply the results of this research to archaeological specimens.

Taught by: Dibble

Course not offered every year

Activity: Seminar

1 Course Unit

**ANTH 514 Petrography of Cultural Materials**

Introduction to thin-section petrography of stone and ceramic archaeological materials. Using polarized light microscopy, the first half of this course will cover the basics of mineralogy and the petrography of igneous, metamorphic and sedimentary rocks. The second half will focus on the petrographic description of ceramic materials, mainly pottery, with emphasis on the interpretation of provenance and technology. As part of this course, students will characterize and analyze archaeological samples from various collections. Prior knowledge of geology is not required.

Taught by: Boileau

Course not offered every year

Also Offered As: AAMW 512, CLST 512

Activity: Seminar

1 Course Unit
**ANTH 516 Public Interest Workshop**
This is a Public Interest Ethnography workshop (originally created by Peggy Reeves Sanday - Department of Anthropology) that incorporates an interdisciplinary approach to exploring social issues. Open to graduate and advanced undergraduate students, the workshop is a response to Amy Gutmann's call for interdisciplinary cooperation across the University and to the Department of Anthropology's commitment to developing public interest research and practice as a disciplinary theme. Rooted in the rubric of public interest social science, the course focuses on: 1) merging problem solving with theory and analysis in the interest of change motivated by a commitment to social justice, racial harmony, equality, and human rights; and 2) engaging in public debate on human issues to make research results accessible to a broader audience. The workshop brings in guest speakers and will incorporate original ethnographic research to merge theory with action. Students are encouraged to apply the framing model to a public interest research and action topic of their choice. This is an academically-based-community-service (ABCS) course that partners directly with Penn's Netter Center for Community Partnerships.
Taught by: Suess
Course not offered every year

Also Offered As: ANTH 309, PSYS 309
Activity: Seminar
1 Course Unit

**ANTH 519 Psychoanalysis & Anthropology**
This course will introduce students to the rich literature that has grown up around the encounter between psychoanalysis and anthropology, from totem and taboo, to studies of the Oedipus complex, child-rearing practices, ritual symbolism, mythology, and dreams. The class will also look to the future, endeavoring to examine as well such issues as the role of computers (are they self objects?) and the internet (including such online games as "Second Life"), dreams in space alien abduction narratives, sexuality in advertising, political psychology, and other contemporary issues.
Taught by: Urban
Course not offered every year

Also Offered As: ANTH 309, PSYS 309
Activity: Seminar
1 Course Unit

**ANTH 521 Material World in Archaeological Science**
By focusing on the scientific analysis of inorganic archaeological materials, this course will explore processes of creation in the past. ANTH 521 will take place in the new Center for the Analysis of Archaeological Materials (CAAM) and will be team taught in three modules: analysis of lithics, analysis of ceramics and analysis of metals. Each module will combine laboratory and classroom exercises to give students hands-on experience with archaeological materials. We will examine how the transformation of materials into objects provides key information about past human behaviors and the socio-economic contexts of production, distribution, exchange and use. Discussion topics will include invention and adoption of new technologies, change and innovation, use of fire, and craft specialization.
Taught by: Boileau/Dibble/Jansen
Course not offered every year

Also Offered As: ANTH 221, ARTH 230, CLST 244, NELC 284, NELC 584
Prerequisite: ANTH 002 for undergraduates
Activity: Lecture
1 Course Unit

**ANTH 529 Psychoanalytic and Anthropological Perspectives on Childhood**
This course will consider the interaction between culture and individual psychology, and between nature and nurture from birth to adulthood. Through an examination of phases of human development described by psychoanalysis, and evidence concerning psychoanalytic ideas from around the world, we will consider questions such as: How do people become who they are, both similar to others and uniquely individual? How do we develop emotionally? What features are and are not universal for our species? What is and is not known about these questions. The instructors are both psychoanalysts, one a psychiatrist, one a pediatrician.
Taught by: Lawrence Blum
Course not offered every year

Also Offered As: ANTH 329, PSYS 329
Activity: Seminar
1 Course Unit

**ANTH 533 Archaeobotany Seminar**
In this course we will approach the relationship between plants and people from archaeological and anthropological perspectives in order to investigate diverse plant consumption, use, and management strategies. Topics will include: plants as foods and intoxicating beverages; medicines, poisons, and psychoactive plants; plants as building supplies and textiles; wild plant collection, and the origins of plant domestication. Students will learn both field procedures and laboratory methods of archaeobotany through a series of hands-on activities and lab-based experiments. The final research project will involve an original in-depth analysis and interpretation of archaeobotanical specimens. By the end of the course, students will feel comfortable reading and evaluating archaeobotanical literature and will have a solid understanding of how archaeobotanists interpret human activities of the past.
Taught by: Chantel White
Course not offered every year

Also Offered As: AAMW 539, CLST 543, NELC 585
Activity: Seminar
1 Course Unit

**ANTH 547 Anthropology & Education**
An introduction to the intent, approach, and contribution of anthropology to the study of socialization and schooling in cross-cultural perspective. Education is examined in traditional, colonial, and complex industrial societies.
Taught by: Hall
One-term course offered either term

Also Offered As: EDUC 547, URBS 547
Activity: Lecture
1 Course Unit
ANTH 552 Archaeometallurgy Seminar
This course is designed to provide an in-depth analysis of archaeological metals. Topics to be discussed include: exploitation of ore and its transformation to metal in ancient times, distribution of metal as a raw materials, provenance studies, development and organization of early metallurgy, and interdisciplinary investigations of metals and related artifacts like slag and crucibles. Students will become familiar with the full spectrum of analytical procedures, ranging from microscopy for materials characterization to mass spectrometry for geochemical fingerprinting, and will work on individual research projects analyzing archaeological objects following the analytical methodology of archaeometallurgy.
Taught by: Moritz Jansen
Also Offered As: AAMW 552, CLST 552, NELC 587
Activity: Seminar
1 Course Unit

ANTH 554 Truth, Politics, Ethics: An Anthropological Seminar
This is a reading-intensive seminar geared primarily toward anthropology graduate students who have had some field research experience or are uncovering surprising findings that come from deep ethnographic engagement, and who are now grappling with the implications, production, and narration of evidence for themselves and for larger publics. Drawing from readings in anthropology, philosophy, psychoanalysis, and the history and sociology of science, we will develop our craft as an intimate practice and work of careful translation in the context of a demanding set of readings on the political economy of truth, hypocrisy, ethics, and bias.
Taught by: Petryna
One-term course offered either term
Activity: Seminar
1 Course Unit

ANTH 556 Becoming a Professional Archaeologist
This course (cross-listed as AAMW556) is designed to prepare graduate students for a career in academic archaeology. Topics to be covered include project research design (including logistical planning), acquiring funding (proposal writing), managing grants (including budget planning and reconciliation), publishing, and preparing for entering the job market (writing cover letters and CVs). Students are also encouraged to suggest further topics of interest as the semester goes on. The final project will be the development of a NSF grant proposal, which will be presented and critiqued in stages throughout the semester, and which can serve as the basis for later submission. While much of the focus is on archaeology, students in other disciplines, especially those involving field research, will also benefit.
Taught by: Dibble
Course not offered every year
Also Offered As: AAMW 556
Prerequisites: ANTH 600 and one archaeology area course or permission of instructor
Activity: Seminar
1 Course Unit

ANTH 557 Seminar in Archaeological Theory and Method: Archaeology of Landscapes
Advanced seminar for potential professional archaeologists. Course will examine critically main past and present theoretical issues in archaeological research and interpretation, and consider various methodologies utilized towards these interpretive ends.
Taught by: Erickson
Course not offered every year
Also Offered As: AAMW 557, LALS 557
Prerequisites: ANTH 241 or ANTH 600 and one archaeology area course or permission from instructor
Activity: Seminar
1 Course Unit

ANTH 561 Global Food Security
This is an interdisciplinary course on the problems of food demand and consumption, production and supply in our increasingly globalized and urbanizing world. Special attention will be given to the intersections of current technologies of food production, current nutritional problems, environmental change and resource degradation, and the changing quality of human social life under globalization. Where and how will sufficient nutritious food be produced sustainably and how can the politics and economics of equitable distribution in such large urban populations be achieved?
Taught by: Spooner
One-term course offered either term
Also Offered As: VCSN 657
Activity: Lecture
1 Course Unit

ANTH 567 Living World in Archaeological Science
By focusing on the scientific analysis of archaeological remains, this course will explore life and death in the past. It takes place in the Center for the Analysis of Archaeological Materials (CAAM) and is team taught in three modules: human skeletal analysis, analysis of animal remains, and analysis of plant remains. Each module will combine laboratory and classroom exercises to give students hands-on experience with archaeological materials. We will examine how organic materials provide key information about past environments, human behavior, and cultural change through discussions of topics such as health and disease, inequality, and food.
Taught by: White, Monge, Moore
Course not offered every year
Also Offered As: ANTH 267, CLST 268, CLST 568, NELC 286, NELC 586
Activity: Lecture
1 Course Unit
ANTH 587 Race, Nation, Empire
This graduate seminar examines the dynamic relationships among empires, nations and states; colonial and post-colonial policies; and anti-colonial strategies within a changing global context. Using the rubrics of anthropology, history, cultural studies, and social theory, we will explore the intimacies of subject formation within imperial contexts- past and present- especially in relation to ideas about race and belonging. We will focus on how belonging and participation have been defined in particular locales, as well as how these notions have been socialized through a variety of institutional contexts. Finally, we will consider the relationships between popular culture and state formation, examining these as dialectical struggles for hegemony.
Taught by: Thomas
Course not offered every year
Also Offered As: AFRC 587, LALS 588
Activity: Seminar
1 Course Unit

ANTH 600 Contemporary Archaeology in Theory
This graduate seminar addresses contemporary anthropological archaeology and considers the varied ways inferences are made about past and present human behavior from the archaeological record. It reviews such fundamental topics as the use of analogy, Middle Range theory, symbolism and meaning, social and cultural evolution, ideology and power, feminism and gender, and indigenous (non-Western) perspectives. It also foregrounds basic issues regarding heritage, looting, and ethics.
Course usually offered in fall term
Activity: Seminar
1 Course Unit
Notes: First-year anthropology graduate students.

ANTH 602 Evolutionary Anthropology
This course will explore various subfields of biological anthropology to better understand what it means to be human. Special attention will be paid to current issues and problems in these subfields, and the different ways in which researchers are attempting to understand and uncover the details of human evolution. Among the areas that are explored in this course are paleoanthropology, primatology, human biology, molecular anthropology, evolutionary medicine, epigenetics, and human life history. Specific issues to be explored include the primate roots of human behavior, brain and language evolution, new fossil hominins, the origins of anatomically modern humans, and modern human migration history.
Taught by: Schurr
Course usually offered in spring term
Activity: Seminar
1 Course Unit
Notes: First-year anthropology graduate students.

ANTH 603 Language in Culture and Society
First-year anthropology graduate students or Instructor Permission. Examination of properties of human language which enable social persons to interpret the cultural world and to act within it. Topics include: principles of lexical and grammatical organization; the role of language structure (grammar) and linguistic context (indexicality) in discursive activity; referential uses of language; social interaction; markers of social role, identity, and group-belonging; criteria by which models of linguistic form and function are formulated; the empirical limits within which different models have explanatory value.
Taught by: Agha
Course usually offered in fall term
Activity: Seminar
1 Course Unit
Notes: First-year anthropology graduate students.

ANTH 605 Anthropology of Music
Theories and methods of the ethnomusicological approach to the study of music in culture, applied to selected western and non-western performance contexts.
One-term course offered either term
Also Offered As: COML 605, FOLK 605, MUSC 605
Activity: Seminar
1 Course Unit

ANTH 607 Contemporary Native Americans
This course examines the social and political lives of contemporary Native American Indians in the United States and Canada. Topics include: Indigenous identity; homelands and natural resources; popular culture and media; Indigenous arts and cultural expression; museum representations; athletics; gender relations; tribal recognition and sovereignty; and resistance movements. We will consider the origins of federal programs and legislation that have become essential to the protection of Native American freedoms. Students can expect to gain an appreciation of the complexity and cultural diversity of Native communities and tribal nations and insights into their interactions with other cultures over time.
Taught by: Bruchac
Course not offered every year
Also Offered As: ANTH 307
Activity: Lecture
1 Course Unit

ANTH 617 Contemporary Approaches to the Study of Culture and Society
A critical examination of recent history and theory in cultural and social anthropology. Topics include structural-functionalism; symbolic anthropology; post-modern theory. Emphasis is on major schools and trends in America, Britain, and France.
Course usually offered in spring term
Activity: Seminar
1 Course Unit
Notes: First-year anthropology graduate students.
ANTH 618 Mediated Culture in Contemporary Society
The course examines the role of mass media in organizing and disseminating cultural norms and values in contemporary society. Particular attention is given to two domains of organized social life, namely consumer behavior and public opinion. The course explores the ways in which mass media organize aspects of individual preference and taste, matters of identity and lifestyle, and the sense of belonging to a common culture. Issues of how individuals come to acquire common tastes and opinions, and attempt to vary upon them in defining their positional identities and stakes are central areas of concern. Material from a variety of present-day societies is discussed in comparative terms.
Taught by: Agha
Course not offered every year
Prerequisite: ANTH 603 or Instructor Permission
Activity: Seminar
1 Course Unit

ANTH 620 Directed Reading and Research
To be arranged only by consultation with academic adviser and faculty member(s) to be involved; a proposed syllabus must be presented for approval, and written papers will be required without exception. On approval of these papers one copy must be presented to the Department of Anthropology office for filing.
One-term course offered either term
Activity: Independent Study
1 Course Unit
Notes: May be repeated for credit

ANTH 621 Directed Field Training and Research
To be arranged only by consultation with academic adviser and the faculty member(s) to be involved; a proposed syllabus must be presented for approval and written papers will be required without exception. On approval of these papers, one copy must be presented to the Department of Anthropology office for filing.
One-term course offered either term
Activity: Independent Study
1 Course Unit
Notes: May be repeated for credit

ANTH 622 Topics in Physical Anthropology
Humans are characterized by several distinctive life history features, e.g., large babies, late age at puberty and first reproduction, cessation of menstruation long before death, and a long life span. In addition, our reproductive decisions are heavily influenced by society and culture. This seminar will explore human life history from an evolutionary ecology and biocultural perspective, and will analyze the possible contributions of this approach to other disciplines such as demography, sociology, medicine, and public health. We will read and discuss seminal papers and recent developments on the topic.
Course not offered every year
Activity: Seminar
1 Course Unit

ANTH 626 Medical Anthropology: Case Studies and Methods
Intensive analysis of the application of anthropological theory and methodology to problems of human health and health care. Offered for students in the Medical Anthropology Program. Other qualified students may enroll with the permission of instructor.
Taught by: Petryna
Course not offered every year
Prerequisites: Permission of instructor.
Activity: Seminar
1 Course Unit

ANTH 628 Language in Culture and Society: Special Topics
The course is devoted to a single research topic of contemporary interest in linguistic anthropology. Topics vary from year to year. Readings locate current debates in relation to longstanding assumptions in the literature and new directions in contemporary research.
Taught by: Agha
Course not offered every year
Prerequisite: ANTH 603 or Instructor Permission
Activity: Seminar
1 Course Unit

ANTH 630 Ceramics and Ceramic Analysis
Introduction to ceramics, ceramic typology and analysis. Course will utilize largely work done on ancient Near Eastern ceramics, though it is not intended as an introduction to ancient Near Eastern ceramic sequences. Course is intended as a practical introduction for archaeologists to ceramics, the ways ceramics are collected and dealt with in the field, ceramic typology and "laboratory analyses". To provide depth, the course will cover both the ways ceramics have been dealt with in the past and current trends in the study of ceramics.
Taught by: Zettler
Course not offered every year
Also Offered As: ANTH 103
Activity: Seminar
1 Course Unit

ANTH 631 Grammatical Categories
The course is an introduction to grammatical organization in human language for students in linguistic anthropology and associated fields. Primary foci: methods for the analysis of grammatical categories; constituency and propositional content; grammatical typology and universals. Other topics: relationship of grammatical categories to other principles organizing communication, conceptualization and interpersonal conduct; analysis of interlocking category systems; relationship of categories to actual human behavior. Students are encouraged to apply the techniques developed in lectures and assigned readings to the analysis of a non-Indo-European language over the course of the semester.
Taught by: Agha
Course not offered every year
Prerequisite: ANTH 603 or Instructor Permission
Activity: Seminar
1 Course Unit

ANTH 633 Forensic Anthropology
This course will investigate and discuss the various techniques of analysis that biological anthropologists can apply to forensic cases. Topics include human osteology, the recovery of bodies, the analysis of life history, the reconstruction of causes of death, and various case studies where anthropologists have contributed significantly to solving forensic cases. Discussions will include the limitations of forensic anthropology and the application of DNA recovery to skeletal/mummified materials.
Taught by: Monge
Course not offered every year
Also Offered As: ANTH 230, CRIM 230
Activity: Lecture
1 Course Unit
ANTH 634 Feminist Ethnography
This course will investigate the relationships among women, gender, sexuality, and anthropological research. We will begin by exploring the trajectory of research interest in women and gender, drawing first from the early work on gender and sex by anthropologists like Margaret Mead and Ruth Benedict; moving through the 1970s and 1980s arguments about gender, culture, and political economy; arriving at more current concerns with gender, race, sexuality, and empire. For the rest of the semester, we will critically read contemporary ethnographies addressing pressing issues such as nationalism, militarism, neoliberalism and fundamentalism. Throughout, we will investigate what it means not only to "write women's worlds", but also to analyze broader socio-cultural, political, and economic processes through a gendered lens. We will, finally, address the various ways feminist anthropology fundamentally challenged the discipline's epistemological certainties, as well as how it continues to transform our understanding of the foundations of the modern world.
Taught by: Thomas
Course not offered every year
Also Offered As: ANTH 334, GSWS 334, GSWS 634
Activity: Seminar
1 Course Unit

ANTH 636 Mesopotamia: Heartland of Cities and Empires
This course surveys the cultural traditions of ancient Mesopotamia, the land between the Tigris and Euphrates Rivers, a region commonly dubbed "cradle of civilization" or "heartland of cities," from an archaeological perspective. It will investigate the emergence of sedentism and agriculture; early villages and increasingly complex Neolithic and Chalcolithic cultures; the evolution of urban, literate societies in the late 4th millennium; the city-states and incipient supra-regional polities of the third and second millennium; the gradual emergence of the Assyrian and Babylonian "world empires," well-known from historical books of the Bible, in the first millennium; and the cultural mix of Mesopotamia under the successive domination of Greeks, Persians and Arabs. The course seeks to foster an appreciation of the rich cultural heritage of ancient Mesopotamia, an understanding of cultural continuities in the Middle East and a sense of the ancient Near Eastern underpinnings of western civilization.
Taught by: Zettler
Course not offered every year
Also Offered As: ANTH 236, NELC 241
Activity: Lecture
1 Course Unit

ANTH 640 Race, Diaspora & Critique
This course will attempt to engage students in an interdisciplinary conversation about the epistemological, methodological, and political interventions framing/grounding/informing Africana Studies as a scholarly endeavor. Students will be asked to consider the context and content of this evolving field/discipline, examining the ideological and intellectual issues that drive debates within (and critiques of) African-American/Africana Studies (indeed, the very difference in such designations bespeaks important demographic and ideological shifts within the academy and beyond). Students will be introduced to some of the major historical and contemporary literatures in Africana Studies across the humanities and social sciences, emphasizing "diaspora" as a guiding construct and organizing principle. Class discussions will be aimed at expanding students’ knowledge of the sources available for research in Africana Studies - with an eye toward guiding their preparation for future scholarly research informed by the questions and critical conceptualizations emerging from Africana Studies.
Taught by: Thomas
Course not offered every year
Also Offered As: AFRC 640, COMM 740
Activity: Seminar
1 Course Unit

ANTH 643 Globalization And Its Historical Significance
Globalization is one of the most comprehensive topics of our time, and also one of the most controversial. This course assesses the current state of globalization, considering it in terms of economic, political, and cultural change, and follows its progress through the semester. The class will be led through the main topics and debates, introduced to conceptual and empirical tools for framing academic discussion and research about its dynamics, how and when it began, and (most particularly) how it differs from earlier episodes of historical change.
Taught by: Spooner
Course not offered every year
Activity: Seminar
1 Course Unit

ANTH 649 Molecular Anthropology
This course explores the molecular revolution in biological anthropology, and in particular, examines the nature and theory of collecting molecular data to address anthropological questions concerning human origins, evolution and biological variation. Students will review the methods used to analyze molecular genetic data, and learn to draw evolutionary and phylogenetic conclusions from this information.
Taught by: Schurr
Course not offered every year
Also Offered As: ANTH 246
Activity: Seminar
1 Course Unit

ANTH 654 Topics In Anthropology and the Modern World
This course relates anthropological models and methods to current problems in the Modern World. The overall objective is to show how the research findings and analytical concepts of anthropology may be used to illuminate and explain events as they have unfolded in the recent news and in the course of the semester. Each edition of the course will focus on a particular country or region that has been in the news.
Taught by: Spooner
Course usually offered in fall term
Also Offered As: ANTH 100, NELC 281, NELC 681, SAST 161
Activity: Lecture
1 Course Unit
ANTH 655 Methods and Grantwriting for Anthropological Research
This course is designed for third- and fourth-year graduate students in anthropology who are working on their dissertation research proposals and submitting grants. Graduate students from other departments who will be submitting grant proposals that include an ethnographic component are also welcome. Students will develop their proposals throughout the course of the semester, and will meet important fall submission deadlines. They will begin by working with various databases to search funding sources relevant to the research they plan to conduct. In class sessions, they will also work with the professor and their peers to refine their research questions, their methods, the relationship of any previous research to their dissertation fieldwork, and the broader theoretical and "real-world" significance of their proposed projects. Finally, students will also have the opportunity to have live "chats" with representatives from funding agencies, thereby gaining a better sense of what particular foundations are looking for in a proposal.
Taught by: Thomas
Activity: Seminar
Course usually offered in fall term
1 Course Unit

ANTH 658 Discourse-Centered Research Seminar
This seminar explores the interface between discourse, culture, and social processes. It is designed for graduate students in anthropology and related disciplines who (1) wish to study the current literature in linguistic anthropology concerned with discourse-centered approaches to culture; and (2) themselves have or will acquire during the semester discourse materials (texts, recordings, ethnographic data, etc.) that they wish to analyze from an anthropological point view. The instructor will spend time discussing his own past and current research. Class sessions will also include discussion of the writings of contemporary anthropologists investigating culture through discourse. The seminar is designed for maximum flexibility in accommodating students' research interests and needs.
Taught by: Urban
Activity: Seminar
1 Course Unit

ANTH 667 Topics In Psychology & Culture
Our task in this course is to examine some of the ways in which people develop and deploy their identities under the conditions of a rapidly changing world. This task is part of a life-long process, or journey, which begins in one's family of origin and is shaped by the cultural life plan while growing up. Features of the life plan involve creative reflection, taking risks, learning from errors and failures, assessing one's feelings, revising one's operating knowledge, altering one's goals and taking the next steps forward. Life stories then become the repository of one's steps along the way, sometimes challenged by experiences in extreme situations and at other times facilitated by the rituals of our lives. Fulfillment becomes a product of the process of appraisal and of the means of coping with the exigencies of life, including its culmination and ending.
Taught by: Urban
Activity: Lecture
Course not offered every year
1 Course Unit

ANTH 695 Current Topics in Molecular Anthropology
An examination of the nature and theory of collecting molecular data to address biological anthropological questions concerning human origins, evolution and biological variation. Students will review the methods used to analyze molecular genetic data, and learn to draw evolutionary and phylogenetic conclusions from information.
Taught by: Schurr
Activity: Seminar
Course not offered every year
1 Course Unit

ANTH 709 Current Research in Paleoanthropology
An intensive review of the major topics relating to Pleistocene human evolution, focusing on the integration of data from both biology and archeology.
Taught by: Dibble
Activity: Seminar
1 Course Unit

ANTH 717 Cultural Motion Seminar
This is a graduate seminar/workshop for students pursuing research in anthropology at any phase - from preliminary readings, to proposal writing, to dissertation write-up - that deals in some way with cultural motion. Students will be expected to present their own work, and to discuss the work of others, throughout the course of the seminar. The course is appropriate for first or second year graduate students in Anthropology seeking to define a research area or already pursuing research. It is also appropriate for third and fourth year students in the proposal-writing phase. And, finally, the seminar will provide a forum for dissertation-writing students interested in receiving preliminary feedback on their work from peers.
Taught by: Urban
Activity: Seminar
Course not offered every year
1 Course Unit

ANTH 719 Archaeology Field Project
This is a parallel course to ANTH 219, but on the graduate level. It will only be open to select graduate students (i.e. historical archaeology and related disciplines who (1) wish to study the current literature in linguistic anthropology concerned with discourse-centered approaches to culture; and (2) themselves have or will acquire during the semester discourse materials (texts, recordings, ethnographic data, etc.) that they wish to analyze from an anthropological point view. The instructor will spend time discussing his own past and current research. Class sessions will also include discussion of the writings of contemporary anthropologists investigating culture through discourse. The seminar is designed for maximum flexibility in accommodating students' research interests and needs.
Taught by: Urban
Activity: Seminar
Also Offered As: ANTH 219
1 Course Unit

ANTH 720 Archaeology Laboratory Field Project
Follow-up for ANTH 719 and parallel course to ANTH 220. Class will meet in three hour sections on Fridays and Saturdays and will involve the analysis of artifacts, documentary records, oral historic sources and period illustrations collected on Southern New Jersey historic sites that Fall. No previous archaeological or lab experience is required. (Robert L. Schuyler: schuyler@sas.upenn.edu; (215) 898-6965; U Museum 412). Course may be repeated for credit.
Taught by: Schuyler
Activity: Laboratory
1 Course Unit

Notes: Permission of instructor required.
ANTH 730 Readings & Research In Linguistic Anthropology
The course is designed for students and faculty interested in discussing current research and/or research topics in any area of linguistic or semiotic anthropology. The primary intent of the course is to familiarize students with the literature on selected research topics and to develop their own research agendas in the light of the literature. Students may enroll on an S/U basis for 0.5 CU per semester. The course may be repeated for credit up to 4 times.
Taught by: Agha
Two terms. student may enter either term.
Prerequisite: ANTH 603 OR INSTRUCTOR PERMISSION
Activity: Seminar
1 Course Unit

ANTH 747 Archaeology Laboratory Field Project-Summer
This course is a summer version of ANTH 720 (see that course for full description). In summer more emphasis will be placed on field visitations. Course open to all graduate students; no instructor permission needed. Course may be repeated for credit and students may take both ANTH 747 and ANTH 720. Questions: contact Robert L Schuyler; schuyler@sas.upen.edu; (215) 898-6965; Univ Museum 412/6398.
Taught by: Schuyler
Course usually offered summer term only
Also Offered As: ANTH 247
Activity: Laboratory
1 Course Unit

ANTH 750 African American Archaeology
This course will cover the new and productive field of the archaeology of African Americans from the 17th to the 20th centuries. The focus will be on continental North America but some attention will also be given to West Africa (AD 1500 - present) and the West Indies. No background (or previous courses) in archaeology or anthropology is required.
Taught by: Schuyler
Course not offered every year
Activity: Seminar
1 Course Unit

ANTH 751 Historical Archaeology
General background reading and tutorial preparation in the archaeology of the modern world (A.D. 1400- 20th Century).
Taught by: Schuyler
Course not offered every year
Also Offered As: ANTH 451
Activity: Seminar
1 Course Unit
Notes: May be repeated for credit.

ANTH 752 Archaeology of American History- The Colonial Period
Taught by: Schuyler
Course not offered every year
Also Offered As: ANTH 151
Activity: Seminar
1 Course Unit

ANTH 757 Themes In Historical Archaeology
Course will examine research by historical archaeologists on the basic attributes of humanity. Elements that are more biologically grounded (age, gender, race) and elements more purely cultural (ethnicity, class, occupation, nationality, religion) will both be surveyed. Recent field findings and theoretical debates will be covered.
Taught by: Schuyler
Course usually offered in fall term
Activity: Seminar
1 Course Unit

Applied Mathematics & Computational Science (AMCS)

AMCS 510 Complex Analysis
Also Offered As: MATH 410
Activity: Lecture
1 Course Unit

AMCS 514 Advanced Linear Algebra
Also Offered As: MATH 314, MATH 514
Activity: Lecture
1 Course Unit

AMCS 520 Ordinary Differential Equations
Also Offered As: MATH 420
Activity: Lecture
1 Course Unit

AMCS 525 Partial Dif Equations
Also Offered As: MATH 425
Activity: Lecture
1 Course Unit

AMCS 530 Intro to Probability
Also Offered As: MATH 430
Activity: Lecture
1 Course Unit

AMCS 532 Game Theory
Also Offered As: MATH 432
Activity: Lecture
1 Course Unit

AMCS 567 Mathematical and Computational Modeling of Biological Systems.
This is an introductory course in mathematical biology. The emphasis will be on the use of mathematical and computational tools for modeling physical phenomena which arise in the study biological systems. Possible topics include random walk models of polymers, membrane elasticity, electrodiffusion and excitable systems, single-molecule kinetics, and stochastic models of biochemical networks.
Course not offered every year
Also Offered As: BE 567
Prerequisites: BE 324 and BE 350
Activity: Lecture
1 Course Unit

AMCS 599 Independent Study
Activity: Independent Study
1 Course Unit
AMCS 602 Algebraic Techniques for Applied Mathematics and Computational Science, I.
We turn to linear algebra and the structural properties of linear systems of equations relevant to their numerical solution. In this context we introduce eigenvalues and the spectral theory of matrices. Methods appropriate to the numerical solution of very large systems are discussed. We discuss modern techniques using randomized algorithms for fast matrix-vector multiplication, and fast direct solvers. Topics covered include the classical Fast Multipole Method, the interpolative decomposition, structured matrix algebra, randomized methods for low-rank approximation, and fast direct solvers for sparse matrices. These techniques are of central importance in applications of linear algebra to the numerical solution of PDE, and in Machine Learning. The theoretical content of this course is illustrated and supplemented throughout the year with substantial computational examples and assignments.
Course not offered every year
Activity: Lecture
1 Course Unit

AMCS 603 Algebraic Techniques II
We begin with an introduction to group theory. The emphasis is on groups as symmetries and transformations of space. After an introduction to abstract groups, we turn our attention to compact Lie groups, in particular SO(3), and their representations. We explore the connections between orthogonal polynomials, classical transcendental functions and group representations. This unit is completed with a discussion of finite groups and their applications in coding theory.
Course not offered every year
Activity: Lecture
1 Course Unit

AMCS 608 Analysis
Course not offered every year
Also Offered As: MATH 608
Prerequisite: Math 508-509
Activity: Lecture
1 Course Unit

AMCS 609 Analysis
Real analysis continued: general measure theory, outer measures and Cartheodory construction, Hausdorff measures, Radon-Nikodym theorem, the general Fubini theorem. Functional Analysis: Hilbert space and L2-theory of the Fourier transform, normed linear spaces, convexity, the Hahn-Banach theorem, duality for Banach spaces, weak convergence, bounded linear operators, Baire category theorem, uniform boundedness principle, open mapping theorem, closed graph theorem, compact operators, Fredholm theory, interpolation theorems, Lp-theory for the Fourier transform, functional calculus and spectral theory.
Course not offered every year
Also Offered As: MATH 609
Prerequisite: Math 608 or permission of the instructor.
Activity: Lecture
1 Course Unit

AMCS 637 Mesoscale Model and Sim
Also Offered As: MEAM 637, MSE 637
Activity: Lecture
1 Course Unit

AMCS 701 Topics in Applied Math
Also Offered As: MATH 582
Activity: Lecture
1 Course Unit

AMCS 990 Masters Reg Tuition
Activity: Masters Thesis
1 Course Unit

AMCS 999 Independent Study & Research
Activity: Independent Study
1 Course Unit

Arabic (ARAB)

ARAB 031 Elementary Arabic I
This is the beginners course in Modern Standard Arabic (MSA). It will introduce you to the speaking, listening, reading and writing skills in the standard means of communication in the Arab World. The course is proficiency-based, implying that all activities within the course are aimed at placing you, the learner, in the context of the native-speaking environment from the very beginning. Evaluation is done by the more traditional testing methods (vocabulary tests, dictations, grammar and translation exercises). We anticipate that by the end of this course (ARAB 031) students will range in proficiency from Novice High to Intermediate Low on the ACTFL scale; in other words (using the terminology of the government's Foreign Service Institute), from 'incipient survival' to 'full' survival' in the native-speaking environment.
For BA Students: Language Course
Course usually offered in fall term
Also Offered As: ARAB 631
Activity: Lecture
1 Course Unit

ARAB 032 Elementary Arabic II
This course is a continuation of ARAB 031/631.
For BA Students: Language Course
Course usually offered in spring term
Also Offered As: ARAB 632
Prerequisite: ARAB 031
Activity: Lecture
1 Course Unit

ARAB 031 Elementary Arabic I
This is the beginners course in Modern Standard Arabic (MSA). It will introduce you to the speaking, listening, reading and writing skills in the standard means of communication in the Arab World. The course is proficiency-based, implying that all activities within the course are aimed at placing you, the learner, in the context of the native-speaking environment from the very beginning. Evaluation is done by the more traditional testing methods (vocabulary tests, dictations, grammar and translation exercises). We anticipate that by the end of this course (ARAB 031) students will range in proficiency from Novice High to Intermediate Low on the ACTFL scale; in other words (using the terminology of the government's Foreign Service Institute), from 'incipient survival' to 'full' survival' in the native-speaking environment.
For BA Students: Language Course
Course usually offered in fall term
Also Offered As: ARAB 631
Activity: Lecture
1 Course Unit

ARAB 032 Elementary Arabic II
This course is a continuation of ARAB 031/631.
For BA Students: Language Course
Course usually offered in spring term
Also Offered As: ARAB 632
Prerequisite: ARAB 031
Activity: Lecture
1 Course Unit
ARAB 033 Intermediate Arabic III
This is the continuation of the Elementary course in Modern Standard Arabic (MSA). This course is also proficiency-based, implying that all activities within the course are aimed at placing you, the learner, in the context of the native-speaking environment from the very beginning. As in ARAB 031-032, evaluation is done by the more traditional testing methods (vocabulary tests, dictations, grammar and translation exercises). We anticipate that students range from Intermediate Low to Intermediate High according to the ACTFL scale.
For BA Students: Language Course
Course usually offered in fall term
Also Offered As: ARAB 633
Prerequisites: ARAB 032 or equivalent.
Activity: Lecture
1 Course Unit

ARAB 034 Intermediate Arabic IV
This course is a continuation of ARAB 033/633.
For BA Students: Last Language Course
Course usually offered in spring term
Also Offered As: ARAB 634
Prerequisite: ARAB 033
Activity: Lecture
1 Course Unit

ARAB 035 Advanced Intermediate Arabic I
This is a proficiency-based course which continues from the first intermediate course, ARAB 033/034. Emphasis continues to be on all four language skills: Speaking, Listening, Reading, & Writing. The readings for the class are chosen from actual texts from both medieval and modern Arabic in a variety of fields and subjects. Students will be expected to give classroom presentations and to write short essays in Arabic. Evaluation will be both Achievement- and proficiency-based.
For BA Students: Advanced Language Course
Course usually offered in fall term
Also Offered As: ARAB 635
Prerequisite: ARAB 034
Activity: Lecture
1 Course Unit

ARAB 036 Advanced Intermediate Arabic II
This course is a continuation of ARAB 035/635.
For BA Students: Advanced Language Course
Course usually offered in spring term
Also Offered As: ARAB 636
Prerequisite: ARAB 035
Activity: Lecture
1 Course Unit

ARAB 037 Advanced Arabic and Syntax I
Advanced syntax through the reading of Arab grammarians. Development of reading in bulk. Emphasis on classical Arabic read in works by medieval and modern writers. This course is designed to give the student experience in reading whole works in Arabic and giving reports on them.
For BA Students: Advanced Language Course
Course usually offered in fall term
Also Offered As: ARAB 637
Prerequisites: ARAB 036/636 or permission of the instructor.
Activity: Lecture
1 Course Unit

ARAB 039 Colloquial Arabic
A one-semester, introductory course to the spoken Arabic of one of the regions of the Arab world, chosen according to the dialect of instructor.
One-term course offered either term
Also Offered As: ARAB 639
Activity: Lecture
1 Course Unit

ARAB 041 Beginning Arabic I
This is a beginner course in Modern Standard Arabic (MSA). It will introduce you to the speaking, listening, reading, and writing skills in the standard means of communication in the Arab world. The course is proficiency-based, implying that all activities within the course are aimed at placing you, the learner, in the context of the native-speaking environment from the very beginning. Evaluation is done by the more traditional testing methods (vocabulary tests, dictations, grammar and translation exercises). We anticipate that by the end of this course (ARAB 041) students will range in proficiency from Novice High to Intermediate Low on the ACTFL scale; in other words (using the terminology of the government's Foreign Service Institute), from 'incipient survival' to 'full survival' in the native-speaking environment.
Course usually offered in fall term
Activity: Lecture
1 Course Unit
Notes: See the LPS Course Guide. **This course does not fulfill the College/Wharton language requirement.

ARAB 042 Beginning Arabic II
Course usually offered in spring term
Prerequisites: ARAB 041 or permission of the instructor. See the LPS Course Guide. **This course does not fulfill the College language requirement.
Activity: Lecture
1 Course Unit

ARAB 043 Continuing Arabic III
This is the continuation of ARAB041 and ARAB 042, the elementary course in Modern Standard Arabic (MSA). This course is also proficiency-based, implying that all activities within the course are aimed at placing you, the learner, in the context of the native-speaking environment from the very beginning. As in ARAB 041-042, evaluation is done by the more traditional testing methods (vocabulary tests, dictations, grammar and translation exercises). Completion of this course fulfills the College of Liberal and Professional Studies language requirement in Arabic but not for the School of Arts and Sciences. However, it should be emphasized that you will need a longer period of study to achieve proficiency in Arabic. We anticipate that students range from Intermediate Low to Intermediate High according to the ACTFL scale.
Course usually offered in fall term
Activity: Lecture
1 Course Unit
Notes: See the CLPS Course Guide. **This course does not fulfill the College language requirement.

ARAB 044 Continuing Arabic IV
Course usually offered in spring term
Prerequisites: ARAB 043 or permission of the instructor See the LPS Course Guide. **This course does not fulfill the College language requirement.
Activity: Lecture
1 Course Unit
Notes: See the LPS Course Guide. **This course does not fulfill the College language requirement.
ARAB 131 Intensive Elementary Arabic I&II
This is a six-week intensive beginners' course in Modern Standard Arabic (MSA). It will introduce the student to speaking, listening, reading, and writing skills in the standard means of communication in the Arabic world. The course is proficiency-based, implying that all activities are aimed at placing the student in the context of the native-speaking environment from the very beginning. Evaluation is done by the more traditional testing methods (vocabulary tests, dictations, grammar and translation exercises). We anticipate that by the end of this course (ARAB 041) students will range in proficiency from Novice High to Intermediate Low on the ACTFL scale; in other terms, the government’s Foreign Service Institute “survival” to “full survival” in the native-speaking environment.
For BA Students: Language Course
Course usually offered summer term only
Also Offered As: ARAB 431
Activity: Lecture
2 Course Units
Notes: Offered through the College of Liberal and Professional Studies
Summer Session I.

ARAB 133 Intensive Intermediate Arabic I&II
This is a six-week intensive course offered in the summer through LPS; see the Penn Summer Course Guide. This is the continuation of ARAB 031-032 or ARAB 131, the elementary course in Modern Standard Arabic (MSA). This course is also proficiency-based, implying that all activities within the course are aimed at placing the student in the context of the native-speaking environment from the very beginning. As in ARAB 031-032 or ARAB 131, evaluation is done by the more traditional testing methods (vocabulary tests, grammar and translation exercises).
Completion of this course fulfills the College of Arts and Sciences language requirement in Arabic. However, it should be emphasized that the student will need a longer period of study to achieve proficiency in Arabic. We anticipate that students range from Intermediate Low to Intermediate High according to the ACTFL scale.
For BA Students: Last Language Course
Course usually offered summer term only
Also Offered As: ARAB 530
Activity: Lecture
2 Course Units
Notes: Offered through the College of Liberal and Professional Studies
Summer Session I.

ARAB 135 Intensive Advanced Intermediate Arabic I&II
This is a six-week intensive course offered in the summer through LPS; see Penn Summer Course Guide. It continues from the first intermediate course, ARAB 033/034 or ARAB 133. Emphasis continues to be on all four language skills: speaking, listening, reading, and writing. Students will be expected to give classroom presentations and to write short essays in Arabic. Evaluation will be both achievement-based and proficiency-based. There is no Oral Proficiency Interview at the end of this session, but we anticipate that by the end of this, third year students will range in proficiency from Intermediate High to Advanced Mid on the ACTFL scale.
For BA Students: Advanced Language Course
Course usually offered summer term only
Also Offered As: ARAB 630
Activity: Lecture
2 Course Units
Notes: Offered through the College of Liberal and Professional Studies
Summer Session I.

ARAB 180 Arabic in Residence
The Arabic House is dedicated to practicing Modern Standard Arabic outside of the classroom setting. The group meets two evenings per week for an hour of conversation practice, snacks, and mint tea. Conversations are both casual and group-led. Members are encouraged to bring any questions about their homework from class or about the Arabic language in general. Most activities are held in the Greenhouse of the Class of 1925 building located at 3941 Irving Street. Additional cultural activities may take place in Gregory, elsewhere at Penn or throughout Philadelphia. All students and Arabic enthusiasts, whether graduate or undergraduate, first-semester beginners or native speakers, are welcome to attend. Dedicated undergraduate students may choose to enroll for credit (Arabic 180).
Two terms. student must enter first term.
Activity: Seminar
0.5 Course Units

ARAB 331 Advanced Spoken Standard Arabic
The course will concentrate on the reading and speaking skills at the advanced level. Students will be assigned reading and audio-visual materials on which to prepare oral classroom presentations. Final examination in the course will be based on performance in the oral proficiency interview.
For BA Students: Advanced Language Course
One-term course offered either term
Also Offered As: ARAB 531
Prerequisite: ARAB 036/636
Activity: Lecture
1 Course Unit

ARAB 332 Advanced Arabic Composition
Development of writing skills within a variety of subjects. Extensive readings in various prose techniques and a thorough review of Arabic grammar.
Course not offered every year
Also Offered As: ARAB 532
Prerequisite: ARAB 036/636
Activity: Lecture
1 Course Unit

ARAB 333 Readings in the Qur’an and Tafsir
This course has two goals: to introduce undergraduate students to reading the Qur’an in Arabic, and to enhance the speaking, listening, and writing skills in MSA. Through the reading and study of selected major Qur’anic narratives and commentary (tafsir), students will become familiar with Qur’anic vocabulary, style, recitation practices, and other intricacies of the Qur’anic text. All students will also memorize a short sura of their choice and practice reciting it in an aesthetically appropriate manner (typically suras 1, 112, 113, or 114). Taught in MSA with writing assignments in MSA.
Taught by: Lowry
Course not offered every year
Prerequisites: ARAB 35 or permission of the instructor.
Activity: Seminar
1 Course Unit
ARAB 432 Arabic Readings in Belles-Lettres
This course aims to improve reading skills and vocabulary by introducing students to extensive passages taken from a variety of Arabic literary genres from all periods. Taught in MSA with writing assignments in MSA. For BA Students: Arts and Letters Sector
Course usually offered in fall term
Also Offered As: COLL 226, COML 432
Prerequisite: Proficiency in ARAB 036/636
Activity: Seminar
1 Course Unit

ARAB 433 Arabic Readings in the Social Sciences and the Media
This course trains students to be proficient with written materials and media in MSA. This class will explore the Middle East through timely analysis of Arabic media as well as original analysis of the ideological, intellectual, social, cultural, and religious background to current events, including the Arab Spring and its aftermath. It is intended that, upon completion of this course, students will be able to work independently with a variety of media texts at different levels. Taught in MSA with writing assignments in MSA.
Course offered spring; odd-numbered years
Prerequisites: Completion of ARAB 036/636 or permission of the instructor.
Activity: Lecture
1 Course Unit

ARAB 434 Readings in Arabic Literature
Course not offered every year
Prerequisite: Reading knowledge of Arabic
Activity: Seminar
1 Course Unit

ARAB 435 Readings in Islamics
This course provides practice in reading pre-modern classical Arabic texts drawn from a variety of intellectual disciplines, especially (but not exclusively) the religious sciences. Although the texts in this course are pre-modern, the course reinforces MSA reading skills.
Taught by: Lowry
Course not offered every year
Prerequisites: Completion of ARAB 036/636 Advanced Intermediate Arabic; or permission of the instructor.
Activity: Seminar
1 Course Unit

ARAB 436 Introduction to Pre-Modern Arabic Texts
This course aims to provide incoming graduate students and advanced undergraduate students with an introduction to issues in Arabic grammar and syntax that commonly arise in pre-modern Arabic texts. Students will also be introduced to, and expected to consult, the standard reference works used as aids in reading such texts. Students will be expected to prepare a text or set of texts assigned by the instructor for each session. It is intended that, upon completion of this course, students will be able to work independently with a wide variety of pre-modern Arabic texts. Although the texts in this course are pre-modern, the course reinforces MSA reading skills.
Taught by: Lowry
One-term course offered either term
Prerequisites: Completion of ARAB 036/636 Advanced Intermediate Arabic; or permission of the instructor.
Activity: Seminar
1 Course Unit
Notes: May be taken twice for credit with instructors permission.

ARAB 437 History & Fiction in Ara
Activity: Seminar
1 Course Unit

ARAB 531 Advanced Spoken Standard Arabic
The course will concentrate on the reading and speaking skills at the advanced level. Students will be assigned reading and audio-visual materials on which to prepare oral classroom presentations. Final examination in the course will be based on performance in the oral proficiency interview. Taught in MSA with writing assignments in MSA.
For BA Students: Advanced Language Course
Course usually offered in fall term
Also Offered As: ARAB 331
Prerequisite: ARAB 036/636
Activity: Lecture
1 Course Unit

ARAB 532 Advanced Arabic Composition
Development of writing skills within a variety of subjects. Extensive readings in various prose techniques and a thorough review of Arabic grammar. Taught in MSA with writing assignments in MSA.
Course not offered every year
Also Offered As: ARAB 332
Prerequisite: ARAB 036/636
Activity: Lecture
1 Course Unit

ARAB 533 Readings in Islamic Law
Taught by: Lowry
Course not offered every year
Prerequisites: Completion of ARAB036/636 or permission of the instructor.
Activity: Seminar
1 Course Unit

ARAB 631 Elementary Arabic I
This is the beginner course in Modern Standard Arabic (MSA). It will introduce you to the speaking, listening, reading and writing skills in the standard means of communication in the Arab World. The course is proficiency-based, implying that all activities within the course are aimed at placing you, the learner, in the context of the native-speaking environment from the very beginning. Evaluation is done by the more traditional testing methods (vocabulary tests, dictations, grammar and translation exercises). We anticipate that by the end of this course (ARAB 002) students will range in proficiency from Novice High to Intermediate Low on the ACTFL scale; in other words (using the terminology of the government's Foreign Service Institute), from 'incipient survival' to 'full' survival' in the native-speaking environment.
For BA Students: Language Course
Two terms. student must enter first term.
Also Offered As: ARAB 031
Prerequisites: For the second semester: completion of the first semester or permission of the instructor.
Activity: Lecture
1 Course Unit

ARAB 632 Elementary Arabic II
This course is a continuation of ARAB 031/631.
For BA Students: Language Course
Two terms. student must enter first term.
Also Offered As: ARAB 032
Activity: Lecture
1 Course Unit
ARAB 633 Intermediate Arabic III
This is the continuation of the Elementary course in Modern Standard Arabic (MSA). This course is also proficiency-based, implying that all activities within the course are aimed at placing you, the learner, in the context of the native-speaking environment from the very beginning. This is the continuation of ARAB 031 and ARAB 032, the elementary course in Modern Standard Arabic (MSA). This course is also proficiency-based, implying that all activities within the course are aimed at placing you, the learner, in the context of the native-speaking environment from the very beginning. As in ARAB 031-032, evaluation is done by the more traditional testing methods (vocabulary tests, grammar and translation exercises). We anticipate that students range from Intermediate Low to Intermediate High according to the ACTFL scale.
For BA Students: Language Course
Two terms. student must enter first term.
Also Offered As: ARAB 033
Prerequisites: ARAB 033 or equivalent. For the second semester: completion of the first semester or permission of the instructor
Activity: Lecture
1 Course Unit

ARAB 634 Intermediate Arabic IV
This course is a continuation of ARAB 033/633.
For BA Students: Last Language Course
Two terms. student must enter first term.
Also Offered As: ARAB 034
Activity: Lecture
1 Course Unit

ARAB 635 Advanced Intermediate Arabic I
This is a proficiency-based course which continues from the first intermediate course, ARAB 033/034. Emphasis continues to be on all four language skills: Speaking, Listening, Reading, & Writing. The readings for the class are chosen from actual texts from both medieval and modern Arabic in a variety of fields and subjects. Students will be expected to give classroom presentations and to write short essays in Arabic. Evaluation will be both Achievement- and proficiency-based. The test of speaking ability will
For BA Students: Advanced Language Course
Also Offered As: ARAB 035
Prerequisites: ARAB 033 or permission of instructor.
Activity: Lecture
1 Course Unit

ARAB 636 Advanced Intermediate Arabic II
This course is a continuation of ARAB 035/635.
For BA Students: Advanced Language Course
Two terms. student must enter first term.
Also Offered As: ARAB 036
Activity: Lecture
1 Course Unit

ARAB 637 Advanced Arabic and Syntax I
Advanced syntax through the reading of Arab grammarians. Development of reading in bulk. Emphasis on classical Arabic read in works by medieval and modern writers. This course is designed to give the student experience in reading whole works in Arabic and giving reports on them.
For BA Students: Advanced Language Course
One-term course offered either term
Also Offered As: ARAB 037
Prerequisites: ARAB 036/636 or permission of the instructor.
Activity: Lecture
1 Course Unit

ARAB 639 Colloquial Arabic
A one-semester, introductory course to the spoken Arabic of one of the regions of the Arab world, chosen according to the dialect of instructor.
Course not offered every year
Also Offered As: ARAB 039
Activity: Lecture
1 Course Unit

ARAB 730 Topics in Islamics
The topic may vary from year to year.
One-term course offered either term
Activity: Seminar
1 Course Unit

ARAB 731 Topics in Islamic Studies
Topics vary from year to year in accordance with the interests and needs of students. Although this course typically focuses on premodern Arabic texts, the readings reinforce MSA reading skills.
Taught by: Lowry
One-term course offered either term
Activity: Seminar
1 Course Unit
Notes: ARAB 436 or equivalent

ARAB 733 Arabic Texts in Islamic History
This is a graduate seminar course in which different genres of premodern Arabic texts are covered at the advanced graduate level. Students in this course are expected to be able to read and prepare (vowel, parse, and translate) passages from Arabic texts on a weekly basis and to be able to discuss them critically during the class itself. Topics are chosen to reflect student interest. Recent and potential topics include: Geographers and travel accounts; biographical dictionaries; chronicles; heresiography; poetry; memoir and sira. Although this course typically focuses on premodern Arabic texts, the readings reinforce MSA reading skills.
Taught by: Cobb
Course not offered every year
Prerequisites: ARAB 036 or permission of the instructor.
Activity: Seminar
1 Course Unit

ARCH 102 Introduction to Design
An exploration of the design process utilizing drawing and model-making techniques. Skills of representation and fabrication are introduced in the context of the development of each student's capacity to observe, interpret, and translate design concepts into physical form. The course includes a weekly lecture and a biweekly studio component.
Taught by: Faculty
Course usually offered in spring term
Activity: Lecture
1 Course Unit
ARCH 111 Architecture in the Anthropocene
This course will use architecture and the built environmental as a lens to investigate the emerging field of the environmental humanities. Our goal will be to analyze and understand these new intellectual frameworks in order to consider the relationship between global environmental challenges and the process of constructing the built environment. As such, we will oscillate between social and political theory, environmental history, and architectural history and theory. Issues of importance will include: theories of risk, the role of nature in political conflicts; images, design and environmental communication; and the relationship between speculative design and other narratives of the future. These conceptual frameworks will be read alongside examples of related creative projects in art, literature, and architecture, and will be amplified through presentations and discussions with studio faculty and other visitors to the course.
Taught by: Barber
Course usually offered in fall term
Activity: Seminar
1 Course Unit

ARCH 112 Villa Gardens and Villa Life
This seminar will study the idea of villeggiature (villa life) and the ideology associated with countryside gardens and plantations. In an examination of the circularity of villa ideology across the centuries, other themes will emerge that address the relationship between urban and rural life, between architecture and natural environment and between social, cultural, economic, and political forces and landscape design. These themes will be explored through the study of selected villas and through the reading of sources drawn from villa literature, including architectural and agricultural treatises, epistolary exchanges, and drawings.
Taught by: Giannetto
Course usually offered in spring term
Activity: Seminar
1 Course Unit

ARCH 201 Design Fundamentals I
This studio course develops drawing and model-making skills with emphasis on digital representation and digital fabrication. The capacity of nature-inspired design is explored as a foundation for the creative production of new forms of expression.
Taught by: Faculty
Course usually offered in fall term
Prerequisite: ARCH 102
Activity: Studio
1.5 Course Unit

ARCH 202 Design Fundamentals II
A studio course exploring the relationship between two-dimensional images and three-dimensional digital and physical models. This studio course develops advanced techniques in digital representation and fabrication through an investigation of the theme of inhabitation in architecture.
Taught by: Faculty
Course usually offered in spring term
Prerequisite: ARCH 201
Activity: Studio
1.5 Course Unit

ARCH 301 Design I
An introduction to the design of architecture in the city. Students explore the relationships between two-dimensional patterns and their corresponding three-dimensional interpretations through the orthographic drawings of plan, section, and elevation and three-dimensional digital and physical models.
Taught by: Faculty
Course usually offered in fall term
Prerequisite: ARCH 202
Activity: Studio
2 Course Units

ARCH 302 Design II
An introduction to the design of architecture in the landscape. Issues of mapping, placement, scale, and construction are explored through studio design projects, site visits, and discussions. Course work focuses on the preparation and presentation of design projects emphasizing analytical skills along with the development of imaginative invention and judgment.
Taught by: Faculty
Course usually offered in spring term
Prerequisite: ARCH 301
Corequisite: ARCH 312
Activity: Studio
2 Course Units

ARCH 303 Integrated Product Design Fundamentals
The creation of a successful product requires the integration of design, engineering, and marketing. The purpose of this intensive studio course is to introduce basic concepts in the design of three-dimensional products. For purposes of the course, design is understood as a creative act of synthesis expressed through various modes of 2-dimensional and 3-dimensional representation. The course develops basic design skills ranging from hand sketching to the use of digital modeling software and rapid prototyping. Fulfills the requirement for a design background course in the interdisciplinary graduate program in Integrated Product Design (IPD).
Taught by Wesley
Course usually offered summer term only
Also Offered As: IPD 503
Activity: Studio
1 Course Unit

ARCH 311 Venice: Self-Representation, Performance, and Reception
This course focuses on the city of Venice and its elusive identity as represented in written, visual and built form. Structured as a series of topics and case studies (including primary visual and written sources; buildings and gardens) the course aims to introduce students to the material and cultural landscape of Venice and develop their ability to "read" the urban fabric and its unique physical context by identifying its various features and explaining the political, social, economic and cultural agendas that brought them into existence. The course includes visits to Venice, Van Pelt Library Library and the Philadelphia Museum of Art.
Taught by: Finotti and Fabiani Giannetto
Activity: Seminar
1 Course Unit
ARCH 312 Topics in Theory I
This course examines the development of modern architecture in the early-twentieth century. Case studies and selected texts are used to explore how modern architecture responded to the challenges of the Industrial Revolution and social modernization.
Taught by: Faculty
Course usually offered in spring term
Corequisite: ARCH 302
Activity: Lecture
1 Course Unit

ARCH 316 Systems and Environments: Interdisciplinary History of Architectural Ideas
This seminar will discuss the emergence of 20th century environmentalist thought and practice through the lens of architectural, landscape, and urban practices and ideas. The course does not presuppose advanced knowledge in the histories of architecture, of science, or of environmentalism; rather, it will introduce students to a set of historical and intellectual frameworks broadly aware of and engaged in environmental challenges. The material covered will be relevant to those interested in architecture, art, and urban studies, and students in economics, engineering, political science, and the environmental sciences, as well as in the history of science, will find much to engage. In this sense, the course will also offer an interdisciplinary forum for inquiry and discussion around environmental issues as they are reflected in contemporary scholarly and professional practices.
Taught by: Barber
Course usually offered in spring term
Activity: Seminar
1 Course Unit

ARCH 401 Advanced Design
Content and technique are explored in this studio course through the vehicle of a design project focused on the development of a critical understanding of geometries and mathematics in the representation and fabrication of contemporary architecture.
Taught by: Faculty
Course usually offered in fall term
Prerequisite: ARCH 302
Corequisite: ARCH 411
Activity: Studio
2 Course Units

ARCH 411 Theory II
This course examines the development of geometries in modern architecture. Primary and secondary texts are used to explore the origin and evolution of geometrical thinking in architecture.
Taught by: Faculty
Course usually offered in fall term
Prerequisite: ARCH 312
Corequisite: ARCH 401
Activity: Lecture
1 Course Unit

ARCH 431 Construction I
Course explores basic principles and concepts of architectural technology and describes the interrelated nature of structure, construction and environmental systems. Open to Intensive Majors only.
Taught by: Faculty
Course usually offered in fall term
Also Offered As: ARCH 531
Activity: Lecture
0.5 Course Units

ARCH 432 Construction II
A continuation of Construction I, focusing on light and heavy steel frame construction, concrete construction, light and heavywood and cladding systems and systems building. Open to Intensive Majors only.
Taught by: Faculty
Course usually offered in spring term
Also Offered As: ARCH 532
Prerequisite: ARCH 431
Activity: Lecture
0.5 Course Units

ARCH 433 Building Systems Integration
What makes buildings livable and buildable. After the initial concept design and massing studies are complete the next step is detailing. This seminar will examine the detail, how they can inform and enhance a building's design. The primary goals of a building is that it stands up to external forces, protects inhabitants from the elements and provides a healthy environment. This course will look at the individual components of structure, skin and systems. More importantly though, it will examine the connections between them. The class will begin with lectures examining the different systems and then progress into applying these ideas as a whole to individual studio projects. The final results of this course will be a 3D wall section with accompanying details. These details will be developed in a variety of software as chosen by the student.
Recommended options are Revit, Rhino, AutoCAD.
Taught by: Faculty
Course usually offered in fall term
Also Offered As: ARCH 633
Activity: Seminar
0.5 Course Units

ARCH 434 Environmental Systems II
This course examines the environmental technologies of larger buildings, including heating, ventilating, air conditioning, lighting, and acoustics. Modern buildings are characterized by the use of such complex systems that not only have their own characteristics, but interact dynamically with one another and with the building skin and occupants. Questions about building size, shape, and construction become much more complex with the introduction of sophisticated feedback and control systems that radically alter their environmental behavior and resource consumption. Class meetings are divided between slide lectures, demonstrations, and site visits. Course work includes in-class exercises, homework assignments, and a comprehensive environmental assessment of a room in a building on campus. Open to Intensive Majors only.
Taught by: Faculty
Course usually offered in fall term
Also Offered As: ARCH 534
Prerequisite: ARCH 433
Activity: Lecture
0.5 Course Units

ARCH 435 Structures I
Theory applied toward structural form. A review of one-dimensional structural elements; a study of arches, slabs and plates, curved surface structures, lateral and dynamic loads; survey of current and future structural technology. The course comprises both lectures and a weekly laboratory in which various structural elements, systems, materials and technical principles are explored. Open to Intensive Majors only.
Taught by: Faculty
Course usually offered in fall term
Also Offered As: ARCH 535
Activity: Lecture
0.5 Course Units
ARCH 436 Structures II
A continuation of the equilibrium analysis of structures covered in Structures I. The study of static and hyperstatic systems and design of their elements. Flexural theory, elastic and plastic. Design for combined stresses; prestressing. The study of graphic statics and the design of trusses. The course comprises both lectures and a weekly laboratory in which various structural elements, systems, materials and technical principles are explored. Open to Intensive Design majors only.
Taught by: Faculty
Course usually offered in spring term
Also Offered As: ARCH 536
Prerequisite: ARCH 435
Activity: Lecture
0.5 Course Units

ARCH 437 Parametric Modeling and Construction I
An introduction to the principles of construction using Building Information Modeling (BIM), a process involving the generation and manipulation of digital representations of building components defined as parameters in relation to other components. The course will explore the performance of building materials and methods of on-site and off-site assembly in load-bearing masonry structures and heavy and light wood frame construction. Topics include sustainable construction, emerging and engineered materials, and integrated building practices.
Taught by: Morgan
Course usually offered in fall term
Activity: Seminar
0.5 Course Units

ARCH 438 Parametric Modeling and Construction II
Building materials and the architectural practice have evolved over time but the fundamental processes of construction have remained grounded in the original principles. This course will advance the methods studies in ARCH 437 by examining typical materials and constructionon of "integration" or "high performance" concepts are developed through highly interactive relations between architects and engineers. The integration is influenced primarily by the "process" of collaboration. This process has been imbued by advancements in computational technology that narrowed the gap between the design actors, including architects and engineers. The process of construction is not limited to the skills of the architect but involve the collaboration of multiple fields and the transfer of information between them. To facilitate this, architects produce construction documents and project manuals to describe to a contractor the ways in which the materials listed above should be used and detailed, allowing the vision of the architect to become realized. Over time the production of these drawings has evolved, from a room full of drafters drawing by hand to computer aided design (CAD) to today with Building Information Modeling (BIM). This course will examine this newest form of parametric documentation and demonstrate how the integration of information in modeling and design results in smarter construction practices.
Taught by: Morgan
Course usually offered in spring term
Prerequisite: ARCH 437
Activity: Seminar
0.5 Course Units

ARCH 490 Independent Study
Taught by: Faculty
One-term course offered either term
Activity: Independent Study
1 Course Unit
Notes: Permission of the Undergraduate Chair.

ARCH 492 Senior Thesis
Taught by: Faculty
Course usually offered in spring term
Prerequisite: ARCH 301
Activity: Independent Study
1 Course Unit
Notes: Permission of the Undergraduate Chair

ARCH 498 Senior Honors Thesis
Taught by: Faculty
Course usually offered in spring term
Prerequisite: ARCH 401
Activity: Independent Study
1 Course Unit
Notes: Permission of the Undergraduate Chair

ARCH 500 Summer Preparatory Design Studio
The Summer Preparatory Studio offers an intensive drawing and design experience to candidates for admission to the Graduate Program in Architecture who have not completed the necessary design studio prerequisites or who are required to have additional design experience to qualify for matriculation into the Master of Architecture Professional Degree Program in September. Enrollment in this program does not count towards the Master of Architecture degree. The intent of the drawing component of the course is to familiarize the student with primarily black and white mediums (pencil, charcoal, ink, etc). Exercises are designed to sharpen the student's ability to see selectively and to transform image to paper through both line and tonal renditions in freehand sketch form. Exercises will also familiarize the student with basic drafting skills necessary for architectural communication and provide an introduction to computer-aided design through applications of the intensive Rhino and Illustrator tutorials given in the Digital Navigation course. The design part of the course presents a rhythm of basic three-dimensional design studies and simple architectural studio investigations. These are intended to build fundamental skills and acquaint the student with the architectural issues of form/space, conceptualization, transformation of scale, simple functional and constructional problems and a sensitivity to context. Course enrollment is by permit only. Please contact Sarah Lam (ARCH Dept.) at sarahlam@design.upenn.edu.
Taught by: Mitnick
Course usually offered summer term only
Activity: Studio
2 Course Units

ARCH 501 Design Studio I
An introductory architectural design studio through which students develop critical, analytical and speculative design abilities in architecture. Students develop representational techniques for the analysis of social and cultural constructs, and formulate propositions for situating built form in the arena of the urban and suburban environment. The studio initiates innovation through a sequence of projects, spatial models and rule sets that introduce each student to rule-based design processes—in which a reversal of expectations leads to the creation of novel spaces and structures. It introduces computation, geometric techniques, and digital fabrication. Projects explore the formation of space in relation to the body, and the developments of small scale public programs.
Taught by: Saunders and Faculty
Course usually offered in fall term
Corequisite: ARCH 521
Activity: Studio
2 Course Units
ARCH 502 Design Studio II
This studio explores urban architecture as an embodiment of cultural values. Siting, enclosure of space and tectonic definition are stressed in order to challenge students to project relevant and inventive architectural situations.
Taught by: Fierro and Faculty
Course usually offered in spring term
Corequisite: ARCH 522
Activity: Studio
2 Course Units

ARCH 511 History and Theory I
The first of three required courses in the history and theory of architecture, this is a lecture course with discussion groups that meet weekly with teaching assistants. The course explores fundamental ideas and models of architecture that have emerged over the past three hundred years.
Taught by: Faculty
Course usually offered in fall term
Activity: Lecture
1 Course Unit

ARCH 512 History and Theory II
This course traces the emergence of contemporary issues in the field by exploring the architecture of the twentieth century. Buildings, projects, and texts are situated within the historical constellations of ideas, values, and technologies that inform them through a series of close readings. Rather than presenting a parade of movements or individuals, the class introduces topics as overlaying strata, with each new issue adding greater complexity even as previous layers retain their significance. Of particular interest for the course is the relationship between architecture and the organizational regimes of modernity.
Taught by: Barber
Course usually offered in spring term
Activity: Lecture
1 Course Unit

ARCH 521 Visual Studies I
The study of analysis and projection through drawing and computer visualization
Taught by: Willems
Course usually offered in fall term
Corequisite: Arch 501
Activity: Laboratory
0.5 Course Units

ARCH 522 Visual Studies II
A continuation of the study of analysis and projection through drawing and computer visualization.
Taught by: Willems
Course usually offered in spring term
Corequisite: ARCH 502
Activity: Laboratory
0.5 Course Units

ARCH 531 Construction I
Lecture course exploring the basic principles of architectural technology and building construction. The course is focused on building material, methods of on-site and off-site preparation, material assemblies, and the performance of materials. Topics discussed include load bearing masonry structures of small to medium size (typical row house construction), heavy and light wood frame construction, sustainable construction practices, emerging + engineered materials, and integrated building practices. The course also introduces students to Building Information Modeling (BIM) via the production of construction documents.
Taught by: Trubiano
Course usually offered in fall term
Also Offered As: ARCH 431
Activity: Lecture
0.5 Course Units

ARCH 532 Construction II
A continuation of Construction I, focusing on light and heavy steel frame construction, concrete construction, light and heavyweight cladding systems and systems building.
Taught by: Ryan
Course usually offered in spring term
Also Offered As: ARCH 432
Activity: Lecture
0.5 Course Units

ARCH 534 Environmental Systems II
This course examines the environmental technologies of larger buildings, including heating, ventilating, air conditioning, lighting, and acoustics. Modern buildings are characterized by the use of such complex systems that not only have their own characteristics, but interact dynamically with one another and with the building skin and occupants. Questions about building size, shape, and construction become much more complex with the introduction of sophisticated feedback and control systems that radically alter their environmental behavior and resource consumption. Class meetings are divided between slide lectures, demonstrations, and site visits. Course work includes in-class exercises, homework assignments, and a comprehensive environmental assessment of a room in a building on campus.
Taught by: Braham
Course usually offered in spring term
Also Offered As: ARCH 434
Activity: Lecture
0.5 Course Units

ARCH 535 Structures I
Theory applied toward structural form. A review of one-dimensional structural elements; a study of arches, slabs and plates, curved surface structures, lateral and dynamic loads; survey of current and future structural technology. The course comprises both lectures and a weekly laboratory in which various structural elements, systems, materials and technical principles are explored.
Taught by: Farley
Course usually offered in fall term
Also Offered As: ARCH 435
Corequisite: Arch 535
Activity: Lecture
0.5 Course Units
ARCH 536 Structures II
A continuation of the equilibrium analysis of structures covered in Structures I. The study of static and hyperstatic systems and design of their elements. Flexural theory, elastic and plastic. Design for combined stresses; prestressing. The study of graphic statics and the design of trusses. The course comprises both lectures and a weekly laboratory in which various structural elements, systems, materials and technical principles are explored.
Taught by: Farley
Course usually offered in spring term
Also Offered As: ARCH 436
Corequisite: Arch 536
Activity: Lecture
0.5 Course Units

ARCH 601 Design Studio III
In this studio, students engage architecture in its role as a cultural agent and examine the way buildings establish and organize dynamic relationships between site, program and material. The design of a complex building of approximately 50,000 SF provides the pedagogical focus for this research. Students extend skills in geometrical organization, site analysis and building massing/orientation to relate to program organization, circulation and egress, building systems and materials. The conceptual focus centered on the program of dwelling and how this program can be employed to develop and promote dynamic relationships and conditions through time, both within the building and between the building and the context. Through research and experimentation students integrate ecological processes into their design methodology to support design innovations in the building's structure, its construction assemblies, environmental systems, and materials. Students work towards a high level of design resolution and visual representation, including the articulation of the building structure and its material assembly/enclosure.
Taught by: Jamelle and Faculty
Course usually offered in fall term
Corequisite: ARCH 621
Activity: Studio
2 Course Units

ARCH 602 Design Studio IV
This studio enables students to develop and resolve the design of a building in terms of program, organization, construction and the integration of structures, enclosure and environmental systems as well as life safety issues. Students select from a range of individually-directed studios within this overall framework. Each instructor develops a different approach and project for their section of this studio. Studios incorporate the expertise of external consultants in advanced areas of technology, engineering and manufacturing.
Taught by: Kolatan and Faculty
Course usually offered in spring term
Activity: Studio
2 Course Units

ARCH 611 History and Theory III
This is the third and final required course in the history and theory of architecture. It is a lecture course that examines selected topics, figures, projects, and theories from the history of architecture and related design fields during the 20th century. The course also draws on related and parallel historical material from other disciplines and arts, placing architecture into a broader socio-cultural-political-technological context. Seminars with teaching assistants complement the lectures.
Taught by: Barber
Course usually offered in fall term
Activity: Lecture
1 Course Unit

ARCH 621 Visual Studies III
The final of the Visual Studies half-credit courses. Drawings are explored as visual repositories of data from which information can be gleaned, geometries tested, designs refined and transmitted. Salient strengths of various digital media programs are identified and developed through assignments that address the specific intentions and challenges of the design studio project.
Taught by: Hume
Course usually offered in fall term
Corequisite: Arch 601
Activity: Laboratory
0.5 Course Units

ARCH 631 Technology Case Studies I
A study of the active integration of various building systems in exemplary architectural projects. To deepen students' understanding of the process of building, the course compares the process of design and construction in buildings of similar type. The course brings forward the nature of the relationship between architectural design and engineering systems, and highlights the crucial communication skills required by both the architect and the engineer.
Taught by: Ryan
Course usually offered in fall term
Activity: Lecture
0.5 Course Units

ARCH 638 Technology Special Topics
Several sections are offered from which students make a selection such as: Building Acoustics; Building Envelopes; Building Systems; Lighting and Component Design.
Taught by: Faculty
Course usually offered in spring term
Activity: Seminar
0.5 Course Units
ARCH 671 Professional Practice I
The course consists of a series of workshops that introduce students to a diverse range of practices. The course goal is to gain an understanding of the profession by using the project process as a framework. The course comprises a survey of the architectural profession - its licensing and legal requirements; its evolving types of practice, fees and compensation; its adherence to the constraints of codes and regulatory agencies, client desires and budgets; and its placement among competing and allied professions and financial interests. The workshops are a critical forum for discussion to understand the forces which at times both impede and encourage innovation and leadership. Students learn how architects develop the skills necessary to effectively communicate to clients, colleagues, and user groups. Trends such as globalization, ethics, entrepreneurship, sustainability issues and technology shifts are analyzed in their capacity to affect the practice of an architect.
Taught by: Ryan
Course usually offered in fall term
Activity: Lecture
0.5 Course Units

ARCH 672 Professional Practice II
A continuation of ARCH 671. Further study of the organizational structures of architectural practices today, especially those beyond the architect’s office. The course is designed as a series of lectures, workshops and discussions that allows students and future practitioners the opportunity to consider and develop the analytical skills required to create buildings in the world of practice.
Taught by: Capaldi
Course usually offered in spring term
Activity: Lecture
0.5 Course Units

ARCH 698 Architectural Association (AA), London
An advanced Architectural Design Studio taught by Homa Farjadi in London at the Architectural Association's School of Architecture. Topics engage aspects of urban life and urban form in London, and vary from year to year. During the fifth term of the Master of Architecture program, up to fifteen students a year may enroll for the semester abroad program in London, England. This is coordinated by Prof. Homa Farjadi and is housed at the Architectural Association (AA), located on Bedford Square in the heart of Bloomsbury. Students enroll in a special design studio, ARCH 702, taught by Prof. Farjadi, and in two elective courses offered by the faculty at the AA.
Taught by: Farjadi
Course usually offered in fall term
Activity: Lecture
1 Course Unit

ARCH 701 Design Studio V
A set of Advanced Architectural Design studios are offered from which students select through a lottery. Topics and sites vary by instructor.
Taught by: Rahim and Faculty
One-term course offered either term
Also Offered As: LARP 701
Activity: Studio
2 Course Units

ARCH 702 Design Studio VI
In the final semester of the program, students select from three options: ARCH 702, an advanced design studio, ARCH 704, a research studio, the exploration of a topic or theme established by an individual faculty member or group of faculty members; or ARCH 706, an independent design thesis, the exploration of a topic or theme under the supervision of a thesis advisor.
Taught by: Rahim and Faculty
Course usually offered in spring term
Activity: Studio
2 Course Units

ARCH 703 Advanced Architectural Design Studio
An Advanced Architectural Design Studio specifically tailored to post-professional students. Through this studio, students engage in the challenges and opportunities presented by changes in society, technology, and urban experience. Through design projects, they explore alternative modes and markets for practice, along with new directions and new tools for design.
Taught by: Rahim and Faculty
Course usually offered in fall term
Activity: Studio
2 Course Units

ARCH 704 Advanced Design:Research Studio
In the final semester of the program, students select from three options: 1) An elective design studio, selected from among the advanced architectural design studios offered by the Department of Architecture; 2) a research studio, the exploration of a topic or theme established by an individual faculty member or group of faculty members; or 3) an independent thesis, the exploration of a topic or theme under the supervision of a thesis advisor.
Taught by: Faculty
Course usually offered in spring term
Activity: Studio
2 Course Units

ARCH 706 Independent Thesis
In the final semester of the program, students select from three options: 1) An elective design studio; selected from among the advanced architectural design studios offered by the Department of Architecture; 2) a research studio, the exploration of a topic or theme established by an individual faculty member or group of faculty members; or 3) an independent thesis, the exploration of a topic or theme under the supervision of a thesis advisor.
Taught by: Faculty
Course usually offered in spring term
Activity: Independent Study
2 Course Units

ARCH 708 Environmental Design Studio
An advanced design studio for the MEBD program that synthesizes the concepts and techniques of environmental building design. Topics and materials for the studio are developed in Arch 752: MEBD Research Seminar, and summarized in a research report at the end of studio.
Taught by: Faculty
Course usually offered summer term only
Prerequisites: ARCH-751, ARCH-752, ARCH-753, and ARCH-754
Activity: Studio
2 Course Units
ARCH 714 Museum as Site: Critique, Intervention and Production
In this course, we will take the museum as a site for critique, invention, and production. As architecture, cultural institution, and site of performance, the museum offers many relevant opportunities. Students will visit, analyze, and discuss a number of local exhibitions and produce their own intervention in individual or group projects. Exhibition design, design of museum, the process of curating, producing artworks ranging from paintings to installation and performance, as well as attention to conservation, installation, museum education, and the logistics and economics of exhibitions will be discussed on site and in seminar. These topics and others will be open for students to engage as part of their own creative work produced for the class and an online exhibition.
Taught by: Hornick, Andrea
Course usually offered in spring term
Activity: Seminar
1 Course Unit

ARCH 717 Philosophy of Urban History
Cities are among the most complex entities that arise out of human activity. For some of these cities (Versailles, Washington DC) the process through
Taught by: Manuel Delanda
Course usually offered in fall term
Activity: Lecture
1 Course Unit

ARCH 721 Designing Smart Objects for Play and Learning
Today's children enjoy a wide array of play experiences, with stories, learning, characters and games that exist as physical stand-alone objects or toys enhanced with electronics or software. In this course, students will explore the domain of play and learning in order to develop original proposals for new product experiences that are at once tangible, immersive and dynamic. They will conduct research into education and psychology while also gaining hands-on exposure to new product manifestations in a variety of forms, both physical and digital. Students will be challenged to work in teams to explore concepts, share research and build prototypes of their experiences in the form of static objects that may have accompanying electronic devices or software. Final design proposals will consider future distribution models for product experiences such as 3D printing, virtual reality and software- hardware integration. Instruction will be part seminar and part workshop, providing research guidance and encouraging connections will subject matter experts throughout the Penn campus.
Taught by: Diana
Course usually offered in fall term
Also Offered As: IPD 521
Activity: Seminar
1 Course Unit

ARCH 724 Technology in Design
The aim of this course is to understand the new medium of architecture within the format of a research seminar. The subject matter of new media is to be examined and placed in a disciplinary trajectory of building designed and construction technology that adapts to material and digital discoveries. We will also build prototype with the new media, and establish a disciplinary knowledge for ourselves. The seminar is interested in testing the architecture-machine relationship, moving away from architecture that looks like machines into architecture that behaves like machines: An intelligence (based on the conceptual premise of a project and in the design of a system), as part of a process (related to the generative real of architecture) and as the object itself and its embedded intelligence.
Taught by: Kim, Simon
Course usually offered in spring term
Activity: Seminar
1 Course Unit

ARCH 725 Design Thinking
In this course, students will discover design thinking and learn how to apply it to their work and life. Through lectures and workshops, the course will provide an overview of design and an introduction to the basic elements of design thinking, including immersion, ideation, and iteration. Students will be exposed to methods for conducting human-centered design research, concept generation, prototyping, and idea refinement. These methodologies are taught through a series of projects and exercises, culminating in a single rapid design project in which students will combine all of the tools to develop their designs.
Course usually offered in fall term
Activity: Seminar
1 Course Unit

ARCH 726 Contemporary Furniture Design
This course provides a platform, in the form of furniture, to execute and deploy architectural & engineering principles. It will be conducted as a seminar and workshop, and will introduce students to a variety of design methodologies that are unique to product design. The course will engage in many of the considerations that are affiliated with CAD/CAM production, the appropriate and innovative use of materials, and human factors. Students conduct case studies and research into industrial design processes, and will adapt these processes into techniques for designing a chair. Throughout the semester, students will experience first hand structural and material behavior, and understand ergonomic constraints by testing their design at different scales. The process will include: the production of a final design, its detailing, prototype development, Color/Material/Finishes (CMF), design for Computer Aided Manufacturing (CAM), the possibility of mass customization, research of materials and fabrication methods, optimization studies, Computer Aided Design (CAD), model making, furniture case studies, and a site visit to a major furniture manufacturer.
Taught by: Mueller-Russo
Course usually offered in spring term
Also Offered As: IPD 526
Activity: Seminar
1 Course Unit
**ARCH 727 Industrial Design**

Industrial design (ID) is the professional service of creating and developing concepts and specifications that optimize the function, value and appearance of products and systems for the mutual benefit of both user and manufacturer. Industrial designers develop these concepts and specifications through collection, analysis and synthesis of user needs data guided by the special requirements of the client or manufacturer. They are trained to prepare clear and concise recommendations through drawings, models and verbal descriptions. The profession has evolved to take its appropriate place alongside Engineering and Marketing as one of the cornerstones of Integrated Product Design teams. The core of Industrial Design's knowledge base is a mixture of fine arts, commercial arts and applied sciences utilized with a set of priorities that are firstly on the needs of the end user and functionality, then the market and manufacturing criteria. This course will provide an overview and understanding of the theories, thought processes and methodologies employed in the daily practice of Industrial Design. This includes understanding of ethnographic research and methodologies, product problem solving, creative visual communication, human factors / ergonomics application and formal and surface development in product scale. This course will not enable one to become an industrial designer but will enable one to understand and appreciate what industrial design does, what it can contribute to society and why it is so much fun.

Taught by: Bressler

One-term course offered either term

Also Offered As: IPD 527

Activity: Lecture

1 Course Unit

**ARCH 728 Design of Contemporary Products**

Smart objects are information-based products that are in ongoing dialogs with people, the cloud and each other. By crafting rich interactions, designers can create expressive behaviors for these objects based on sophisticated programmed responses. At the same time, sensor technologies have enabled us to introduce natural gestures as a means of interacting with a product. (Not only can we push, pull and twist a data value, but we can wave at, caress, tilt and shake it as well.) With an explosion of new possibilities for object interaction and human control, it is the designer's role to envision new solutions that are both meaningful and responsible. This course will explore product design solutions through a combination of physical and digital design methods. Beginning with an examination of case studies, students will gain a sense of the breadth of product and interaction design practice as it applies to smart objects. Through a series of lectures and hands-on studio exercises, students will explore all aspects of smart object design including expressive behaviors (light, sound and movement), interaction systems, ergonomics, data networks and contexts of use. The course will culminate in a final project that considers all aspects of smart object design within the context of a larger theme.

Taught by: Diana

Course usually offered in spring term

Also Offered As: IPD 528

Activity: Seminar

1 Course Unit

**ARCH 730 Techniques, Morphology, and Detailing of a Pavilion**

The course will focus on the design, morphology detailing, and the construction of “PennDesign Pavilion inspired by Russel Write Designs” which is set to be constructed in Spring 2016 on a site located at the University of Pennsylvania Campus. The course will develop through hands-on workshops and will focus on acquiring knowledge through making (Techne), understanding the morphological transformation of a given geometric packing, and building using readily available materials. The process consists of building and testing physical models that simulates the actual pavilion. In addition to digital simulation sessions to realize the desired design, which answers to the program developed by PennDesign faculty. The second half of the semester will focus on using lightweight construction materials to fabricate the pavilion’s actual components, including structural elements, molded components, and joints, which are required for pavilion’s final assembly. Additionally students will learn to organize design and fabrication teams, control design and production schedules, and work with set budget, which requires keeping track of construction cost and forecast for required procurements, including material quantities takeoff, ordering and schedule deliveries and receiving.

Taught by: Al Khayer, Mohamad

Course usually offered in spring term

Activity: Lecture

1 Course Unit

**ARCH 731 Experiments in Structures**

This year's selections include: Deployable Structures, Performance and compressive). In addition to the experiments, we will examine Le Ricolais' systems of both textiles (woven or braided fabrics where both warp and column) with "Modernist" space. We seek the spatial correlates to tensile steel or reinforced concrete structures in flexure (e.g., frame, slab and compression (e.g., vault and dome) correlate with "Classical" space, and structural systems that amplify tension. Experiments using the hand making (Techne), understanding the morphological transformation of a hands-on workshops and will focus on acquiring knowledge through team reports will serve as interim and final examinations. In typology, masonry structures in given geometic packing, and building using readily available materials. In addition to the experiments, we will examine Le Ricolais’ structural models held by the Architectural Archives.

Taught by: Al Khayer

Course usually offered in fall term

Activity: Seminar

1 Course Unit

**ARCH 732 Technology Designated Elective**

Several sections are offered from which students make a selection. This year's selections include: Deployable Structures, Performance and Design, Detailed Design Studies, Daylighting, Principles of Digi/Fab, Matter and Energy, Material and Structural Intelligence.

Taught by: Faculty

Course usually offered in spring term

Activity: Seminar

1 Course Unit

Notes: Please note: MSD-AAD students in their first semester are not permitted to enroll in any ARCH-732 courses.
ARCH 733 Building Product Design
As Craig Vogel notes in The Design of Things to Come, "we are in a new economic age that is in need of a new renaissance in product development, one that leverages multiple minds working in concert." With this mindset, this interdisciplinary workshop guides students through the product design process from design brief to concept generation and prototype development in one semester, working firsthand with Transwall, a leading manufacturer of demountable wall systems, to focus on a specific product need. The design opportunity looks for the next generation of pre-manufactured wall systems; getting away from field construction walls and looking at critical issues of mass-produced wall systems: flexibility, mobility, structural stability, acoustics, transparency/opacity and operability. During the workshop, students will explore the context that creates the unique need for a new product and have an opportunity to conceptualize their ideas through sketches, digital modeling and prototype development.
Taught by: Faculty
Course usually offered in fall term
Also Offered As: IPD 530
Prerequisite: ARCH 403/IPD 503 or ARCH major
Activity: Lecture
1 Course Unit

ARCH 734 Ecological Architecture - Contemporary Practices
Architecture is an inherently exploitive act - we take resources from the earth and produce waste and pollution when we construct and operate buildings. As global citizens, we have an ethical responsibility to minimize these negative impacts. As creative professionals, however, we have a unique ability to go farther than simply being "less bad." We are learning to design in ways that can help heal the damage and regenerate our environment. This course explores these evolving approaches to design - from neo-indigenous to eco-tech to LEED to biomimicry to living buildings. Taught by a practicing architect with many years of experience designing green buildings, the course also features guest lecturers from complementary fields - landscape architects, hydrologists, recycling contractors and materials specialists. Coursework includes in-class discussion, short essays and longer research projects.
Taught by: Woodward
Course usually offered in spring term
Activity: Seminar
1 Course Unit

ARCH 735 Innovation in Design and Health
Health care is taking on a new role in our society - with a refocusing from episodic care for those who are ill or symptomatic to providing life-long care geared towards maintaining wellness. These changes are evident across numerous areas of design, from wearable technologies that track and analyze, to WELL building initiatives that aim to create healthier environments and improve lives through large scale planning initiatives. A concrete, physical representation of this paradigm shift can be found within the hospital building and in the new manner in which hospitals are looking to serve their patients and care for their clinicians. Simultaneously both public and private spaces, hospitals are complex systems in which sickness, health, hospitality, technology, emergency, and community share space and compete for resources. In the development of the new hospital pavilion complex, Penn Medicine, in partnership with HDR, Foster+Partners, and others, has created an integrated project deliver (IPD) system, named PennFIRST. Over the semester, students will work with PennFIRST as their client and focus on the design for key spaces within the new pavilion complex. Through didactic content, active design projects, and a systems level approach, this course will provide students with a strong foundation for further work in the area of design for health and wellness.
Course usually offered in fall term
Activity: Seminar
1 Course Unit

ARCH 737 Semi-Fictious Realms
The pursuit of immersive digital experiences has long been a goal of the computing industry. Early wearable displays designed in the 1960s depicted simple three dimensional graphics in ways that had never been seen before. Through trial and error, digital pioneers reframed the relationship between user and machine, and over the last five decades, have made strides that advanced both the input and output mechanisms we are so comfortable with today. As a field, architecture has been reliant on these advancements to design and document buildings, but these tools still leave the architect removed from the physicality of the design, with their work depicted as 2D lines or 3D planes alone. This course will study the evolutionary advancements made that now allow us to fully inhabit digital worlds through Virtual Reality. Using the HTC Vive and Unreal Engine, students will generate immersive, photorealistic models of unbuilt architectural works and explore digital/physical interactivity. From the terraces of Paul Rudolph’s Lower Manhattan Expressway to Boule’s Cenotaph for Newton, the goal of this course is to breathe new life into places and spaces that have, until this time, never been built or occupied.
Taught by: McAdams, Christopher
Course usually offered in fall term
Activity: Seminar
1 Course Unit
ARCH 738 The Modern House: Technology Then and Now
In the current age of new fabrication methodologies, methods are emerging for the conception and design of the contemporary house which have radical potential for enclosure, habitation and practices of daily life. This course begins by examining the canonical houses of the original avant-garde—Adolf Loos, Frank Lloyd Wright, Le Corbusier, Mies van der Rohe and Alvar Aalto—on the premise that their houses were working manifestos for rethinking space, form and indeed ideas of life itself—all of which were prompted by new concepts of construction. From this spectrum of issues, contemporary houses and contemporary methods and materials will be studied extensively to develop equally new ideas between matter and quotidian life. As the primary task of the course, students will work in teams to develop highly detailed constructive proposals for a portion of a speculative home.

Taught by: Rahim
Course usually offered in fall term
Activity: Seminar
1 Course Unit

ARCH 741 Architecture Design Innovation
The mastery of techniques, whether in design, production or both, does not necessarily yield great architecture. As we all know, the most advanced techniques can still yield average designs. Architects are becoming increasingly adept producing complexity & integrating digital design and fabrication techniques into their design process - yet there are few truly elegant projects. Only certain projects that are sophisticated at the level of technique achieve elegance. This seminar explores some of the instances in which designers are able to move beyond technique, by commanding them to such a degree so as to achieve elegant aesthetics within the formal development of projects.

Taught by: Rahim
Course usually offered in fall term
Activity: Seminar
1 Course Unit

ARCH 743 Form and Algorithm
The critical parameter will be to develop the potential beyond finite forms of explicit and parametric modeling towards non-linear algorithmic processes. We will seek novel patterns of organization, structure, and articulation as architectural expressions within the emergent properties of feedback loops and rule based systems. This seminar will accommodate both introductory and advanced levels. No previous scripting experience is necessary. It will consist of a series of introductory sessions, obligatory intensive workshops, lectures followed by suggested readings, and will gradually focus on individual projects. Students will be encouraged to investigate the limits of algorithmic design both theoretically and in practice through a scripting environment.

Taught by: Balmond/Blasetti
Course usually offered in fall term
Activity: Seminar
1 Course Unit

ARCH 744 Postdigital Craft
As we have entered a postdigital era, the dominance of a purely technological approach as a vehicle for design innovation has waned. Questions of substance and disciplinary autonomy have found their way back into the contemporary cultural discourse, enriching the way we examine and deploy advanced technologies towards novel expressions in architecture. This seminar will investigate, through the production of estranged objects, opportunities for design that are being generated at the intersection of machinic and human minds, and speculate on possible futures in which concepts of nature and technology have been inseparably intertwined.

Taught by: Kolatan
Course usually offered in spring term
Also Offered As: IPD 544
Activity: Seminar
1 Course Unit

ARCH 750 Parafictional Objects
This representation/design seminar explores the aesthetics of estrangement in realism through various mediums. The reality of the discipline is that architecture is a post-medium effort. Drawings, Renderings, Models, Prototypes, Computations, Simulations, Texts, and Buildings are all put forward by architects as a speculative proposal for the reality of the future. Students will explore the reconfiguration of a "found object" in multiple mediums and represent parafictional scenarios in various techniques of realism. At a time when rendering engines enable the production of hyper-realistic images within the discipline without any critical representational agenda, it has become ever more imperative to rigorously speculate on realism.

Taught by: Ayata, Ahmet Kutan
Course usually offered in spring term
Activity: Seminar
1 Course Unit

ARCH 751 Ecology, Technology, and Design
This course will examine the ecological nature of design at a range of scales, from the most intimate aspects of product design to the largest infrastructures, from the use of water in bathroom to the flow of traffic on the highway. It is a first principle of ecological design that everything is connected, and that activities at one scale can have quite different effects at other scales, so the immediate goal of the course will be to identify useful and characteristic modes of analyzing the systematic, ecological nature of design work, from the concept of the ecological footprint to market share. The course will also draw on the history and philosophy of technology to understand the particular intensity of contemporary society, which is now characterized by the powerful concept of the complex, self-regulating system. The system has become both the dominant mode of explanation and the first principle of design and organization.

Taught by: Braham
Course usually offered in fall term
Activity: Lecture
1 Course Unit
ARCH 752 MEBD Research Seminar
Directed student research of selected topics in environmental building design. These topics will be further explored in ARCH 708: MEBD Studio and will provide the basis for the research documents developed with each student’s design project. Course work will include lectures, discussions, weekly readings, and in-class exercises. Each student will be required to make a presentation and submit a research report.
Taught by: Braham
Course usually offered in fall term
Activity: Seminar
1 Course Unit

ARCH 753 Building Performance Simulation
The course provides students with an understanding of building design simulation methods, hands-on experience in using computer simulation models, and exploration of the technologies, underlying principles, and potential applications of simulation tools in architecture. Classroom lectures are given each week, with a series of analysis projects to provide students with hands-on experience using computer models. This course is required and reserved for MEBD students.
Taught by: Yi
Course usually offered in fall term
Activity: Lecture
1 Course Unit

ARCH 754 Performance Design Workshop
The workshop applies simulation and diagramming techniques to a series of discrete design projects at different scales. The emphasis is on refinement and optimization of performance based building design. Performance analysis techniques can provide enormous amounts of information to support the design process, acting as feedback mechanisms for improved performance, but careful interpretation and implementation are required to achieve better buildings. Energy, lighting, and air flow are the three main domains covered in the workshop. Students will learn how to utilize domain tools at an advanced level, and utilize them as applications to examine the environmental performance of existing buildings. Using the results of analytical techniques, the students will develop high-performance design strategies in all three domains.
Taught by: Yi
Course usually offered in spring term
Activity: Seminar
1 Course Unit

ARCH 752 Design and Development
This course provides an introduction to the relationship between architectural design and real estate development. Following a discussion of fundamentals, examples focus on commercial building types, and illustrate how architectural design can contribute to real estate development. Topics include housing design, commercial buildings, adaptive reuse, downtown development, mixed-use projects, and planned communities. The course consists of lectures, reading assignments, short essays, a group project, and an midterm test. Invited lecturers include architects and real estate developers. Readings consist of a Bullpack available from Wharton Reprographics. There is one course text: Witold Rybczynski, “Last Harvest.”
Taught by: Sehnert
Course usually offered in spring term
Also Offered As: CPLN 643
Activity: Lecture
1 Course Unit

ARCH 756 Project Management
This course is an introduction to techniques and tools of managing the design and construction of large, and small, construction projects. Topics include project delivery systems, management tools, cost-control and budgeting systems, professional roles. Case studies serve to illustrate applications. Cost and schedule control systems are described. Case studies illustrate the application of techniques in the field.
Taught by: Capaldi
Course usually offered in spring term
Activity: Seminar
1 Course Unit

ARCH 782 Architecture Study Abroad Program
A four to six week program of study in locations that vary, such as Paris, Greece and Colombia. Summer 2017: ARCH-782-901 Paris, France: May 29 to July 1 2017. ARCH-782-902 Greece: May 17 to June 14, 2017 ARCH-782-903 Colombia: May 16 to June 12, 2017. For additional information please contact the Architecture Department directly: arch@design.upenn.edu.
Taught by: Fierro and Faculty
Course usually offered summer term only
Activity: Studio
1 Course Unit

ARCH 791 ARCH Summer Institute: Digiblast I: Fundamentals of 3D Modeling
This is a non-credit course for entering Master of Architecture students. The course will cover digital modeling and workflow and will prepare students for techniques used in PennDesign's 500 and 600 level design studios. Course fee: $650.00. Note: course fees apply only to students who are NOT enrolled in ARCH-500, in addition to ARCH-791. Course enrollment is by permit only. Please contact Sarah Lam (ARCH Dept.) at sarahlam@design.upenn.edu.
Taught by: Blasetti and Willems
Course usually offered summer term only
Activity: Studio
0 Course Units

ARCH 792 ARCH Summer Institute: Digiblast II: 3d Modeling and Fabrication
This is a non-credit course for entering Master of Architecture students. The course will cover digital modeling and workflow. The course will prepare students for techniques used in PennDesign's 500 and 600 level design studios. Course fee: $750.00. Course enrollment is by permit only. Please contact Sarah Lam (ARCH Dept.) at sarahlam@design.upenn.edu.
Taught by: Blasetti and Willems
Course usually offered summer term only
Activity: Studio
0 Course Units

ARCH 793 ARCH Summer Institute: History of Architecture
This is a non-credit course for entering Master of Architecture students. The course will cover western architecture from ancient Egypt to the modern age and will satisfy the history pre-requisite condition for matriculation in the fall. Course fee: $750.00. Course enrollment is by permit only. Please contact Sarah Lam (ARCH Dept.) at sarahlam@design.upenn.edu.
Taught by: Faculty
Course usually offered summer term only
Activity: Lecture
0 Course Units
ARCH 794 ARCH Summer Institute: Physics for Architects
This is a non-credit course for entering Master of Architecture students. The course will cover the following: mechanics, heat, light, sound and electricity. The course will satisfy the physics pre-requisite condition for matriculation in the fall. Course fee: $750.00 Course enrollment is by permit only. Please contact Sarah Lam (ARCH Dept.) at sarahlam@design.upenn.edu.
Taught by: Farley
Course usually offered summer term only
Activity: Lecture
0 Course Units

ARCH 795 ARCH Summer Institute: Advanced Architectural Design Digital Workshop
This is a non-credit course for entering Master of Science in Design: Advanced Architectural Design students. The Digital Methods workshop provides a comprehensive introduction to four elements critical to the workflow of the graduate studios at PennDesign: 3D modeling, scripting, visualization and fabrication. Short daily lectures situating digital technologies in contemporary design practice are followed by hands-on tutorials in Maya and Rhinoceros. The first half of the workshop provides an operative knowledge of the many geometry types, modeling techniques, scripting languages and simulation tools available for studio work. Visualization techniques are also introduced, and students will learn to efficiently produce presentation-quality renderings, animations and technical line drawings from digital models. Students also learn protocols transferring data between various design software packages and how to for create data compatible with PennDesign's digital fabrication equipment. Course fee: $575.00 Course enrollment is by permit only. Please contact Sarah Lam (ARCH Dept.) at sarahlam@design.upenn.edu.
Taught by: Blasetti and Willems
Course usually offered summer term only
Activity: Studio
0 Course Units

ARCH 811 Architectural Research
This course has three parts. All incoming students in the M.S. and Ph.D. programs should attend the first, and register for either the second or the third sections. The first part consists of a series of presentations by members of the Graduate Group in Architecture. The several presentations will address the topics the faculty are currently examining and will demonstrate different methods or styles of research. The other two sections of this course address basic concepts, texts, and methods in 1) history and theory, and 2) technology and simulation.
Taught by: Leatherbarrow and Faculty
Course usually offered in fall term
Also Offered As: ARCH 711
Activity: Seminar
1 Course Unit

ARCH 812 Field Research
First year Ph.D. and M.S. students will use this course to register for a research elective in their field of study. Courses to be taken will be selected from a list of electives offered by members of the Graduate Group of Architecture, typically the seminars offered by those faculty at the Masters level. At the outset of the course Ph.D. and M.S. students will discuss and decide with the professor the readings, research, and writings that will be appropriate for the course, given the student's field of study.
Taught by: Faculty
Course usually offered in spring term
Activity: Independent Study
1 Course Unit

ARCH 813 Qualifying Research
This is an independent study course for first year Ph.D. and M.S. students, supervised by a member of the Graduate Group in Architecture. A course of readings and advisors sessions throughout the semester will result in an independent study paper, which will also be used as the student's qualifying paper for the Qualifying Examination. This research paper will be prepared as if for scholarly publication.
Taught by: Faculty
Course usually offered in spring term
Activity: Independent Study
1 Course Unit

ARCH 815 Research Report
The candidate for the M.S. in Architecture degree shall prepare a research report in his or her subject of study. The topic of this report must be approved by an advisor. This report will be developed in the independent study courses, undertaken after the eight units of course work has been completed, normally in the summer semester. The purpose of these courses is to give the student an opportunity to synthesize their previous coursework at Penn. Course enrollment is by permit only. Please contact Leigh Anne Scarborough (ARCH Dept.) at lascarbo@sas.upenn.edu.
Taught by: Faculty
Course usually offered in fall term
Activity: Independent Study
2 Course Units
ARCH 816 Advanced Topics in Architecture Culture from World War II through 2001
This seminar will be taught as an advanced section of ARCH 512. It is primarily for students who are in their first year of the PhD program in Architecture but it is open to other upper-level students with instructor permission. In addition to the weekly discussion-format seminar on Tuesday afternoons (1.5 hours), students are also expected to attend the lectures associated with ARCH 512 on Tuesday mornings (10:30-12). Assigned readings will go beyond those on the 512 syllabus to include more complex and sophisticated source material. The subject of both ARCH 512 and 812 is the evolution of the culture of architecture from World War II to the turn of the twenty-first century. Starting with the period of wartime planning and postwar reconstruction in the 1940s, we will move decade by decade up to the present century, considering the transformations of modernist culture under the impact of social, political, technological, and urban changes. We will address the challenges posed to architecture from inside as well as outside the discipline and from around the world, attending to material and ideological developments and to relations between individual protagonists and larger historical and institutional forces. Among the wide range of issues at stake are the impact of research and technology coming out of the world war; the intensifying critique of interwar functionalism and debates over monumental humanism, regionalism, history, aesthetics; the effects of suburbanization, expanded mobility, changing demographics, and environmental factors; the phenomena of consumer culture and mass media; the impact of the Cold War and decolonization; the emergence of a "global village" and its intensifying cultural exchanges; the rise of a new architectural avant-garde in the 1960s and the advent of postmodernism; plus more recent ramifications. At the level of theory and methodology, the seminar will be especially concerned with issues of periodization and documentation. We will discuss and debate the question of how "architecture culture" is produced and reproduced at particular moments in history. Seminar discussions will be focused around specific case studies, some to be determined by the instructor, the rest based on in-depth individual research products to be carried out by the members of the class. Each student will work on his or her case-study project over the course of the semester, leading to an in-class presentation and a term paper of 25 pages.
Taught by: Ockman
Course usually offered in spring term
Activity: Seminar
1 Course Unit

ARCH 851 Dissertation Bibliography
This course is essentially an independent study, undertaken by doctoral students in preparation for the Candidacy Examination. This course should be taken in conjunction with ARCH 852 after all other courses have been completed. Normally a member of the student's Dissertation Committee supervises this course.
Taught by: Faculty
Two terms. student may enter either term.
Activity: Independent Study
1 Course Unit

ARCH 852 Dissertation Proposal
This course is essentially an independent study, undertaken by doctoral students in order to write the Proposal for the Dissertation. The Proposal is prepared before and defended during the Candidacy Examination. This course should be taken in conjunction with ARCH 852 after all other courses have been completed. Normally a member of the student's Dissertation Committee supervises this course.
Taught by: Faculty
Two terms. student may enter either term.
Activity: Independent Study
1 Course Unit

ARCH 999 Independent Study
This course enables student to undertake a self-directed study on a topic in Architecture, under the supervision of a faculty member. Students are required to make a proposal for the study to the Department Chair, outlining the subject and method of investigation, and confirming the course supervisor at least two weeks prior to the beginning of the semester.
Taught by: Faculty
One-term course offered either term
Activity: Independent Study
1 Course Unit

Art & Archaeology of the Mediterranean World (AAMW)

AAMW 401 Introduction to Greek Archaeology
An introduction to the art and archaeology of ancient Greece from the Archaic through Hellenistic periods. Topics to be considered include the formation of the Greek polis, the rising and falling fortunes of Athens and the other Greek city-states in the Classical period, and the world of Alexander the Great. Emphasis is placed on the consideration of the archaeological evidence, e.g., sculpture, painting, pottery, architecture, and other material culture. This course is part of a sequence of introductory courses (with Ages of Homer and Introduction to Roman Archaeology) on the archaeology of the Greco-Roman world. There are no prerequisites, and these courses need not be taken in a particular order. Course not offered every year
Also Offered As: CLST 275
Activity: Lecture
1 Course Unit

AAMW 413 Ancient Athletics
The art, archaeology and history of athletics in ancient Greece. Among the topics to be included are: famous Greek athletes, female athletes, the ancient Olympic Games and other athletic festivals, ancient athletic facilities and equipment, the excavation of ancient athletic sites and practical athletics.
Taught by: Romano
Course not offered every year
Activity: Lecture
1 Course Unit

AAMW 424 Art of Mesopotamia
A survey of the art of Mesopotamia from 4000 B.C. through the conquest of Alexander the Great.
Taught by: Pittman
One-term course offered either term
Also Offered As: ARTH 224, ARTH 624
Activity: Lecture
1 Course Unit
AAMW 427 Roman Sculpture
Survey of the Republican origins and Imperial development of Roman sculpture - free-standing, relief, and architectural - from ca. 150 BC to 350 AD. We concentrate on sculpture in the capital city and on court and state arts, emphasizing commemorative public sculpture and Roman habits of decorative display; genres examined include relief, portraits, sarcophagi, luxury and minor arts(gems, metalwork, coinage). We evaluate the choice and evolution of styles with reference to the functions of sculptural representation in Roman culture and society.
Taught by: Kuttner, Rose
Course not offered every year
Also Offered As: ARTH 427, CLST 427
Activity: Lecture
1 Course Unit

AAMW 428 Hellenistic Art and Spectacle
Hellenistic usually names art in the age of Mediterranean culture from the 4th century BCE and the rise of Alexander the Great's Macedon, and the Greco-Macedonian conquest of the Persian Empire, to Cleopatra of Egypt's defeat by Rome at the end of the Republic. Our course looks also at the age of Augustus and his successors, 1st century CE. While Greek and Macedonian practice in city-states and kingdoms is our launching point, this course also looks at international culture and cultural interaction among peoples from North Africa and Etrusco-Roman Italy, Egypt, (Etrusco) Anatolia, the Mideast and Central Asia. We probe art, artifacts, and visual display from a range of settings, from sanctuary to house, palace and parade, and in all media, from marble monuments to pottery and jewelry. Our archaeology of Hellenistic visual culture also looks at the rich body of Hellenistic and Roman texts of art history, art criticism, and the description of objects and image, to better understand the Hellenistic maker, patron, and viewer. No prerequisites. It is desirable for undergraduates to have experience of research. Of interest to students in AAMW, ARTH, ANCH, CLST, VLST, NELC, RELS and ANTH.
Taught by: Kuttner
One-term course offered either term
Also Offered As: ARTH 428
Activity: Lecture
1 Course Unit

AAMW 432 Early Christian and Byzantine Architecture
Architecture and its decoration from Early Christian times in East and West until the sixth century A.D., and in the Byzantine lands until the Turkish Conquest.
Taught by: Ousterhout
Also Offered As: ARTH 432
Activity: Lecture
1 Course Unit

AAMW 435 Medieval Islamic Art & Architecture
An introduction to the major architectural monuments and trends, as well as to the best-known objects of the medieval (seventh-to fourteenth-century) Islamic world. Attention is paid to such themes as the continuity of late antique themes, architecture as symbol of community and power, the importance of textiles and primacy of writing. Suitable for students of literature, history, anthropology as well as art history.
Taught by: Holod
Course not offered every year
Also Offered As: ARTH 435, COML 415, NELC 489
Activity: Lecture
1 Course Unit

AAMW 477 Archaeological Chemistry
Taught by: McGovern
Course not offered every year
Also Offered As: HSPV 577
Activity: Seminar
1 Course Unit

AAMW 509 Curatorial Seminar
Spring 2015: Practiced in almost all ancient cultures, magic offered ways of managing or understanding the present, controlling supernatural agencies, and seeing the future. The objects and images associated with magical practices are rich and varied and are well represented in the University of Pennsylvania Museum. The aim of the seminar is to prepare an exhibit on magic and divination, working with the archaeological collections of the UPM, specifically the Ancient Near Eastern, Egyptian, and Mediterranean sections. It will include objects such as amulets, curse tablets, incantation bowls, and magical papyri, as well as images representing magical practices. Participating students will select and research objects and prepare wall texts for the exhibit.
Course not offered every year
Also Offered As: ARTH 501, NELC 501
Activity: Seminar
1 Course Unit

AAMW 512 Petrography of Cultural Materials
Introduction to thin-section petrography of stone and ceramic archaeological materials. Using polarized light microscopy, the first half of this course will cover the basics of mineralogy and the petrography of igneous, metamorphic and sedimentary rocks. The second half will focus on the petrographic description of ceramic materials, mainly pottery, with emphasis on the interpretation of provenance and technology. As part of this course, students will characterize and analyze archaeological samples from various collections. Prior knowledge of geology is not required.
Course not offered every year
Also Offered As: ANTH 514, CLST 512
Activity: Seminar
1 Course Unit

AAMW 520 Topics in Aegean Bronze Age
Topic varies. Spring 2015: Double axes, horns of consecration, and images of a prominent female goddess were powerful cult symbols for both the Minoans and the Mycenaeans. And indeed, it was originally thought that these two cultures practiced the same religion. But closer examination of textual and archaeological evidence reveals that despite the similarities in their respective iconographies, the religions had significant differences, differences that must have arisen from their different cultural backgrounds. In this course we will look at many different types of evidence Linear A and B texts, archaeological sites and mortuary remains, cult objects such as rhyta and figurines, and artistic renderings of religious scenes found on gold rings and frescoes so that together we can attempt to reconstruct the ritual practices of these religions. We will also use these physical manifestations to consider more broadly the nature not only of the Minoan and Mycenaean religions, but also of the Minoan and Mycenaean cultures.
Course not offered every year
Also Offered As: ARTH 520
Activity: Seminar
1 Course Unit
AAMW 522 Topics in Ancient Iranian Art
Topic varies.
Taught by: Pittman
Course not offered every year
Also Offered As: ARTH 522
Activity: Seminar
1 Course Unit

AAMW 523 Topics in Art of Ancient Near East
Topic varies.
Taught by: Pittman
Course not offered every year
Also Offered As: ARTH 523
Activity: Seminar
1 Course Unit

AAMW 525 Topics in Greek and Roman Art
Topic varies. Spring 2016: Rome and its world became dense with monuments, artifacts, images, structures, spaces which addressed individual and collective concerns that we can call political. In private and public displays, these concerns included citizenship and class standing, public achievement and power, the construction of social memory, and the very nature of being Roman in a city, republic, empire. Of interest here also are the roles of women and of the empire's indigenous peoples. Such displays often engaged, too, with religion, in a providential understanding of historical event. Cases range from displays of high design, 'art', to seemingly crude graphic communications; all shed light on Roman visual language, and its makers, patrons and spectators. Of especial interest to students in ArtH, AAMW, AncH, ClSt, RelSt, Anthro. No prior background in ancient Roman studies or art history/archaeology required. Open to advanced undergraduates with permission of the instructor.
Taught by: Kuttner, Brownlee, A.
Course not offered every year
Also Offered As: ARTH 525, CLST 521
Activity: Seminar
1 Course Unit

AAMW 528 Topics in Classical Architecture
Topic Varies
Taught by: Haselberger
Course not offered every year
Also Offered As: ARTH 528
Activity: Seminar
1 Course Unit

AAMW 529 Vitruvian Studies
Topic varies.
Taught by: Haselberger
Course not offered every year
Also Offered As: ARTH 529, CLST 528
Activity: Seminar
1 Course Unit

AAMW 530 Vitruvian Studies
Topic varies.
Taught by: Haselberger
Course not offered every year
Also Offered As: ARTH 530
Activity: Seminar
1 Course Unit

AAMW 534 Problems in Greek and Roman History
One-term course offered either term
Also Offered As: ANCH 535, HIST 535
Activity: Seminar
1 Course Unit

AAMW 535 Topics in Islamic Epigraphy
Topic varies.
Taught by: Holod
Course not offered every year
Also Offered As: ARTH 535
Activity: Seminar
1 Course Unit

AAMW 537 Topics in Art of Iran
Topic varies.
Taught by: Holod
Also Offered As: ARTH 537
Activity: Seminar
1 Course Unit

AAMW 538 Topics in Art of Andalusia
Spring 2016: This pro-seminar will investigate the nature of Cordoba as the capital of the Umayyad realm in Iberia. Topics discussed will include: city and its suburbs, villas as loci of cultural production, the role of the congregational mosque, the city vs. the palace city of Madina al-Zahra. Knowledge of Spanish and/or Arabic desirable, but not necessary.
Taught by: Holod
Course not offered every year
Also Offered As: ARTH 538
Activity: Seminar
1 Course Unit

AAMW 541 Topics in Early Medieval Architecture
Topic varies.
Course not offered every year
Also Offered As: ARTH 541
Activity: Seminar
1 Course Unit

AAMW 543 Empires Anc Near East
Course not offered every year
Also Offered As: NELC 242, NELC 542
Activity: Lecture
1 Course Unit

AAMW 546 Museum Internship
The Museum Internship in the spring consists of a research project with Penn Museum collections based on a proposal designed and approved during the fall AAMW Proseminar (AAMW 526). It is offered to, and is a requirement for, first-year AAMW graduate students only.
Course usually offered in spring term
Activity: Independent Study
1 Course Unit
AAMW 556 Becoming a Professional Archaeologist
This course (cross-listed as ANTH556) is designed to prepare graduate students for a career in academic archaeology. Topics to be covered include project research design (including logistical planning), acquiring funding (proposal writing), managing grants (including budget planning and reconciliation), publishing, and preparing for entering the job market (writing cover letters and CVs). Students are also encouraged to suggest further topics of interest as the semester goes on. The final project will be the development of a NSF grant proposal, which will be presented and critiqued in stages throughout the semester, and which can serve as the basis for later submission. While much of the focus is on archaeology, students in other disciplines, especially those involving field research, will also benefit.
Taught by: Cobb
One-term course offered either term
Also Offered As: ANTH 600 and one archaeology area course or permission of instructor
Activity: Seminar
1 Course Unit

AAMW 557 Seminar in Archaeological Theory and Method: Archaeology of Landscapes
Topic varies.
Course not offered every year
Also Offered As: ANTH 557, LALS 557
Activity: Seminar
1 Course Unit

AAMW 562 Introduction to Digital Archaeology
Digital methods allow archaeologists to approach research questions about the human past with increasing accuracies on larger datasets and at multiple scales. This class introduces students to the three main steps of digital archaeology: data management, analysis, and sharing. Data management involves the design, creation, and curation of digital objects that capture the archaeological process and evidence. Students will gain deep familiarity in working with the main types of digital archaeological data: structured data (relational databases), 3D models/spatial data, and raster images. The class will provide abundant hands-on experience with the latest equipment and software for working with many different kinds of data. We will learn about data analysis techniques through a close examination of a variety of case studies in the literature that demonstrate how other archaeologists have applied digital methods to their archaeological questions. Finally, we will discuss the importance of sharing data through open access data publication and we will apply our skills with structured data to existing online archaeological datasets. The goal of this class is to prepare students to make methodological decisions during future research endeavors, both in the field and in the archaeological lab.
Taught by: Cobb
Also Offered As: ANTH 362, CLST 362, CLST 562
Prerequisite: Prior archaeological classwork and/or experience preferred
Activity: Lecture
1 Course Unit
Notes: Please note that this is a lecture course with an undergraduate and graduate section.

AAMW 601 Archaeology and Greek History
An examination of archaeological evidence relevant to selected problems in Greek history.
Course not offered every year
Also Offered As: ANCH 601, CLST 601
Activity: Seminar
1 Course Unit

AAMW 603 Archaeology & The Greek Theater
This course will examine the written and especially the archaeological evidence for the production of Greek drama. Topics will include the theater buildings themselves, stage machinery, scene painting, and costumes. The main chronological focus will be on the fifth and fourth centuries B.C., but some attention will be paid to later developments.
Course not offered every year
Activity: Seminar
1 Course Unit

AAMW 611 Greek Epigraphy
An introduction to the principles and practices of Greek Epigraphy. Study of selected Greek inscriptions.
Taught by: McInerney
One-term course offered either term
Also Offered As: ANCH 611, CLST 611, GREK 611
Activity: Seminar
1 Course Unit

AAMW 620 Minoan, Cycladic and Mycenaean Art
This course is designed to give an overview of the cultures of the Aegean Bronze Age. The art and architecture of Crete, the Cyclades and the Mainland of Greece are examined in chronological order, with an emphasis on materials and techniques. In addition, larger issues such as the development of social complexity and stratification, and the changing balance of power during the Aegean Bronze Age are examined.
Taught by: Shank
Course not offered every year
Also Offered As: ARTH 220, ARTH 620
Activity: Lecture
1 Course Unit

AAMW 621 Greek Vase Painting
Spring 2015: Painted vases constitute the most important and comprehensive collection of visual evidence that survives from ancient Greece. In this course, we will examine the development of Greek vase-painting from the 10th to the 5th century BC, with particular emphasis on the pottery of the Archaic and Classical periods that was produced in the cities of Athens and Corinth. An object-based learning course, this class will focus on the close study of Greek vases in the collection of the University of Pennsylvania Museum, and a number of class sessions will meet in the Museum. Several guest lecturers will discuss the conservation and ancient repair of Greek vases and the ceramic analysis of Greek pottery. We will also learn about the making of ceramics in a session in the Addams Hall pottery studio. Some background in art history or classical studies is helpful but not required.
Taught by: Brownlee A.
Course not offered every year
Also Offered As: ARTH 221, ARTH 621
Activity: Lecture
1 Course Unit
AAMW 622 Art of Ancient Iran
This course offers a survey of ancient Iranian art and culture from the painted pottery cultures of the Neolithic era to the monuments of the Persian Empire. Particular emphasis is placed on the Early Bronze Age. Taught by: Pittman
Course not offered every year
Also Offered As: ARTH 222, ARTH 622
Activity: Lecture
1 Course Unit

AAMW 624 Domestic Life in Ancient Civilizations
In this seminar course, students will learn what household archaeology is and how daily life of the commoners in ancient civilizations is studied, based primarily on household material culture excavated from different parts of the world. Through such archaeological data, we will examine and compare case-studies from three distinct regions - East Asia, the Near East, and Mesoamerica. Strong emphasis is given to selected cultural aspects such as construction and maintenance of houses, household utensils and installations, daily food and body ornaments, and domestic burials. The course aims to provide students with a strong foundation for further anthropology, archaeology- and history-related courses.
Taught by: Nishimura
Course not offered every year
Activity: Seminar
1 Course Unit

AAMW 625 Greek Art and Artifact
This course surveys Greek art and artifacts from Sicily to the Black Sea from the 10th century BCE to the 2nd century BCE, including the age of Alexander and the Hellenistic Kingdoms. Public sculpture and painting on and around grand buildings and gardens, domestic luxury arts of jewelry, cups and vases, mosaic floors, and cult artefacts are discussed. Also considered are the ways in which heroic epic, religious and political themes are used to engage viewer’s emotions and served both domestic and the public aims. We discuss how art and space was considered, along with ideas of invention and progress, the role of monuments, makers and patrons in Greek society.
Taught by: Kuttner
Course not offered every year
Also Offered As: ARTH 225, ARTH 625, CLST 220
Activity: Lecture
1 Course Unit

AAMW 626 Hellenistic and Roman Art and Artifacts
This course surveys the political, religious and domestic arts, patronage and display in Rome’s Mediterranean, from the 2nd c. BCE to Constantine's 4th-c. Christianized empire. Our subjects are images and decorated objects in their cultural, political and socio-economic contexts (painting, mosaic, sculpture, luxury and mass-produced arts in many media). We start with the Hellenistic cosmopolitan culture of the Greek kingdoms and their neighbors, and late Etruscan and Republican Italy; next we map Imperial Roman art as developed around the capital city Rome, as well as in the provinces of the vast empire.
Taught by: Kuttner
Course not offered every year
Also Offered As: ARTH 226, ARTH 626
Activity: Lecture
1 Course Unit

AAMW 628 Greek Architecture and Urbanism
Introduction to the art of building and city planning in the ancient Greek world, 7th-1st c. BC. Emphasis on concepts of organizing space, on issues of structure, materials, decoration, proportion, and the Mycenean and eastern heritage as well as on theory and practice of urbanism as reflected in ancient cities (Athens, Pergamon, Alexandria) and writings (Plato, Aristotle, and others). Excursions to the Penn Museum and Philadelphia. No prerequisites.
For BA Students: General Requirement in Science
Taught by: Haselberger
Course not offered every year
Also Offered As: ARTH 228, ARTH 628
Activity: Lecture
1 Course Unit

AAMW 629 Roman Architecture and Urbanism
Introduction to the art of building and city planning in the Roman world, 6th c. BC - 2nd c. AD. Emphasis on concepts of organizing space, on issues of structure, materials, decoration, proportion, and the Etruscan and Greek heritage as well as on theory and practice of urbanism as reflected in ancient cities (Rome, Ostia, Roman Alexandria, Timgad) and writings (Vitruvius, and others). Excursions to the Penn Museum and Philadelphia. No prerequisites.
Taught by: Haselberger
Course not offered every year
Also Offered As: ARTH 229, ARTH 629
Activity: Lecture
1 Course Unit

AAMW 632 Byzantine Art and Architecture
This course offers a wide-ranging introduction to the art, architecture, and material culture of Byzantium a Christian, predominantly Greek-speaking civilization that flourished in the Eastern Mediterranean for over a thousand years. Positioned between the Muslim East and the Latin West, Antiquity and the Early Modern era, Byzantium nurtured a vibrant and highly sophisticated artistic culture. With emphasis placed upon paradigmatic objects and monuments, we will examine an array of artistic media, from mosaic and panel painting to metalwork, ivory carving, book illumination, and embroidery. We will consider the making, consumption, and reception of Byzantine art in a variety of contexts: political, devotional, ritual, and domestic. Topics include the idea of empire and its visual articulation; court culture; the veneration of images and relics; piety, piety, and self-representation; authorship and artistic agency; materiality and the sensory experience of art; the reception of the pagan Greco-Roman past; and the changing nature of Byzantium's interactions with neighboring cultures.
Taught by: Drpic
One-term course offered either term
Also Offered As: ARTH 232, ARTH 632
Activity: Lecture
1 Course Unit
AAMW 633 Eastern Medieval Architecture
This lecture course examines major architectural developments in the eastern Mediterranean between the 4th and 14th centuries CE. The focus is on the Byzantine Empire, with its capital at Constantinople. Lectures also devoted to related developments in the Caucasus (Armenia and Georgia), early Russia, the Balkans (Bulgaria and Serbia), Sicily and under the Normans, the Crusader states. Parallel developments in early Islamic architecture are used for comparative purposes. The course examines evidence for religious and secular buildings, as well as urbanism and settlement patterns.
Taught by: Ousterhout
Course not offered every year
Also Offered As: ARTH 233, ARTH 633
Activity: Lecture
1 Course Unit

AAMW 635 Introduction to Visual Culture of the Islamic World
A one-semester survey of Islamic art and architecture which examines visual culture as it functions within the larger sphere of Islamic culture in general. Particular attention will be given to relationships between visual culture and literature, using specific case studies, sites or objects which may be related to various branches of Islamic literature, including historical, didactic, philosophical writings, poetry and religious texts. All primary sources are available in English translation. For BA Students: Humanities and Social Science S
Taught by: Holod
One-term course offered either term
Also Offered As: ARTH 235, ARTH 635, NELC 285, NELC 685, VLST 235
Activity: Lecture
1 Course Unit

AAMW 640 Medieval Art
An introductory survey, this course investigates painting, sculpture, and the "minor arts" of the Middle Ages. Students will become familiar with selected major monuments of the Late Antique, Byzantine, Carolingian, Romanesque, and Gothic periods, as well as primary textual sources. Analysis of works emphasizes the cultural context, the thematic content, and the function of objects. Discussions focus especially on several key themes: the aesthetic status of art and the theological role of images; the revival of classical models and visual modes; social rituals such as pilgrimage and crusading; the cult of the Virgin and the status of women in art; and, more generally, the ideology of visual culture across the political and urban landscapes.
Course usually offered in fall term
Also Offered As: ARTH 240, ARTH 640
Activity: Lecture
1 Course Unit

AAMW 641 Introduction to Medieval Architecture
This course provides an introduction to the built environment of the Middle Ages. From the fall of Rome to the dawn of the Renaissance, a range of architectural styles shaped medieval daily life, religious experience and civic spectacle. We will become familiar with the architectural traditions of the great cathedrals, revered pilgrimage churches, and reclusive monasteries of western Europe, as well as castles, houses, and other civic structures. We integrate the study of the architecture with the study of medieval culture, exploring the role of pilgrimage, courts and civil authority, religious reform and radicalism, crusading and social violence, and rising urbanism. In this way, we will explore the ways in which the built environment profoundly affected contemporary audiences and shaped medieval life.
Course not offered every year
Also Offered As: ARTH 241, ARTH 641
Activity: Lecture
1 Course Unit

AAMW 645 Economy of Ancient Trade
This course will examine theoretical and empirical frameworks for pre-modern forms of exchange. We will focus on substantivist and formalist economic theories and will consider the archaeological evidence for such phenomena as barter, gift exchange, administered economies, markets, local exchange, and long distance overland and maritime trade. Our goal is to develop mid-range models for reconstructing ancient economies. The course will emphasize but not be limited to complex societies of the New and Old World.
Course not offered every year
Also Offered As: ANTH 645
Activity: Lecture
1 Course Unit

AAMW 702 Greek Sanctuaries
The formation and development of key religious sites, including Olympia, Delphi, Cyrene, Selinus, Cos and Lindos.
Course not offered every year
Also Offered As: ANCH 702, CLST 702
Activity: Seminar
1 Course Unit

AAMW 703 The Ancient House
Course usually offered in fall term
Also Offered As: CLST 703
Activity: Seminar
1 Course Unit

AAMW 705 ETHNOARCHAEOLOGY: GREECE
Ethnoarchaeology involves distinctive theoretical and methodological approaches to the study of living societies for the explicit purpose of shedding light on archaeological questions. In this seminar, we will review the intellectual history of ethnoarchaeology in North America and Europe, and explore case studies from Greece, the wider Mediterranean, and beyond. Among the topics will be analogy, cross-cultural comparison, experimental archaeology, oral history research, and archaeologically oriented ethnographic fieldwork. Students will create a proposal for ethnoarchaeological fieldwork in their area of interest in NSF or Wenner-Gren format, to be critiqued by the instructor and their peers.
Course not offered every year
Also Offered As: CLST 705
Activity: Seminar
1 Course Unit
AAMW 710 Curatorial Seminar: Gordion, Royal City of Midas
The course will focus on the planning for and design of an exhibit on Gordion and the Phrygians that will take place at the Penn Museum in 2016. The exhibit will feature substantial loans from museums in Turkey, including the "Midas Mound" at Gordion and the "Lydian Treasure" from the area around Sardis.
Taught by: Rose
Course not offered every year
Also Offered As: ANTH 708, CLST 710
Activity: Seminar
1 Course Unit

AAMW 715 Archaeology of Troy
An introduction to the archaeology of Troy, in northwestern Turkey. The course will focus on the results of excavations at the site in 1988, although the earlier excavations of Schliemann, Dorpfeld, and Blegen will also be considered. The course will cover a broad chronological span—from the early Bronze age through the late Roman period, and will include Greek, Roman, and Medieval attitudes toward Troy and the Trojan legend.
Taught by: Rose
Course not offered every year
Also Offered As: CLST 715
Activity: Seminar
1 Course Unit

AAMW 720 Topics in Aegean Art
Topic varies. Fall 2017: Depictions of men and women in Aegean Bronze Age art, dating to circa 3,000-1,100 BCE, are extremely evocative. In this class we will examine what fresco art can tell us about the roles of men and women in this prehistoric culture. We will keep several questions in mind: 1) How do images of men and women evolve? 2) Does the artwork available to us allow us to safely draw conclusions about Minoan and Mycenaean society? 3) What are the similarities and differences between the depictions of Minoan and Mycenaean men and women? 4) Can we make a case that certain people were viewed as different (elevated in society, perhaps on a religious or secular level) based on the artistic examples that have been uncovered? We will also study theories that have been proposed about the roles of men and women of the Aegean Bronze Age, a people known for their artistic excellence and ambiguous images. Class discussions will be based on assigned readings, and you will write 3 short papers reviewing assigned articles. Students will also write and present two research papers to the class.
Taught by: Shank
Course not offered every year
Also Offered As: ARTH 720, CLST 614
Activity: Seminar
1 Course Unit

AAMW 721 Topics in Archaeological Science
Topic varies.
Taught by: Betancourt
Course not offered every year
Also Offered As: ARTH 721
Activity: Seminar
1 Course Unit

AAMW 722 Topography of Rome
The topographical development of ancient Rome from its prehistoric beginnings to the late Imperial times with emphasis on the city’s key historical and architectural monuments.
One-term course offered either term
Also Offered As: CLST 730
Activity: Seminar
1 Course Unit

AAMW 723 Topics in the Art of the Ancient Near East
Topic varies. Spring 2015: This team taught class will extend from the lead up to the Neo Sumerian Empire through the Empire and its collapse and reorganization of the political landscape of greater Mesopotamia. It will consider the imperial period internally and from the perspective of the northern and eastern neighbors. This class is an upper level graduate research seminar that will include art historical, anthropological and historical approaches. Class participation and a major research paper are required.
Taught by: Pittman
Course not offered every year
Also Offered As: ARTH 723, NELC 740
Activity: Seminar
1 Course Unit

AAMW 725 Topics in Greek and Roman Art
Topic varies.
Taught by: Kuttner
Course not offered every year
Also Offered As: ARTH 725
Activity: Seminar
1 Course Unit

AAMW 729 Topics in Roman Architecture and Topography
Topic varies. Fall 2015: This seminar will investigate two ancient architectural masterpieces, the 2nd c. AD Pantheon in Rome and the 6th c. AD Hagia Sophia in Istanbul. The two monuments stand at the forefront of the architectural trends under Hadrian and Justinian respectively, and are best known for their unique designs and domes of unprecedented scale. The seminar will analyze issues of design, structure, aesthetics, and symbolism. No prerequisites; skills in digital visualization are welcome.
Taught by: Haselberger, Ousterhout
Course not offered every year
Also Offered As: ARTH 729
Activity: Seminar
1 Course Unit

AAMW 732 Topics in Byzantine Art and Architecture
Topic varies. Spring 2016: The graduate seminar will investigate the dynamics of artistic exchange between Constantinople and its Byzantine provinces, as well as areas under its cultural influence. Both architecture and monumental art will be considered, focusing on the period of 6th-12th centuries. Students will produce two research papers: one addressing a Constantinopolitan monument; the second assessing artistic production in a region outside the Byzantine capital.
Taught by: Ousterhout
Course not offered every year
Also Offered As: ARTH 732
Activity: Seminar
1 Course Unit

AAMW 736 The Archaeology of Coastal Northeast Africa: Cyrenaeca and Marmarica
Prerequisite(s). Exposure to introductory courses. An examination of selected aspects of the Bronze Age to Late Roman period archaeology of the northeastern African coast between Alexandria and Syrtic gulf.
Course not offered every year
Activity: Seminar
1 Course Unit
AAMW 738 Topics in Islamic Archaeology
Topic varies. Spring 2017: This seminar will trace the development of the field from one that was centered largely on the recovery of major monuments to one in which issues of daily life, demography, chronology and the study of settlement patterns have come to play a major role. The seminar will review work in the major zones of the Islamic world: Central Asia, Iran, Iraq, Anatolia, Syria, Palestine, Egypt, North Africa I (Libya-Tunisia), North Africa II (Algeria-Morocco), Spain. Of special interest this semester will be the study of landscape archaeology and settlement patterns. The seminar will discuss changes in patterns of settlement, trade and material culture 650 - 1300 CE in different areas of the Islamic world, concentrating on sites in Iran, Syria and North Africa.
Taught by: Holod
Course not offered every year
Also Offered As: ARTH 738, NELC 731
Activity: Seminar
1 Course Unit

AAMW 740 Topics in Medieval Art
Topic varies. Spring 2015: Among the functional genres shaping religious imagery in the Middle Ages and Renaissance, the altarpiece is arguably the most important, and many of the most famous panel paintings that hang today in museums originated as components of altarpieces. The altarpiece in the Latin church bridged the divide between clergy and laypeople, between cult and devotion, between public acclaim and private interests. Such altarpieces developed into extraordinarily dynamic vehicles for staging the religious image, akin to mural painting (in its potential for narrative elaboration), and manuscript illumination (in its potential for interchanging and juxtaposing imagery). As an umbrella for diverse research projects in both medieval and Renaissance art, this seminar affords an overview of the origins, development and articulation of the altarpiece as a functional and pictorial genre in European art, on both sides of the Alps. It also seeks to provide students with the materials and practical training—technical, scholarly, interpretative—required to study altarpieces as visual, narrative, and material totalities.
Course not offered every year
Activity: Seminar
1 Course Unit

AAMW 749 Seminar in Field Archaeology
Topic Varies.
Course not offered every year
Activity: Seminar
1 Course Unit

AAMW 750 Supervised Reading and Research
Two terms. student may enter either term.
Activity: Seminar
1 Course Unit

AAMW 751 Participation in Archaeological Excavations
Opportunities for qualified students to join in current expeditions. Credit allowed will depend on the length of time spent in the field.
Course usually offered summer term only
Activity: Independent Study
1 Course Unit

AAMW 800 Pedagogy
Activity: Independent Study
1 Course Unit

AAMW 999 Independent Study
One-term course offered either term
Activity: Independent Study
1 Course Unit
Notes: May be repeated for credit

Art History (ARTH)

ARTH 100 Freshman Seminar
Topic varies. Fall 2017: This course will examine the fascination with ecology in artistic thinking from late Modernism to the present, with a particular attention to the developing interest in social and environmental systems in the late 1960's and early 1970's. From Robert Smithson's Spiral Jetty to Rachel Carson's Silent Spring, artists, scholars and activists of this generation were deeply invested in the interconnectedness of life in all its forms. This new sensitivity to the affinities that bind individuals, and our vulnerability to social, political and economic environments, enabled new aesthetic approaches that have continued relevance today. As part of the course, we will meet with a range of artists, curators and institutions in Philadelphia who are continuing these investigations, including the Colored Girls Museum in Germantown and the Health Ecologies Lab here at Penn. No familiarity with contemporary art is required.
One-term course offered either term
Also Offered As: AFRC 100, CIMS 016, ENGL 016, URBS 106
Activity: Seminar
1 Course Unit
Notes: For Freshmen Only

ARTH 101 Prehistory to Renaissance: Introduction to Western Art from its Beginning to 1400
This is a double introduction: to looking at the visual arts; and, to the ancient and medieval cities and empires of three continents - ancient Egypt, the Middle East and Iran, the Minoan and Mycenaean Bronze Age, the Greek and Roman Mediterranean, and the early Islamic, early Byzantine and western Medieval world. Using images, contemporary texts, and art in our city, we examine the changing forms of art, architecture and landscape architecture, and the roles of visual culture for political, social and religious activity.
For BA Students: Arts and Letters Sector
Taught by: Ousterhout
Course usually offered in fall term
Activity: Lecture
1 Course Unit
**ARTH 102 Renaissance to Contemporary: Introduction to Western Art, 1400 to the Present**
This course is an introduction to the visual arts including painting, sculpture, print culture, and new media such as photography, film, performance and installation art in Europe and the United States from 1400 to the present. It offers a broad historical overview of the key movements and artists of the period, as well as an investigation into the crucial themes and contexts that mark visual art production after the middle ages. Such themes include the secularization of art; the (gendered) role of the artist in society; the sites of art production and consumption such as the artist's studio, the royal courts and the art exhibition; the materials of art; the import of technology and science to art's making, content and distribution; the rise of art criticism; and the socio-political contexts of patronage and audience; among others.
For BA Students: Arts and Letters Sector
Taught by: Dombrowski, Kim, Shaw
Course usually offered in spring term
Also Offered As: VLST 232
Activity: Lecture
1 Course Unit

**ARTH 103 Arts and Civilizations of East Asia**
Introduction to major artistic traditions of China and Japan and to the methodological practices of art history. Attention given to key cultural concepts and ways of looking, in such topics as: concepts of the afterlife and its representation; Buddhist arts and iconography; painting styles and subjects; and more broadly at the transmission of styles and cultural practices across East Asia. Serves as an introduction to upper level lecture courses in East Asian art history cultures. If size of class permits, certain sessions will be held in the Penn Museum or the Philadelphia Museum of Art.
For BA Students: Arts and Letters Sector
Taught by: Davis, Steinhardt
Course not offered every year
Also Offered As: EALC 013, VLST 233
Activity: Lecture
1 Course Unit

**ARTH 104 Introduction to Art in South Asia**
This course is a survey of sculpture, painting and architecture in the Indian sub-continent from 2300 B.C., touching on the present. It attempts to explore the role of tradition in the broader history of art in India, but not to see India as 'traditional' or unchanging. The Indian sub-continent is the source for multi-cultural civilizations that have lasted and evolved for several thousand years. Its art is as rich and complex as that of Europe and diverse. This course introduces the full range of artistic production in India in relation to the multiple strands that have made the cultural fabric of the sub-continent so rich and long lasting.
For BA Students: Arts and Letters Sector
Taught by: Meister
Course not offered every year
Also Offered As: SAST 200, SAST 500, VLST 234
Activity: Lecture
1 Course Unit

**ARTH 105 Wonders of the Ancient World**
This course presents a comparative overview of the ancient civilizations around the world. It is designed as a gateway course for the many specialized courses available at Penn. Its focus is two fold: first, the various forms that ancient cultures have developed are explored and compared and second, the types of disciplines that study these courses are examined. The course has a number of guest lecturers, as well as visits to museums and libraries to examine original documents. This course meets the requirement for the Ancient Studies Minor.
Taught by: Pittman
Course not offered every year
Activity: Lecture
1 Course Unit

**ARTH 106 Architect and History**
Human experience is shaped by the built environment. This course introduces students to the interrelated fields of architecture, art history, and engineering and explores great architectural monuments from the ancient to the modern period, from India across the Mediterranean and Europe to the US. The focus will be on understanding these works in their structure and function, both as products of individual ingenuity and reflections of Zeitgeist. Questioning these monuments from a present-day perspective across the cultures will be an important ingredient, as well be podium discussions, guest lectures, excursions, and all kinds of visualizations, from digital walk-throughs to practical design exercises. Regularly taught in fall term, this course fulfills Sector IV, Humanities and Social Science, and it satisfies History of Art 100-level course requirements. This course cannot be taken on a pass/fail level. There is only ONE recitation in this course, attached directly to Friday's class at 2:3 p.m., in order to provide sufficient time for practica and field trips.
For BA Students: Humanities and Social Science Sector
Taught by: Haselberger
Course usually offered in fall term
Activity: Lecture
1 Course Unit
Notes: This course cannot be taken pass/fail and must be taken for a normal grade.

**ARTH 209 African Art**
This selective survey examines a variety of the circumstances of sub-Saharan African art, ranging from imperial to nomadic cultures and from ancient times to contemporary participation in the international market. Iconography, themes and style will be considered, as will questions of modernity, religious impact, tradition and colonialism.
Course not offered every year
Also Offered As: AFRC 209, AFST 209, AFST 218, ARTH 609
Activity: Lecture
1 Course Unit

**ARTH 211 Art in India**
A survey of sculpture, painting and architecture in the Indian sub-continent from 2300 B.C. to the nineteenth century. An attempt to explore the role of tradition in the broader history of art in India.
Taught by: Meister
Course not offered every year
Also Offered As: ARTH 611
Activity: Lecture
1 Course Unit
ARTH 212 Cities and Temples in Ancient India
The wooden architecture of ancient India’s cities is represented in relief carvings from Buddhist religious monuments of the early centuries A.D. and replicated in remarkable excavated cave cathedrals. This course will trace that architectural tradition, its transformation into a symbolic vocabulary for a new structure, the Hindu temple, and the development of the temple in India from ca. 500-1500 A.D.
Taught by: Meister
Course not offered every year
Also Offered As: ARTH 612, SAST 201, SAST 501
Activity: Lecture
1 Course Unit

ARTH 213 Arts of Japan
This course introduces the major artistic traditions of Japan, from the Neolithic period to the present, and teaches the fundamental methods of the discipline of art history. Special attention will be given to the places of Shinto, the impact of Buddhism, and their related architectures and sculptures; the principles of narrative illustration; the changing roles of aristocratic, monastic, shogunal and merchant patronage; the formation of the concept of the artist over time; and the transformation of tradition in the modern age.
Taught by: Davis
Course not offered every year
Also Offered As: ARTH 613, EALC 157, EALC 557
Activity: Lecture
1 Course Unit

ARTH 214 Arts of China
The goals of this course are to introduce the major artistic traditions of China, from the Neolithic period to the present and to teach the fundamental methods of the discipline of art history. Our approaches will be chronological, considering how the arts developed in and through history, and thematic, discussing how art and architecture were used for philosophical, religious and material ends. Topics of study will include; Shang bronzes: Han concepts of the afterlife; the impact of Buddhism; patronage and painting; the landscape tradition; the concept of the literatus; architecture and garden design; the "modern" and 20th-century artistic practices; among others.
Taught by: Steinhardt, Davis
Course not offered every year
Also Offered As: ARTH 614, EALC 127, EALC 527
Activity: Lecture
1 Course Unit

ARTH 217 Chinese Painting
Study of Chinese painting and practice from the earliest pictorial representation through the late twentieth century. Painting style forms the basis of analysis, and themes such as landscape and narrative are considered with regard to larger social and cultural issues. The class pays particular attention to the construction of the "artist" and "art criticism" and their impact on the field into the present. Visits to look at paintings at the University of Pennsylvania Museum, PMA and/or local collections.
Taught by: Steinhardt
Course not offered every year
Also Offered As: ARTH 617, EALC 227, EALC 627
Activity: Lecture
1 Course Unit

ARTH 220 Minoan, Cycladic and Mycenaean Art
This course is designed to give an overview of the cultures of the Aegean Bronze Age. The art and architecture of Crete, the Cyclades and the Mainland of Greece are examined in chronological order, with an emphasis on materials and techniques. In addition, larger issues such as the development of social complexity and stratification, and the changing balance of power during the Aegean Bronze Age are examined.
Taught by: Shank
Course not offered every year
Also Offered As: AAMW 620, ARTH 620
Activity: Lecture
1 Course Unit

ARTH 221 Greek Vase Painting
Spring 2015: Painted vases constitute the most important and comprehensive collection of visual evidence that survives from ancient Greece. In this course, we will examine the development of Greek vase-painting from the 10th to the 5th century BC, with particular emphasis on the pottery of the Archaic and Classical periods that was produced in the cities of Athens and Corinth. An object-based learning course, this class will focus on the close study of Greek vases in the collection of the University of Pennsylvania Museum, and a number of class sessions will meet in the Museum. Several guest lecturers will discuss the conservation and ancient repair of Greek vases and the ceramic analysis of Greek pottery. We will also learn about the making of ceramics in a session in the Addams Hall pottery studio. Some background in art history or classical studies is helpful but not required.
Taught by: Brownlee, A.
Course not offered every year
Also Offered As: AAMW 621, ARTH 621
Activity: Lecture
1 Course Unit

ARTH 222 Art of Ancient Iran
This course offers a survey of ancient Iranian art and culture from the painted pottery cultures of the Neolithic era to the monuments of the Persian Empire. Particular emphasis is placed on the Early Bronze Age.
Taught by: Pittman
Course not offered every year
Also Offered As: AAMW 622, ARTH 622
Activity: Lecture
1 Course Unit

ARTH 224 Art of Mesopotamia
A survey of the art of Mesopotamia from 4000 B.C. through the conquest of Alexander the Great.
Taught by: Pittman
Course not offered every year
Also Offered As: AAMW 424, ARTH 624
Activity: Lecture
1 Course Unit
ARTH 225 Greek Art and Artifact
This course surveys Greek art and artifacts from Sicily to the Black Sea from the 10th century BCE to the 2nd century BCE, including the age of Alexander and the Hellenistic Kingdoms. Public sculpture and painting on and around grand buildings and gardens, domestic luxury arts of jewelry, cups and vases, mosaic floors, and cult artefacts are discussed. Also considered are the ways in which heroic epic, religious and political themes are used to engaged viewer's emotions and served both domestic and the public aims. We discuss how art and space was considered, along with ideas of invention and progress, the role of monuments, makers and patrons in Greek society.
Taught by: Haselberger
Course not offered every year
Also Offered As: AAMW 625, ARTH 625, CLST 220
Activity: Lecture
1 Course Unit

ARTH 226 Hellenistic and Roman Art and Artifacts
This course surveys the political, religious and domestic arts, patronage and display in Rome's Mediterranean, from the 2nd c. BCE to Constantine's 4th-c. Christianized empire. Our subjects are images and decorated objects in their cultural, political and socio-economic contexts (painting, mosaic, sculpture, luxury and mass-produced arts in many media). We start with the Hellenistic cosmopolitan culture of the Greek kingdoms and their neighbors, and late Etruscan and Republican Italy; next we map Imperial Roman art as developed around the capital city Rome, as well as in the provinces of the vast empire.
Taught by: Kuttner
Course not offered every year
Also Offered As: AAMW 626, ARTH 626, CLST 221
Activity: Lecture
1 Course Unit

ARTH 228 Greek Architecture and Urbanism
Introduction to the art of building and city planning in the ancient Greek world, 7th-1st c. BC. Emphasis on concepts of organizing space, on issues of structure, materials, decoration, proportion, and the Mycenean and eastern heritage as well as on theory and practice of urbanism as reflected in ancient cities (Athens, Pergamon, Alexandria) and writings (Plato, Aristotle, and others). Excursions to the Penn Museum and Philadelphia. No prerequisites.
Taught by: Haselberger
Course not offered every year
Also Offered As: AAMW 628, ARTH 628
Activity: Lecture
1 Course Unit

ARTH 229 Roman Architecture and Urbanism
Introduction to the art of building and city planning in the Roman world, 6th c. BC - 2nd c. AD. Emphasis on concepts of organizing space, on issues of structure, materials, decoration, proportion, and the Etruscan and Greek heritage as well as on theory and practice of urbanism as reflected in ancient cities (Rome, Ostia, Roman Alexandria, Timгад) and writings (Vitruvius, and others). Excursions to the Penn Museum and Philadelphia. No prerequisites.
Taught by: Haselberger
Course not offered every year
Also Offered As: AAMW 629, ARTH 629
Activity: Lecture
1 Course Unit

ARTH 232 Byzantine Art and Architecture
This course offers a wide-ranging introduction to the art, architecture, and material culture of Byzantium-a Christian, predominantly Greek-speaking civilization that flourished in the Eastern Mediterranean for over a thousand years. Positioned between the Muslim East and the Latin West, Antiquity and the Early Modern era, Byzantium nurtured a vibrant and highly sophisticated artistic culture. With emphasis placed upon paradigmatic objects and monuments, we will examine an array of artistic media, from mosaic and panel painting to metalwork, ivory carving, book illumination, and embroidery. We will consider the making, consumption, and reception of Byzantine art in a variety of contexts political, devotional, ritual, and domestic. Topics include the idea of empire and its visual articulation; court culture; the veneration of images and relics; patronage, piety, and self-representation; authorship and artistic agency; materiality and the sensory experience of art; the reception of the pagan Greco-Roman past; and the changing nature of Byzantium’s interactions with neighboring cultures.
Taught by: Drpic
One-term course offered either term
Also Offered As: AAMW 632, ARTH 632
Activity: Lecture
1 Course Unit

ARTH 233 Eastern Medieval Architecture
This lecture course examines major architectural developments in the eastern Mediterranean between the 4th and 14th centuries CE. The focus is on the Byzantine Empire, with its capital at Constantinople. Lectures also devoted to related developments in the Caucasus (Armenia and Georgia), early Russia, the Balkans (Bulgaria and Serbia), Sicily and under the Normans, the Crusader states. Parallel developments in early Islamic architecture are used for comparative purposes. The course examines evidence for religious and secular buildings, as well as urbanism and settlement patterns.
Taught by: Ousterhout
Course not offered every year
Also Offered As: AAMW 633, ARTH 633
Activity: Lecture
1 Course Unit

ARTH 235 Introduction to Visual Culture of the Islamic World
A one-semester survey of Islamic art and architecture which examines visual culture as it functions within the larger sphere of Islamic culture in general. Particular attention will be given to relationships between visual culture and literature, using specific case studies, sites or objects which may be related to various branches of Islamic literature, including historical, didactic, philosophical writings, poetry and religious texts. All primary sources are available in English translation.
For BA Students: Humanities and Social Science S
Taught by: Holod
One-term course offered either term
Also Offered As: AAMW 635, ARTH 635, NELC 285, NELC 685, VLST 235
Activity: Lecture
1 Course Unit
ARTH 240 Medieval Art
An introductory survey, this course investigates architecture, painting, sculpture, and the "minor arts" of the Middle Ages. Students become familiar with selected major monuments of the Romanesque and Gothic periods, primarily in Western Europe as well as relevant sites around the Mediterranean. Analysis of works emphasizes the cultural context, the thematic content, and the function of objects and monuments. Discussions focus especially on several key themes: the role of luxury in the medieval west; the theological role of images; the revival of classical models and visual modes; social rituals such as pilgrimage and crusading; the cult of the Virgin and the status of women in art; and, more generally, the ideology of visual culture across the political and urban landscapes.
Taught by: Guerin
Course usually offered in fall term
Also Offered As: AAMW 640, ARTH 640
Activity: Lecture
1 Course Unit

ARTH 241 Introduction to Medieval Architecture
This course provides an introduction to the built environment of the Middle Ages. From the fall of Rome to the dawn of the Renaissance, a range of architectural styles shaped medieval daily life, religious experience and civic spectacle. We examine the architectural traditions of the great cathedrals, revered pilgrimage churches, and reclusive monasteries of Western Europe, as well as castles, houses, and other civic structures. We integrate the study of the architecture with the study of medieval culture, exploring the architectural traditions of medieval culture, exploring the role of pilgrimage, courts and civil authority, religious reform and radicalism, crusading and social violence, and rising urbanism. In this way, we explore the ways in which the built environment profoundly affected contemporary audiences and shaped medieval life.
Course not offered every year
Also Offered As: AAMW 641, ARTH 641
Activity: Lecture
1 Course Unit

ARTH 250 Michelangelo and the Art of the Italian Renaissance
An introduction to the work of the Renaissance artist Michelangelo (1475-1564) - his sculptures, paintings, architecture, poetry, and artistic theory - in relation to his patrons, predecessors, and contemporaries, above all Leonardo and Raphael. Topics include artistic creativity and license, religious devotion, the revival of antiquity, observation of nature, art as problem-solving, the public reception and function of artworks, debates about style, artistic rivalry, and traveling artists. Rather than taking the form of a survey, this course selects works as paradigmatic case studies, and will analyze contemporary attitudes toward art of this period through study of primary sources.
Taught by: Kim
Course usually offered in fall term
Also Offered As: ARTH 650
Activity: Lecture
1 Course Unit

ARTH 252 Venice and the Mediterranean
This course explores the art and architecture of Venice and her mainland and overseas colonies, with emphasis upon the Dalmatian coast and Aegean islands. Topics include cartography and empire, diffusion of Byzantine icons, and the ship as a mediator of cultural exchange. Taught by: Kim
One-term course offered either term
Also Offered As: ARTH 652
Activity: Lecture
1 Course Unit

ARTH 254 Global Renaissance and Baroque
An introduction to transcultural encounters within and beyond early modern Europe, 1450-1600. Topics include: the theory and historiography of global art; artistic relations between Venice, the Byzantine and Ottoman Empires, and islands in the Eastern Mediterranean; Portugal's overseas mercantile network in Africa and Asia; and the Baroque in Latin America, with emphasis upon Brazil. Our discussions focus on these paradigmatic case studies so as to question the language and terms we use to characterize confrontations between native and foreign, the self and the other.
Taught by: Kim
One-term course offered either term
Also Offered As: ARTH 654
Activity: Lecture
1 Course Unit

ARTH 258 Early Modern Japanese Art and the City of Edo
Study of the major art forms and architecture of Tokugawa (or Edo) period (1603-1868). In this course, we will consider how the arts of this era occur within an increasingly urban and modern culture, particularly with regard to the city of Edo. Issues of the articulation of authority in the built environment, the reinvention of classical styles, and patronage will be raised. May include some visits to PMA, Penn Museum, or other local collections.
Taught by: Davis
Course not offered every year
Also Offered As: ARTH 658, EALC 150, EALC 550
Activity: Lecture
1 Course Unit

ARTH 259 Early Prints
History of prints in the period from about 1400 to Albrecht Durer (d 1528). Relation of early Northern and Italian woodcuts, engravings, and etchings to contemporary art forms - sculpture, painting.
Taught by: Silver
Course not offered every year
Also Offered As: ARTH 659
Activity: Lecture
1 Course Unit
ARTH 261 Northern Renaissance Art
Survey of the principal developments in Northern Europe during the "early modern" period, i.e. the transition from medieval to modern art-making during the fifteenth and sixteenth centuries. Principal attention to painting and graphics with additional consideration of developments in sculpture, particularly in the regions of the Netherlands and German-speaking Europe. Attention focused on the works of the following artists: Van Eyck, Bosch, Durer, Holbein, Bruegel, and on topics such as the rise of pictorial genres, urban art markets, Reformation art and art for the dynastic courts of emerging nation-states.
Taught by: Silver
Course not offered every year
Also Offered As: ARTH 661
Activity: Lecture
1 Course Unit

ARTH 262 Netherlandish Art
Dutch and Flemish painting in the 15th and 16th centuries with special emphasis on the contributions of Robert Campin, Jan van Eyck and Roger van der Weyden, Bosch, and Bruegel. Also included are topics on the development of prints as well as the dialogue with Italian art.
Taught by: Silver
Course not offered every year
Also Offered As: ARTH 662, DTCH 261
Activity: Lecture
1 Course Unit

ARTH 263 German Art
This course will focus on paintings, prints, and sculptures produced in Germany around 1600. Principal attention will focus on the changing role of visual culture and altarpieces but evolves into an era of "art," and collecting of pictures. German politics and religion will be examined in relation to the images. Cultural exchange with neighboring regions of Italy and the Low Countries is considered.
Taught by: Silver
Course not offered every year
Also Offered As: ARTH 663, DTCH 230
Activity: Lecture
1 Course Unit

ARTH 264 Bruegel to Vermeer
Historical overview of the principal developments in Dutch painting and visual culture across the period of the Dutch Revolt (1568-1648) and beyond. Principal pictorial types, including landscape, portraits and group portraits, genre painting, still-life. Principal artists, including: Bruegel, Goltzius, Hals, Rembrandt, and Vermeer, as well as leading practitioners of each pictorial category. Consideration of cultural values inherent in such imagery, particularly against the background of Dutch society and religious diversity, along with the court culture and Catholic religiosity rejected by the national independence movement.
Taught by: Silver
Course not offered every year
Also Offered As: ARTH 664
Activity: Lecture
1 Course Unit

ARTH 265 Northern Baroque Art
Northern Baroque art comprises seventeenth-century paintings and prints from Flanders and Holland. Featured artists include: Pieter Bruegel, Hendrick Goltzius, Peter Paul Rubens, Anthony van Dyck, Frans Hals, Rembrandt, and Vermeer. Topics considered include innovations of various kinds--starting with portraits and society, landscapes, still-life, and scenes of daily life (genre pictures).
Taught by: Silver
Course not offered every year
Also Offered As: ARTH 665
Activity: Lecture
1 Course Unit

ARTH 270 The Modern City
A study of the European and American city in the eighteenth, nineteenth, and twentieth centuries. Emphasis is placed on the history of architecture and urban design; political, sociological, and economic factors also receive attention. The class considers the development of London, St. Petersburg, Washington, Boston, Paris, Vienna and Philadelphia.
Taught by: Brownlee, D.
One-term course offered either term
Also Offered As: ARTH 670
Activity: Lecture
1 Course Unit

ARTH 271 Modern Architecture, 1700-1900
The history of western architecture, ca. 1700-1900, when architecture was transformed to serve a world that had been reshaped by political and industrial revolutions. Topics to be considered include the Rococo, the English Garden, Palladianism, Romanticism, neo-classicism, the picturesque, the Greek and Gothic Revivals, and the search for a new style.
Taught by: Brownlee, D.
One-term course offered either term
Also Offered As: ARTH 671
Activity: Lecture
1 Course Unit

ARTH 273 History of Photography
A history of world photography from 1839 to the present and its relation to cultural contexts as well as to various theories of the functions of images. Topics discussed in considering the nineteenth century will be the relationship between photography and painting, the effect of photography on portraiture, photography in the service of exploration, and photography as practiced by anthropologists; and in considering the twentieth century, photography and abstraction, photography as "fine art", photography and the critique of art history, and photography and censorship.
Course not offered every year
Also Offered As: ARTH 673
Activity: Lecture
1 Course Unit
ARTh 274 Facing America
This course explores the visual history of race in the United States as both self-fashioning and cultural mythology by examining the ways that conceptions of Native American, Latino, and Asian identity, alongside ideas of Blackness and Whiteness, have combined to create the various cultural ideologies of class, gender, and sexuality that remain evident in historical visual and material culture. We also investigate the ways that these creations have subsequently helped to launch new visual entertainments, including museum spectacles, blackface minstrelsy, and early film, from the colonial period through the 1940s.
Taught by: Shaw
Course not offered every year
Also Offered As: AFRC 294, ARTH 674, ASAM 294, CIMS 293
Activity: Lecture
1 Course Unit
Notes: Satisfies Cultural Diversity in the U.S. requirement.

ARTh 275 Revolution to Realism: European Art, 1770-1870
This course surveys the major trends in European art of the tumultuous decades stretching from French Revolution of 1789 to the rise of realism in the mid-nineteenth century. Starting with Jacques-Louis David's revolutionary history paintings, we study Napoleonic representations of empire, Goya's imagery of violence, romantic representations of madness and desire, Friedrich's nationalist landscapes, as well as the politicized realism of Courbet. Some of the themes that are addressed include: the revolutionary hero, the birth of the public museum, the anxious masculinity of romanticism, the rise of industry and bourgeois culture, the beginnings of photography, the quest for national identity and, not least, the origins of the modernist painting. Throughout, we recover the original radicalism of art's formal and conceptual innovations at times of political and social crisis. We focus on the history of French painting, but include sculpture, photography, visual culture and the development of the modern city, in England, Germany and Spain.
Taught by: Dombrowski
One-term course offered either term
Also Offered As: ARTH 675
Activity: Lecture
1 Course Unit

ARTh 276 Impressionism
Impressionism opened the pictorial field to light, perception, science, modernity, bourgeoisie leisure and famously the material qualities of paint itself. This course will survey the movement's major contexts and proponents--Manet, Monet, Morisot, Cezanne, Gauguin, Van Gogh, Rodin--from its origins in the 1860's to its demise in the 1890's, as well as its subsequent adaptions throughout the world until World War I. Particular attention is paid to the artists' critical reception and the historical conditions which allowed one nation, France, to claim the emergence of early Modernism so firmly for itself. The course also analyzes the effects of the rapidly changing social and cultural fabric of Paris, and its affects on artistic developments. We also look outside of France's borders to Germany and Britain.
Taught by: Dombrowski
One-term course offered either term
Also Offered As: ARTH 676
Activity: Lecture
1 Course Unit

ARTh 277 The Rise of Modernity: Arts of the 19th Century
The nineteenth century is often considered as fast-paced, politically volatile and new-media obsessed as our own age. This course explores the nineteenth century's claim to have produced the first truly modern culture, focusing on the visual arts and metropolitan spaces of Europe and North America in their intellectual and social contexts. Stretching from the American and French Revolutions to the eve of World War I, topics to be covered include: the rise of capitalist and industrialist culture, art and revolutionary upheaval, global travel and empire, the origins of modernist art and architecture, and new media such as stereoscopes, iron and glass construction, and photography. Major artistic personalities of the age, from Jacques-Louis David and Gustave Courbet to Claude Monet and Vincent Van Gogh, and from Friedrich Schinkel and, Baron Haussmann to Frank Furness and Frank Lloyd Wright, are discussed. Each lecture will be followed by a brief period of discussion, and regular field trips take students to examine art and architecture first hand, in the museums and on the streets of Philadelphia.
Taught by: Brownlee, Dombrowski
Course not offered every year
Also Offered As: ARTH 677
Activity: Lecture
1 Course Unit

ARTh 278 American Art
This course surveys the most important and interesting art produced in the United States (or by American artists living abroad) up through the 1950s. This period encompasses the history of both early and modern art in the U.S., from its first appearances to its rise to prominence and institutionalization. While tracking this history, the course examines art's relation to historical processes of modernization (industrialization, the development of transportation and communications, the spread of corporate organization in business, urbanization, technological development, the rise of mass media and mass markets, etc.) and to the economic polarization, social fragmentation, political conflict, and the cultural changes these developments entailed. In these circumstances, art is drawn simultaneously toward truth and fraud, realism and artifice, science and spirituality, commodification and ephemerality, nationalism and cosmopolitanism, individualism and collectivity, the past and the future, professionalization and popularity, celebrating modern life and criticizing it.
Taught by: Leja, Shaw
Course not offered every year
Also Offered As: ARTH 678
Activity: Lecture
1 Course Unit
Notes: Satisfies Cultural Diversity in the U.S. requirement.
ARTH 280 20th Century East Asian Art
This course reconsiders modern and contemporary art in China, Japan and Korea over the course of the twentieth century. The confrontations between modernity and tradition, state and self, the colonizer and the colonized, and collecting and the market are among its themes. The course begins with a study of the way modern art was defined at the turn of the 20th century, the promotion of oil painting and the call to preserve national styles, and the use of art at world’s fairs. The avant-garde pursuit of individuality, state-sponsored modernism, the use of art as propaganda in WWII and Communist Revolution, and the place of Chinese, Korean and Japanese art in the contemporary market are also topics covered in this course.
Taught by: Davis
Course not offered every year
Also Offered As: ARTH 680
Activity: Lecture
1 Course Unit

ARTH 281 Modern Architecture, 1900-Present
The architecture of Europe and America from the late nineteenth century until the present is the central subject of this course, but some time is also devoted to Latin American and Asian architecture and to the important issues of modern city planning. Topics discussed include the Arts and Crafts movement, Art Nouveau, Expressionism, Art Deco, the International Style, and Post-modernism. The debate over the role of technology in modern life and art, the search for a universal language of architectural communication, and the insistent demand that architecture serve human society are themes that are traced throughout the course. Among the important figures to be considered are Frank Lloyd Wright, Walter Gropius, Le Corbusier, Louis Kahn, Robert Venturi, and Denise Scott Brown. The course includes weekly discussion sessions and several excursions to view architecture in Philadelphia.
Taught by: Brownlee
One-term course offered either term
Also Offered As: ARTH 681
Activity: Lecture
1 Course Unit

ARTH 286 Modern Art: Picasso to Pollock
Early twentieth-century art in Europe is marked by a number of exciting transformations. This period witnessed the rise of abstraction in painting and sculpture, as well as the inventions of collage, photomontage, constructed sculpture, the ready made and found object, and performance art. Encounters with the arts of Africa, Oceania and other traditions unfamiliar in the West spurred innovations in media, technique, and subject matter. Artists began to respond to the challenge of photography, to organize themselves into movements, and in some cases, to challenge the norms of art through “anti-art.” A new gallery system replaced traditional forms of exhibiting and selling art, and artists took on new roles as publicists, manifesto writers, and exhibition organizers. This course examines these developments, with attention to formal innovations as well as cultural and political contexts.
Taught by: Poggi
One-term course offered either term
Also Offered As: ARTH 686
Activity: Lecture
1 Course Unit

ARTH 288 Modern Design
Modern Design surveys the development of useful and decorative objects from the rise of modernism at the beginning of the nineteenth century to its rejection in postmodernism toward the end of the century, from the early stages of industrial technology to recent advances in digital technology, from Tiffany glass and tubular-metal furniture to the iPhone and other products of today. Its overall approach focuses on the aesthetics of designed objects and on their designers, as well as on how we talk about and critique them, but the course also investigates the relationship of design and industrialization, technology, sustainability, individual needs, and the expression of societal values.
Taught by: Marcus
Course not offered every year
Also Offered As: ARTH 688
Activity: Lecture
1 Course Unit

ARTH 290 Post War Japanese Cinema
Mizoguchi Kenji, Ozu Yasujiro, and Kurosawa Akira are recognized today as three of the most important and influential directors in Japanese cinema. In their films of the late 1940s and 1950s, these directors focused upon issues surrounding the human condition and the perception of truth, history, beauty, death, and other issues of the postwar period. This course places their films in period context, and pays particular attention to the connections to other visual media, and to how “art” and “history” are being defined in the cinematic context. How other directors also took up these issues, and referred to the “big three” is also be discussed.
Taught by: Davis
Course not offered every year
Also Offered As: ARTH 690, CIMS 223
Activity: Lecture
1 Course Unit

ARTH 292 Topics in Digital/New Media
Topic varies. Spring 2015: Documents are written texts, evidence, inscriptions, and much more. Documentary films have been used to tell stories, share experiences, spread propaganda, resist exploitation, invoke memories, and much more. How can we think of information and meaning in relation to the shared histories of document and documentary? Database management systems based on digital technologies have technically transformed ways of classifying, storing, and aggregating data, but have they really changed our experiences of mediating with our past, present, and future? Issues of agency, memory, representation, performativity, interactivity, and posthumanism are entangled in discussions of databases and archives and our engagement with them. In this course we will relate and juxtapose readings connecting documents, documentaries, and archives. We will read media and cultural theorists such as Lisa Gitelman, Akira Lippit, and Wendy Chun alongside novelists like Franz Kafka and Ismail Kadare. Assignments include one assigned/selected report from field visits to libraries and museums, one reading presentation and blogging assignment, and a final paper or practice-based art project.
Course not offered every year
Also Offered As: CIMS 278, ENGL 278
Activity: Seminar
1 Course Unit
**ARTH 293 Topics in Cultural Studies**
This topic course explores aspects of Film Cultural Studies intensively. Specific course topics vary from year to year. See the Cinema Studies website at <http://cinemastudies.sas.upenn.edu/> for a description of the current offerings.

Taught by: Beckman, Corrigan
Course not offered every year
Also Offered As: AFRC 296, CIMS 295, COML 295, ENGL 295
Activity: Seminar
1 Course Unit

**ARTH 294 Art Now**
One of the most striking features of today’s art world is the conspicuous place occupied in it by the photographic image. Large-scale color photographs and time-based installations in projections are everywhere.

Looking back, we can see that much of the art making of the past 60 years has also been defined by this medium, regardless of the form it takes. Photographic images have inspired countless paintings, appeared in combines and installations, morphed into sculptures, drawings and performances, and served both as the object and the vehicle of institutional critique. They are also an increasingly important exhibition site: where most of us go to see earthworks, happenings and body-art.

This course is a three-part exploration of our photographic present.

Taught by: Silverman
Course usually offered in spring term
Also Offered As: ARTH 694, ENGL 059, GWS 494, VLST 236
Activity: Lecture
1 Course Unit

**ARTH 296 Contemporary Art**
Many people experience the art of our time as bewildering, shocking, too ordinary (my kid could do that), too intellectual (elitist), or simply not as art. Yet what makes this art engaging is that it raises the question of what art is or can be, employs a range of new materials and technologies, and addresses previously excluded audiences. It invades non-art spaces, blurs the boundaries between text and image, document and performance, asks questions about institutional frames (the museum, gallery, and art journal), and generates new forms of criticism. Much of the "canon" of what counts as important is still in flux, especially for the last twenty years. And the stage is no longer centered only on the United States and Europe, but is becoming increasingly global.

The course will introduce students to the major movements and artists of the post-war period, with emphasis on social and historical context, critical debates, new media, and the changing role of the spectator/participant.

Taught by: Poggi
Course usually offered in spring term
Also Offered As: ARTH 696
Activity: Lecture
1 Course Unit

**ARTH 300 Undergraduate Methods Seminar**
Topic varies.
Activity: Seminar
1 Course Unit

**ARTH 301 Undergraduate Seminar**
Topic varies. Spring 2017: Architecture, wrote Walter Gropius in 1935, grows "from the house to...the street; from the street to the town; and finally to the still vaster implications of regional and national planning."

An unusual claim for today, but think of a modernist architect and the image of Le Corbusier’s hand mid-flight over a model of his radical plans for Paris comes easily to mind. This seminar will excavate and critically examine modern architecture’s quest for control over the urban fabric. While we will review some key urban proposals, advanced primarily between the 1920s and the 1950s in Europe and America (among these will be projects by Le Corbusier, Walter Gropius, Frank Lloyd Wright, Louis Kahn, and the Smithsons), our main concern will be to trace how architects attempted to redefine and expand their professional role so as to encompass planning at all scales. We will set the theories of modern "masters" against the daily work of average practitioners, and pay close attention to turf wars among architecture, planning, and engineering as specialized disciplines. We will also consider how conceptual links between urban design and social engineering were invented and challenged in the context of broader developments in social, political, and economic history.

Taught by: History of Art Faculty
One-term course offered either term
Also Offered As: CIMS 263, ENGL 263, GSWS 301, ITAL 300
Activity: Seminar
1 Course Unit
Notes: Undergraduate Major Preference.

**ARTH 303 Introduction to Museums**
This course introduces students to the history, theory and modern practice of museums. Using the resources of the Penn Museum, the course discusses curatorial practice, education, exhibition design and conservation, while exploring the theoretical and ethical issues confronted by museums. Particularly relevant for those interested in archaeology, anthropology, art history, cultural heritage and public education.

One-term course offered either term
Also Offered As: CLST 303
Activity: Seminar
1 Course Unit

**ARTH 304 Rise of Image Culture**
Images are ubiquitous in the cultural life of the 21st century, yet only two centuries ago they were rare. When and how did pictures come to permeate daily life? How has ordinary experience—psychological, social, cultural, intellectual—changed as a result? This seminar addresses these questions through close reading of influential historical and theoretical writings about the rise of image culture and its effects, including Benjamin, Debord, McLuhan, Mitchell.

Also Offered As: VLST 303
Activity: Seminar
1 Course Unit

**ARTH 311 Topics in Indian Art**
Topic Varies. Spring 2015: Using resources of the Philadelphia Museum of Art’s exceptional collection, this workshop will explore India’s remarkable traditions of sculpture produced for singular narrative and iconic ends.

Taught by: Meister
Also Offered As: SAST 312
Activity: Seminar
1 Course Unit
ARTH 313 Topics in East Asian Art
Topic varies.
Taught by: Davis
Course not offered every year
Also Offered As: EALC 353, GSWS 313
Activity: Seminar
1 Course Unit

ARTH 325 Topics in Greco-Roman Art
Topic varies. Fall 2017: The dwelling place - house, apartment, villa, palace - was central to Roman understanding of self and society. The domus was a major site of artifice - architecture, landscape architecture, fine objects, statuary and paintings. The very structure was often decorated with wall-paintings, stuccowork, or mosaics, like those which survive from sites like Pompeii and Antioch. Even modest establishments might aim to impress with a mythological painting or two: opening house to visitors was fundamental to social structures, business and politics. This course looks at Roman dwellings in city and country, and explores their arts in cultural and socio-political contexts. Besides evidence of archaeology, we can use the wealth of Roman texts about the arts of living. Since the Renaissance, graphic media have responded to interest in Roman house sites and their art; we consider how new tools of virtual reconstruction affect understanding of the Roman domus and villa, and the roles museums (like our own), exhibitions and curated sites still play in that understanding.
Taught by: Kuttner
Course not offered every year
Also Offered As: CLST 341
Activity: Seminar
1 Course Unit

ARTH 328 Topics in Greek Architecture
Topic varies.
Taught by: Haselberger
Course not offered every year
Also Offered As: CLST 342
Activity: Seminar
1 Course Unit

ARTH 329 Topics in Roman Art and Architecture
Topic varies. Fall 2016: In this seminar we will examine key episodes in the development of architecture and urban design in ancient Rome. We will proceed chronologically so that changes to the city and its physical remains can be seen in the broader political, economic, and social context. We will also examine the effect that the landscape and geology had on building materials and architectural expression and how this changed as trade networks focused on Rome expanded during the imperial period. Whenever possible we will take advantage of materials in collection of the University of Pennsylvania Museum.
One-term course offered either term
Also Offered As: CLST 325
Activity: Seminar
1 Course Unit

ARTH 332 Topics in Byzantine Art
Topic varies. Fall 2017: This undergraduate seminar explores the Byzantine icon and its legacy. Spanning nearly two millennia, from the emergence of Christian sacred portraiture to the reception of icon painting by the early twentieth-century avant-garde, the seminar will introduce you to the history, historiography, and theories of the icon. While our focus will be on Byzantium and the wider world of Orthodox Christianity, the seminar will also engage with fundamental questions concerning the nature, status, and agency of images across cultures. Topics to be addressed include iconoclasm and the problem of idolatry; the social and ritual lives of icons; authorship, originality, and replication; viewer response and the cultural construction of vision; the frontier between art and the sacred image; and the afterlife of the icon in modernity.
Taught by: Ousterhout, Drpic
Course not offered every year
Also Offered As: RELS 332
Activity: Seminar
1 Course Unit

ARTH 333 Topics in Byzantine Architecture
Topic varies.
Taught by: Ousterhout
Course not offered every year
Activity: Seminar
1 Course Unit

ARTH 335 Topics in Islamic Art
Topic varies.
Taught by: Holod
One-term course offered either term
Activity: Seminar
1 Course Unit

ARTH 340 Topics in Medieval Art
Topic varies.
Course not offered every year
Activity: Seminar
1 Course Unit

ARTH 350 Topics in Southern Renaissance Art
Topic varies.
Taught by: Kim
Course not offered every year
Activity: Seminar
1 Course Unit

ARTH 351 Topics in Early Modern Art Theory
Topic varies. Spring 2016: What does it mean to write about art? What are the historical origins of this undertaking? How does language mediate the intellectual, somatic, and cultural rapport between the viewing self and the physical object? As an initial response to these questions we will examine the writings of the Tuscan artist and critic Giorgio Vasari (1511-1574), the biographer of such renowned artists as Leonardo, Raphael, Donatello, and Michelangelo. In addition to considering works of art described in Vasari’s accounts, we will pay close attention to his language and its relationship with other types of writing: saints lives, chronicles, legends, guidebooks, anecdotes, jokes, gossip, and sermons. Issues to be explored include: the process of craft and hardwork, notions of genius and inspiration, and the relationship between the visual arts and natural environment.
Taught by: Kim
Course not offered every year
Activity: Seminar
1 Course Unit
ARTH 360 Topics in Jewish Art
Topic varies.
Taught by: Silver
Course not offered every year
Activity: Seminar
1 Course Unit

ARTH 362 Topics in Northern Baroque
Topic varies. Spring 2016: Undergraduate seminar focusing on all aspects of the life and works of Rembrandt van Rijn (1606-1669). Students will produce a research paper on any aspect of the artist's life and times, and course sessions will explore self-portraits, artistic development, specific painting types (figure studies, landscapes, portraits), case study individual works (the Paris Bathsheba and the Philadelphia Museum Head of Christ), mythologies, religious works, and the etchings of Rembrandt. Weekly discussions—two short analysis papers in addition to the term research paper.
Taught by: Silver
Course not offered every year
Also Offered As: DTCH 262
Activity: Seminar
1 Course Unit

ARTH 371 Topics in 19th Century Architecture
Topic varies.
Taught by: Brownlee, D.
One-term course offered either term
Activity: Seminar
1 Course Unit

ARTH 375 Topics in 19th Century Art
Topic varies. Spring 2016: This seminar will place Edouard Manet’s influential paintings within the context of modern Paris, the French Empire and the city’s increasingly global reputation in the late 19th century. We will study the most prominent Parisian sites associated with the rise of modernity as well as the global reach of the “myth” of modern Paris throughout the world, in Japan, the U.S., Latin America, the Middle East, among other destinations. The Eiffel Tower, shopping arcades, department stores (like the Bon Marche), boulevards, sewers, catacombs and world’s fair grounds (including their artistic and popular representations) will be analyzed, as well as their global reception. We will study paintings by Manet, Monet and others, in order to get a better understanding of why the city of Paris is often named the birthplace of modernist art. Students are expected to have at least some background in art history, visual studies and French.
Taught by: Dombrowski
Activity: Seminar
1 Course Unit

ARTH 380 Topics in 20th Century Architecture
Topic varies.
Taught by: Brownlee, D.
Course not offered every year
Activity: Seminar
1 Course Unit

ARTH 381 Topics in 20th Century Art
Topic varies. Spring 2017: This course will focus on the life of Rembrandt van Rijn (1606-1669). Students will produce a research paper on any aspect of the artist's life and times, and course sessions will explore self-portraits, artistic development, specific painting types (figure studies, landscapes, portraits), case study individual works (the Paris Bathsheba and the Philadelphia Museum Head of Christ), mythologies, religious works, and the etchings of Rembrandt. Weekly discussions—one short analysis paper in addition to the term research paper.
Taught by: Silver
Course not offered every year
Also Offered As: DTCH 262
Activity: Seminar
1 Course Unit

ARTH 387 Topics in Cinema and Media
Specific course topics vary every year. See the Cinema Studies website at <http://cinemastudies.sas.upenn.edu/> for a description of the current offerings.
Course not offered every year
Also Offered As: AFRC 392, CIMS 392, COML 391, ENGL 392, SLAV 392
Activity: Seminar
1 Course Unit

ARTH 389 Topics in Film Studies
Specific course topics vary every year. See the Cinema Studies website at <http://cinemastudies.sas.upenn.edu/> for a description of the current offerings.
Course not offered every year
Also Offered As: CIMS 201, ENGL 291
Activity: Seminar
1 Course Unit

ARTH 390 Topics in Modern and Contemporary Art
Topic varies. Fall 2017: The Venice Biennale for contemporary art is held every two years in that Italian city. It features a large, themed group show in two spaces (at the Giardini and the Arsenale venues) and nearly one hundred other exhibitions mounted by different countries from around the world. This class will focus on issues of identity and difference, including race, class, gender, and sexuality, in art on view in the various exhibitions of the Biennale. The class will travel to Venice for four days over Fall break, with travel expenses and lodging paid by Penn. Pre-registration interview and permission of instructor required. Priority is given to History of Art majors and minors.
Taught by: Shaw
Course not offered every year
Activity: Seminar
1 Course Unit

ARTH 391 Topics in Cinema and Media
Specific course topics vary every year. See the Cinema Studies website at <http://cinemastudies.sas.upenn.edu/> for a description of the current offerings.
Course not offered every year
Also Offered As: CIMS 201, ENGL 291
Activity: Seminar
1 Course Unit

ARTH 393 Topics in Film Studies
Specific course topics vary every year. See the Cinema Studies website at <http://cinemastudies.sas.upenn.edu/> for a description of the current offerings.
Course not offered every year
Also Offered As: AFRC 393, CIMS 393, ENGL 301, GWS 394
Activity: Seminar
1 Course Unit

ARTH 394 Topics in Contemporary Art
Topic varies.
Taught by: Silverman
Course not offered every year
Activity: Seminar
1 Course Unit
ARTH 396 Topics in Gender and Sexuality in Modern and Contemporary Art
Topic varies.
Taught by: Poggi
Course not offered every year
Also Offered As: ENGL 290, GSWS 395
Activity: Seminar
1 Course Unit

ARTH 398 Senior Thesis
Two terms. student must enter first term.
Prerequisites: Permission of instructor required.
Activity: Independent Study
1 Course Unit
Notes: See department for appropriate section numbers.

ARTH 399 Independent Study
One-term course offered either term
Activity: Independent Study
1 Course Unit
Notes: See department for appropriate section numbers

ARTH 417 Later Islamic Art and Architecture
Istanbul, Samarkand, Isfahan, Cairo and Delhi as major centers of art production in the fourteenth to seventeenth centuries. Attention will be given to urban and architectural achievement as well as to the key monuments of painting and metalwork. The visual environment of the "gunpowder empires".
Taught by: Holod
One-term course offered either term
Activity: Lecture
1 Course Unit

ARTH 427 Roman Sculpture
Survey of the Republican origins and Imperial development of Roman sculpture - free-standing, relief, and architectural - from ca. 150 BC to 350 AD. We concentrate on sculpture in the capital city and on court and state arts, emphasizing commemorative public sculpture and Roman habits of decorative display; genres examined include relief, portraits, sarcophagi, luxury and minor arts(gems, metalwork, coinage). We evaluate the choice and evolution of styles with reference to the functions of sculptural representation in Roman culture and society.
Taught by: Kuttner, Rose
Course not offered every year
Also Offered As: AAMW 427, CLST 427
Activity: Lecture
1 Course Unit

ARTH 428 Hellenistic Art and Spectacle
Hellenistic usually names art in the age of Mediterranean culture from the 4th century BCE and the rise of Alexander the Great’s Macedon, and the Greco-Macedonian conquest of the Persian Empire, to Cleopatra of Egypt’s defeat by Rome at the end of the Republic. Our course looks also at the age of Augustus and his successors, 1st century CE. While Greek and Macedonian practice in city-states and kingdoms is our launching point, this course also looks at international culture and cultural interaction among peoples from North Africa and Etrusco-Roman Italy, Egypt, Anatolia, the Mideast and Central Asia. We probe art, artifacts, and visual display from a range of settings, from sanctuary to house, palace and parade, and in all media, from marble monuments to pottery and jewelry. Our archaeology of Hellenistic visual culture also looks at the rich body of Hellenistic and Roman texts of art history, art criticism, and the description of objects and image, to better understand the Hellenistic maker, patron, and viewer. No prerequisites.
Taught by: Kuttner
Course not offered every year
Also Offered As: AAMW 428
Activity: Lecture
1 Course Unit

ARTH 432 Early Christian and Byzantine Architecture
Architecture and its decoration from Early Christian times in East and West until the sixth century A.D., and in the Byzantine lands until the Turkish Conquest.
Taught by: Ousterhout
One-term course offered either term
Also Offered As: AAMW 432
Activity: Lecture
1 Course Unit

ARTH 435 Medieval Islamic Art & Architecture
An introduction to the major architectural monuments and trends, as well as to the best-known objects of the medieval (seventh-to fourteenth-century) Islamic world. Attention is paid to such themes as the continuity of late antique themes, architecture as symbol of community and power, the importance of textiles and primacy of writing. Suitable for students of literature, history, anthropology as well as art history.
Taught by: Holod
Course not offered every year
Also Offered As: AAMW 435, COML 415, NELC 489
Activity: Lecture
1 Course Unit

ARTH 436 Later Islamic Art and Architecture
Istanbul, Samarkand, Isfahan, Cairo and Delhi as major centers of art production in the fourteenth to seventeenth centuries. Attention is given to urban and architectural achievement as well as to the key monuments of painting and metalwork. The visual environment of the "gunpowder empires" is discussed.
Taught by: Holod
Course not offered every year
Also Offered As: AAMW 531, COML 417, NELC 436, RELS 440
Activity: Lecture
1 Course Unit
ARTH 501 Curatorial Seminar
Curatorial seminars expose students to the complexity of studying and working with objects in the context of public display. With the guidance of faculty and museum professionals, students learn what it means to curate an exhibition, create catalogues and gallery text, and/or develop programming for exhibitions of art and visual/material culture. Fall 2017: This curatorial seminar, culminating in an exhibition at the Arthur Ross Gallery in spring/summer 2018, will present novelties and curiosities first displayed at the 19th and early 20th century’s world fairs. Such events chronicled the period’s innovations in art, technology, and science. Many of the most crucial inventions were first shown to the public at world fairs: electricity, the telephone, and the bicycle, among other innovative artistic techniques and everyday objects like the ice cream cone. While analyzing the appeal of such objects and their place within practices of modern consumption and display, students will study the period definitions of innovation in industrial production promoted by these large-scale spectacles. The global ambitions of universal expositions, and the image of the world they helped construct, will come under scrutiny for its frequent imperial overreach. During the semester students will collectively design the exhibition and thereby get hands-on knowledge of curation; we will produce a catalog as well.
Course not offered every year
Also Offered As: AAMW 509
Activity: Seminar
1 Course Unit

ARTH 503 Proseminar in Art History
Topic varies.
One-term course offered either term
Also Offered As: CIMS 530, COML 529, GRMN 580
Activity: Seminar
1 Course Unit

ARTH 504 Proseminar in Art History
Topic varies
One-term course offered either term
Also Offered As: CIMS 530, COML 529
Activity: Seminar
1 Course Unit

ARTH 505 Masters in Liberal Arts Proseminar
Topic varies. Fall 2017: This course examines they way that issues of universal, global, and national identity have been negotiated and challenged in art and visual culture. It also aims to give students an introduction to the various theories and methodological practices that have been used to critique and explain these images and objects since the end of WWII.
Course not offered every year
Also Offered As: AFRC 573, CIMS 502, COML 510, GSWS 574
Activity: Lecture
1 Course Unit

ARTH 511 Topics in Indian Art
Topic varies. Fall 2016: Important as texts have been to South Asia’s history, perceptions of the physical world dominate experience within South Asian cultures. Seeing and being seen, vocalizing and hearing, contribute to the construction of meaning. This pro-seminar will approach South Asia’s perceptual world as expressed and tested by art, and methods to frame art as a source of knowledge.
Taught by: Meister
One-term course offered either term
Also Offered As: SAST 505
Activity: Seminar
1 Course Unit

ARTH 513 Ukiyo-e: Japanese Prints and Paintings
Topic varies.
Taught by: Davis
Course not offered every year
Activity: Seminar
1 Course Unit

ARTH 515 Topics in African Art
Topic varies.
Course not offered every year
Also Offered As: AFRC 516
Activity: Seminar
1 Course Unit

ARTH 516 Topics in Aegean Bronze Age
Topic varies. Fall 2016: Minoan and Cycladic Wall Paintings are considered a hallmark of the Aegean Bronze Age Civilization. Often, these paintings are discussed in terms of their iconography but in isolation of their archaeological contexts. In this class, we will examine both with the goal of determining what types of paintings are used in houses, palaces, defensive structures, and buildings of undetermined function, as well as examining their pictorial programs and iconographic interpretations. With the recent study of Minoan-style wall paintings in Egypt and the Ancient Near East, the question of the spread of Minoan and Cycladic techniques and motifs must also be considered, along with the archaeological contexts at these non-Aegean sites. We will have class discussions of assigned readings.
Course not offered every year
Also Offered As: AAMW 520
Activity: Seminar
1 Course Unit

ARTH 517 Topics in Ancient Iranian Art
Topic varies.
Taught by: Pittman
Course not offered every year
Also Offered As: AAMW 522
Activity: Seminar
1 Course Unit

ARTH 518 Topics in Art of Ancient Near East
Topic varies.
Taught by: Pittman
Course not offered every year
Also Offered As: AAMW 523
Activity: Seminar
1 Course Unit
ARTh 525 Topics in Greek and Roman Art
Topics Varies. Summer 2017: The Greek and Roman world was fascinated by representing humans and beasts enduring physical and psychological pain, and images of violence inflicted by mortal and supernatural beings alike. These often highly striking images occur in art of all kinds, consumed both privately and publicly, emerging in the domestic, religious, military and political sphere. They had a range of aims, from affording emotional catharsis, building political cohesion or enforcing social norms, to generating religious awe or confidence in empire -- and giving entertainment. (The Roman world staged spectacles of real violence in the arena, which we can look to for comparison.) As we explore this corpus, we can ask: what might be the roots of such preoccupation with the art of violence and pain, in the "Classical Tradition" and its post-antique legacy? Many modern cultures exhibit similar fascination: How far can modern reactions to and theories about such images be guides to reconstructing ancient viewership? How can ancient texts and history help us in this interdisciplinary project?
Taught by: Kuttner
Course not offered every year
Also Offered As: AAMW 525, CLST 521
Activity: Seminar
1 Course Unit

ARTh 528 Topics in Classical Architecture
Topic varies.
Taught by: Haselberger
Course not offered every year
Also Offered As: AAMW 528
Activity: Seminar
1 Course Unit

ARTh 529 Topics in Roman Architecture
Topic varies.
Taught by: Haselberger
Course not offered every year
Also Offered As: AAMW 529, CLST 528
Activity: Seminar
1 Course Unit

ARTh 530 Vitruvian Studies
Topic varies.
Taught by: Haselberger
Course not offered every year
Also Offered As: AAMW 530
Activity: Seminar
1 Course Unit

ARTh 531 Topics in Neoclassical Architecture
Topic varies.
Taught by: Haselberger
Course not offered every year
Activity: Seminar
1 Course Unit

ARTh 532 Topics in Byzantine Art
Topic varies.
Taught by: Ousterhout
Course not offered every year
Activity: Seminar
1 Course Unit

ARTh 535 Topics in Islamic Epigraphy
Topic varies.
Taught by: Holod
Course not offered every year
Also Offered As: AAMW 535
Activity: Seminar
1 Course Unit

ARTh 536 Topics in the Islamic City
Topic varies.
Taught by: Holod
Course not offered every year
Activity: Seminar
1 Course Unit

ARTh 537 Topics in the Art of Iran
Topic varies. Spring 2018: The pro-seminar will examine aspects of continuity and rupture in the visual culture(s) of the Iranian world. This is an opportunity for students whose preparations may be centered on other contiguous periods or regions to consider the manner in which Middle Asia and its rich visual cultures contributed to the forging of Late Antique and medieval/ Islamic visual expressions of kingship, territory and religion. The seminar will consider a range of materials from archaeological sites, rock reliefs and wall paintings to textiles, silver vessels, coins and ceramics, with special attention to materials excavated or otherwise held by the Penn Museum.
Taught by: Holod
Course not offered every year
Also Offered As: AAMW 537
Activity: Seminar
1 Course Unit

ARTh 538 Topics in the Art of Andalusia
Spring 2016: This pro-seminar will investigate the nature of Cordoba as the capital of the Umayyad realm in Iberia. Topics discussed will include: city and its suburbs, villas as loci of cultural production, the role of the congregational mosque, the city vs. the palace city of Madina al-Zahra. Knowledge of Spanish and/or Arabic desirable, but not necessary.
Taught by: Holod
Course not offered every year
Also Offered As: AAMW 538
Activity: Seminar
1 Course Unit

ARTh 540 Topics in Medieval Art
Topic varies.
Course not offered every year
Also Offered As: HIST 536, RELS 536
Activity: Seminar
1 Course Unit

ARTh 541 Topics in Early Medieval Architecture
Topic varies.
Course not offered every year
Also Offered As: AAMW 541
Activity: Seminar
1 Course Unit
ARTh 550 Topics in Southern Renaissance Art
Topic Varies. Fall 2017: What is painting? Is it art or mere craft? In this class we will explore how artists and critics responded to these questions in the Italian Renaissance, specifically through looking at the work of Andrea Mantegna, Giovanni Bellini, Titian, and Tintoretto. In addition to reading some of the most recent scholarship on these artists, we will also visit select paintings in PMA as well as local ateliers and galleries where we will gain insight into the enduring practice of such crafts as goldwork, textiles, and glasswork.
Taught by: Kim
Course not offered every year
Activity: Seminar
1 Course Unit

ARTh 551 Topics in Early Modern Art Theory
Topic varies.
Taught by: Kim
Course not offered every year
Activity: Seminar
1 Course Unit

ARTh 553 Topics in Southern Baroque Art
Topics vary.
Taught by: Kim
Course not offered every year
Activity: Seminar
1 Course Unit

ARTh 561 Topics in Northern Renaissance
Topic varies. Spring 2017: This seminar will focus on the history and interpretation of Dutch and Flemish painting, particularly the seeming "realism" of landscape, still-life, and genre scenes as well as some of the major figures of the period for their distinctive contributions (including Rubens and Rembrandt, but not dominated by them): Jan Brueghel, Frans Hals, Jan Steen, Jacob van Ruisdael, David Teniers, Jan Vermeer, and others. Who were the consumers of such works? How did the burgeoning market for inexpensive art in the form of paintings on canvas and prints affect production and types of art? How can we understand these works in their original urban, middle-class setting?
Taught by: Silver
Course not offered every year
Also Offered As: GRMN 578
Prerequisite: ARTH 102
Activity: Seminar
1 Course Unit

ARTh 562 Northern Renaissance Art
Topic varies.
Taught by: Silver
Course not offered every year
Activity: Seminar
1 Course Unit

ARTh 563 Topics in German Art
Topic varies.
Taught by: Silver
Course not offered every year
Also Offered As: GRMN 542
Activity: Seminar
1 Course Unit

ARTh 565 Topics in Northern Baroque Art
Topic varies. Fall 2015: Built around an exhibition at the Philadelphia Museum of Art, focused on the "Prometheus" by Peter Paul Rubens, this seminar will investigate the range of painted and sculpted works on Greco-Roman myths in European art and will also investigate the career of Peter Paul Rubens, particularly concerning myths.
Taught by: Silver
Course not offered every year
Also Offered As: DTCH 579, GRMN 589
Activity: Seminar
1 Course Unit

ARTh 571 Modern Architectural Theory
A survey of architectural theory from the mid-eighteenth century to the present. The discussion of original writings will be emphasized.
Taught by: Brownlee
One-term course offered either term
Activity: Seminar
1 Course Unit

ARTh 572 Topics in Visual Culture
Topic varies.
Taught by: Leja
Course not offered every year
Also Offered As: VLST 540
Activity: Seminar
1 Course Unit

ARTh 574 Topics in American Visual Culture
Topic varies.
Taught by: Shaw
Course not offered every year
Activity: Seminar
1 Course Unit

ARTh 575 Topics in 19th Century Art
Topic varies. Spring 2016: This seminar considers the concepts of time crucial to the rise of modern painting in the 19th century, from historical time, leisure time and perceptual time to labor and mechanical time. Too rarely has the history of time and time-keeping, from the industrialization of time to the advent of universal time been used as a tool in the study of modernist painting (as opposed to say the moving image) except perhaps in terms of chronology. To that end, we will think through, as aesthetic categories, the concept of the moment, the instant, the impression, the now, the shock, and also seriality and narrative sequence, and consider painting's oft-cited competition with the camera's evolving shutter speeds. Beside the key art historical literature, we will read extensively in both the cultural history of time and perception (Kern, Galison, Koselleck, Crary) and the aesthetic philosophy of time from Lessing to Deleuze (including Nietzsche, Blanqui, Bergson, Durkheim, Benjamin, Kubler, among others).
Taught by: Dombrowski
Activity: Seminar
1 Course Unit
ARTH 578 Topics in 19th Century American Art
Topic varies. Fall 2015: This course will provide a survey of media traditionally grouped under the category of decorative arts furniture, silver, ceramics, glass made in the United States from the beginnings of European settlement to the end of the nineteenth century. The class format will be part lecture and part discussion, the latter centered on close examination of objects from the collection of the Philadelphia Museum of Art. When possible, the discussion will focus on objects made in Pennsylvania and especially Philadelphia, emphasizing the city and region’s central role over three centuries of American art history. Different methodologies of approaching object study will also be explored. No prior knowledge of the subject is expected.
Taught by: Leja, Shaw
Course not offered every year
Activity: Seminar
1 Course Unit

ARTH 581 Topics in 20th Century Architecture
Topic varies.
Taught by: Brownlee
Course not offered every year
Also Offered As: ARCH 712
Activity: Seminar
1 Course Unit

ARTH 585 Topics in 19th Century Art
Topic Varies. Spring 2015: Birthplace of the nation, industrial metropolis-Philadelphia is the definitive American "place." This seminar will explore the visual history of the city as a symbolic site described and defined by painters, printmakers and photographers as well as politicians and capitalists and most importantly, its residents. How and why were certain sites selected and exploited within an evolving civic iconography? How did Philadelphia’s visual culture influence approaches to placemaking? And how did artists navigate the increasingly complex political and social as well as aesthetic conflicts between myth and reality?
One-term course offered either term
Activity: Seminar
1 Course Unit

ARTH 586 Topics in 20th Century Art
Topic varies.
Taught by: Poggi
One-term course offered either term
Also Offered As: CIMS 500, COML 586
Activity: Seminar
1 Course Unit

ARTH 588 Topics in 20th Century American Art
Topic varies.
Taught by: Shaw
Course not offered every year
Activity: Seminar
1 Course Unit

ARTH 593 Topics in Cinema & Media
Spring 2016: Taking its title from a recent special issue in the journal Framework, this seminar will engage the where of film and media theory. At a moment when this discourse, often presumed to have roots in Anglo and Western European traditions, is purportedly undergoing a global turn, we will consider how some of film and media theory’s key terms and preoccupations including realism, documentary, genre, identity, sound, spectatorship, nation, auteur, and screens are being inflected by expanded geographic, linguistic, aesthetic and cultural frames. We will grapple with some of the logistical challenges, motivations, resistances, and questions that scholars encounter as they attempt to shift film and media theory’s borders; compare contemporary efforts to broaden the discourse’s geographic horizon with earlier efforts to do the same; and consider what happens to the viewer’s sense of space and place in different media environments. Course requirements: full participation in readings, screenings, discussion, and class presentations; 20-25 page research paper + annotated bibliography. Permission of instructor required for advanced undergraduates.
Taught by: Beckman
Course not offered every year
Also Offered As: CIMS 590, COML 599, ENGL 593, GSWS 594
Prerequisites: Permission of Instructor for Undergraduates.
Activity: Seminar
1 Course Unit

ARTH 594 Topics in Contemporary Art
Topic varies.
Taught by: Silverman
Course not offered every year
Also Offered As: CIMS 594, COML 594, ENGL 797
Activity: Seminar
1 Course Unit

ARTH 596 Topics in Contemporary Art
Topic varies. Spring 2017: Our lives depend on our receptivity: from the very beginning, to the air we breathe, to the food we ingest, to the sleep we submit to. We will consider modes of receptivity to both external and internal stimuli. - Sexual receptivity: sex and love; sex and exchange; pleasure in suffering pain and inflicting pain. - Receiving our identity from networks of power. Agreeing to being psychically and socially named. Resistance. - How might receptivity function outside the subject-object model of relations with the world? - Receiving death. What do we gain by continuing to live? - Plato, Freud, Bourdieu, Sloterdijk; Proust, H.James, Duras, Melville; films: Bergman (Persona), Dumont (Humanite), von Trier (Breaking the Waves and Meloncholia); Pasolini (Salo).
Taught by: Poggi, Bersani
One-term course offered either term
Also Offered As: CIMS 596, ENGL 596
Activity: Seminar
1 Course Unit
ARTh 602 Mycenae, Pylos, and Troy
The Iliad of Homer recounts the tale of a great war fought by Greek and Trojan armies before the walls of Troy's lofty citadel. This foundation epic of Western literature tells of gods, heroes, and magical places already part of deep past when Homer's work was set to writing, ca. 700 B.C. Does the Homeric story of the Trojan War have a basis in real events? Scholars have long pointed to the Mycenaean civilization, which flourished on the mainland of Greece in the Late Bronze Age (ca. 1600-1200 B.C.), as the inspiration for the Homeric stories. In this course, we examine the archaeology of the great centers of the Late Bronze Age in Greece and Anatolia, particularly Mycenae, Pylos, and Troy. Our main aim is to better understand the social, political, and economic context of this Late Bronze Age world, which may shed light on the possibility that a "Trojan War" of some kind actually occurred. The primary focus on archaeology is supplemented by readings from Homer's Iliad and Odyssey.
Course not offered every year
Activity: Seminar
1 Course Unit

ARTh 609 African Art
This selective survey examines a variety of the circumstances of sub-Saharan African art, ranging from imperial to nomadic cultures and from ancient times to contemporary participation in the international market. Iconography, themes and style will be considered, as will questions of modernity, religious impact, tradition and colonialism.
Course not offered every year
Also Offered As: AFST 218, ARTH 209
Activity: Lecture
1 Course Unit

ARTh 611 Art in India
A survey of sculpture, painting and architecture in the Indian subcontinent from 2300 B.C. to the nineteenth century. An attempt to explore the role of tradition in the broader history of art in India.
Taught by: Meister
Course not offered every year
Also Offered As: ARTH 217, EALC 227, EALC 627
Activity: Lecture
1 Course Unit

ARTh 612 Cities and Temples in Ancient India
The wooden architecture of ancient India's cities is represented in relief carvings from Buddhist religious monuments of the early centuries A.D. and replicated in remarkable excavated cave cathedrals. This course will trace that architectural tradition, its transformation into a symbolic vocabulary for a new structure, the Hindu temple, and the development of the temple in India from ca. 500-1500 A.D.
Taught by: Meister
Course not offered every year
Also Offered As: ARTH 212, SAST 201, SAST 501
Activity: Lecture
1 Course Unit

ARTh 613 Arts of Japan
This course introduces the major artistic traditions of Japan, from the Neolithic period to the present, and teaches the fundamental methods of the discipline of art history. Special attention will be given to the places of Shinto, the impact of Buddhism, and their related architectures and sculptures; the principles of narrative illustration; the changing roles of aristocratic, monastic, shogunal and merchant patronage; the formation of the concept of the artist over time; and the transformation of tradition in the modern age.
Taught by: Davis
Course not offered every year
Also Offered As: ARTH 213, EALC 157, EALC 557
Activity: Lecture
1 Course Unit

ARTh 614 Arts of China
The goals of this course are to introduce the major artistic traditions of China, from the Neolithic period to the present and to teach the fundamental methods of the discipline of art history. Our approaches will be chronological, considering how the arts developed in and through history, and thematic, discussing how art and architecture were used for philosophical, religious and material ends. Topics of study will include: Shang bronzes: Han concepts of the afterlife; the impact of Buddhism; patronage and painting; the landscape tradition; the concept of the literatus; architecture and garden design; the "modern" and 20th-century artistic practices; among others.
Taught by: Steinhardt, Davis
Course not offered every year
Also Offered As: ARTH 214, EALC 127, EALC 527
Activity: Lecture
1 Course Unit

ARTh 615 Japanese Painting
An investigation of Japanese painting and practice from the earliest pictorial representations through the late twentieth century. Painting style and connoisseurship form the basis of analysis and themes such as landscape, narrative, and the expression of cultural identities in painting are considered in the context of larger social and cultural issues. Topics include: tomb painting, Heian development of "yamato-e," ink painting, and the adaptation of Chinese styles, the expansion of patronage in the 18th century, and the turn toward internationalism in the late 19th and 20th centuries. May include visits to the PMA or other local collections, as available.
Taught by: Davis
Course not offered every year
Activity: Lecture
1 Course Unit

ARTh 616 Chinese Painting
Study of Chinese painting and practice from the earliest pictorial representation through the late twentieth century. Painting style forms the basis of analysis, and themes such as landscape and narrative are considered with regard to larger social and cultural issues. The class pays particular attention to the construction of the concepts of the "artist" and "art criticism" and their impact on the field into the present. Visits to look at paintings at the University of Pennsylvania Museum, PMA and/or local collections.
Taught by: Steinhardt
Course not offered every year
Activity: Lecture
1 Course Unit
ARTH 618 Egyptian Art
Fall 2017: This course will be an introduction to the art, architecture and minor arts that were produced during the three thousand years of ancient Egyptian history. This material will be presented in its cultural and historical contexts through illustrated lectures and will include visits to the collection of the University Museum.
Course not offered every year
Also Offered As: ARTH 218
Activity: Lecture
1 Course Unit

ARTH 620 Minoan, Cycladic and Mycenaean Art
This course is designed to give the an overview of the cultures of the Aegean Bronze Age. The art and architecture of Crete, the Cyclades and the Mainland of Greece are examined in chronological order, with an emphasis on materials and techniques. In addition, larger issues such as the development of social complexity and stratification, and the changing balance of power during the Aegean Bronze Age are examined.
Taught by: Shank
Course not offered every year
Also Offered As: AAMW 620, ARTH 220
Activity: Lecture
1 Course Unit

ARTH 621 Greek Vase Painting
Spring 2015: Painted vases constitute the most important and comprehensive collection of visual evidence that survives from ancient Greece. In this course, we will examine the development of Greek vase-painting from the 10th to the 5th century BC, with particular emphasis on the pottery of the Archaic and Classical periods that was produced in the cities of Athens and Corinth. An object-based learning course, this class will focus on the close study of Greek vases in the collection of the University Museum, and a number of class sessions will meet in the Museum. Several guest lecturers will discuss the conservation and ancient repair of Greek vases and the ceramic analysis of Greek pottery. We will also learn about the making of ceramics in a session in the Addams Hall pottery studio. Some background in art history or classical studies is helpful but not required.
Taught by: Brownlee, A.
Course not offered every year
Also Offered As: AAMW 621, ARTH 221
Activity: Lecture
1 Course Unit

ARTH 622 Art of Ancient Iran
This course offers a survey of ancient Iranian art and culture from the painted pottery cultures of the Neolithic era to the monuments of the Persian Empire. Particular emphasis is placed on the Early Bronze Age.
Taught by: Pittman
Course not offered every year
Also Offered As: AAMW 622, ARTH 222
Activity: Lecture
1 Course Unit

ARTH 624 Art of Mesopotamia
A survey of the art of Mesopotamia from 4000 B.C. through the conquest of Alexander the Great.
Taught by: Pittman
Course not offered every year
Also Offered As: AAMW 424, ARTH 224
Activity: Lecture
1 Course Unit

ARTH 625 Greek Art and Artifact
This course surveys Greek art and artifacts from Sicily to the Black Sea from the 10th century BCE to the 2nd century BCE, including the age of Alexander and the Hellenistic Kingdoms. Public sculpture and painting on and around grand buildings and gardens, domestic luxury arts of jewelry, cups and vases, mosaic floors, and cult artefacts are discussed. Also considered are the ways in which heroic epic, religious and political themes are used to engaged viewer's emotions and served both domestic and the public aims. We discuss how art and space was considered, along with ideas of invention and progress, the role of monuments, makers and patrons in Greek society.
Taught by: Kutner
Course not offered every year
Also Offered As: AAMW 625, ARTH 225, CLST 220
Activity: Lecture
1 Course Unit

ARTH 626 Hellenistic and Roman Art and Artifacts
This course surveys the political, religious and domestic arts, patronage and display in Rome's Mediterranean, from the 2nd c. BCE to Constantine's 4th-c. Christianized empire. Our subjects are images and decorated objects in their cultural, political and socio-economic contexts (painting, mosaic, sculpture, luxury and mass-produced arts in many media). We start with the Hellenistic cosmopolitan culture of the Greek kingdoms and their neighbors, and late Etruscan and Republican Italy; next we map Imperial Roman art as developed around the capital city Rome, as well as in the provinces of the vast empire.
Taught by: Kutner
Course not offered every year
Also Offered As: AAMW 626, ARTH 226, CLST 221
Activity: Lecture
1 Course Unit

ARTH 628 Greek Architecture and Urbanism
Introduction to the art of building and city planning in the ancient Greek world, 7th-1st c. BC. Emphasis on concepts of organizing space, on issues of structure, materials, decoration, proportion, and the Mycenean and eastern heritage as well as on theory and practice of urbanism as reflected in ancient cities (Athens, Pergamon, Alexandria) and writings (Plato, Aristotle, and others). Excursions to the Penn Museum and Philadelphia. No prerequisites.
Taught by: Haselberger
Course not offered every year
Also Offered As: AAMW 628, ARTH 228
Activity: Lecture
1 Course Unit

ARTH 629 Roman Architecture and Urbanism
Introduction to the art of building and city planning in the Roman world, 6th c. BC - 2nd c. AD. Emphasis on concepts of organizing space, on issues of structure, materials, decoration, proportion, and the Etruscan and Greek heritage as well as on theory and practice of urbanism as reflected in ancient cities (Rome, Ostia, Roman Alexandria, Timagad) and writings (Vitruvius, and others). Excursions to the Penn Museum and Philadelphia. No prerequisites.
Taught by: Haselberger
Course not offered every year
Also Offered As: AAMW 629, ARTH 229
Activity: Lecture
1 Course Unit
**ARTH 632 Byzantine Art and Architecture**

This course offers a wide-ranging introduction to the art, architecture, and material culture of Byzantium, a Christian, predominantly Greek-speaking civilization that flourished in the Eastern Mediterranean for over a thousand years. Positioned between the Muslim East and the Latin West, Antiquity and the Early Modern era, Byzantium nurtured a vibrant and highly sophisticated artistic culture. With emphasis placed upon paradigmatic objects and monuments, we will examine an array of artistic media, from mosaic and panel painting to metalwork, ivory carving, book illumination, and embroidery. We will consider the making, consumption, and reception of Byzantine art in a variety of contexts: political, devotional, rural, and domestic. Topics include the idea of empire and its visual articulation; court culture; the veneration of images and relics; patronage, piety, and self-representation; authorship and artistic agency; materiality and the sensory experience of art; the reception of the pagan Greco-Roman past; and the changing nature of Byzantium’s interactions with neighboring cultures.

Taught by: Drpic

One-term course offered either term

Also Offered As: AAMW 632, ARTH 232

Activity: Lecture

1 Course Unit

**ARTH 633 Eastern Medieval Architecture**

This lecture course examines major architectural developments in the eastern Mediterranean between the 4th and 14th centuries CE. The focus is on the Byzantine Empire, with its capital at Constantinople. Lectures also devoted to related developments in the Caucasus (Armenia and Georgia), early Russia, the Balkans (Bulgaria and Serbia), Sicily and under the Normans, the Crusader states. Parallel developments in early Islamic architecture are used for comparative purposes. The course examines evidence for religious and secular buildings, as well as urbanism and settlement patterns.

Taught by: Ousterhout

Course not offered every year

Also Offered As: AAMW 633, ARTH 233

Activity: Lecture

1 Course Unit

**ARTH 635 Introduction to Visual Culture of the Islamic World**

A one-semester survey of Islamic art and architecture which examines visual culture as it functions within the larger sphere of Islamic culture in general. Particular attention will be given to relationships between visual culture and literature, using specific case studies, sites or objects which may be related to various branches of Islamic literature, including historical, didactic, philosophical writings, poetry and religious texts. All primary sources are available in English translation.

Taught by: Holod

One-term course offered either term

Also Offered As: AAMW 635, ARTH 235, NELC 285, NELC 685, VLST 235

Activity: Lecture

1 Course Unit

**ARTH 640 Medieval Art**

An introductory survey, this course investigates painting, sculpture, and the "minor arts" of the Middle Ages. Students become familiar with selected major monuments of the Late Antique, Byzantine, Carolingian, Romanesque, and Gothic periods, as well as primary textual sources. Analysis of works emphasizes the cultural context, the thematic content, and the function of objects. Discussions focus especially on several key themes: the aesthetic status of art and the theological role of images; the revival of classical models and visual modes; social rituals such as pilgrimage and crusading; the cult of the Virgin and the status of women in art; and, more generally, the ideology of visual culture across the political and urban landscapes.

Taught by: Guerin

Course usually offered in fall term

Also Offered As: AAMW 640, ARTH 240

Activity: Lecture

1 Course Unit

**ARTH 641 Introduction to Medieval Architecture**

This course provides an introduction to the built environment of the Middle Ages. From the fall of Rome to the dawn of the Renaissance, a range of architectural styles shaped medieval daily life, religious experience and civic spectacle. We examine the architectural traditions of the great cathedrals, revered pilgrimage churches, and reclusive monasteries of western Europe, as well as castles, houses, and other civic structures. We integrate the study of the architecture with the study of medieval culture, exploring the role of pilgrimage, courts and civil authority, religious reform and radicalism, crusading and social violence, and rising urbanism. In this way, we explore the ways in which the built environment profoundly affected contemporary audiences and shaped medieval life.

Course not offered every year

Also Offered As: AAMW 641, ARTH 241

Activity: Lecture

1 Course Unit

**ARTH 650 Visual Arts of the Italian Renaissance**

This course explores the painting, sculpture, architecture, and other media (textiles, prints, and even armor) from the historical eras conventionally known as the Early and High Renaissance, Mannerism, and Counter Reformation. We consider the work of such artists as Cimabue, Duccio, Giotto, and Mantegna as well as the careers, personalities and reception of Leonardo, Raphael, Michelangelo, and Titian. With emphasis placed upon artists cultivation of particular styles, we look closely at works originating from various contexts: political (city-states, princely courts, and the Papal States); spatial / topographic (inner chambers of private palaces, family chapels, church facades, and public squares); and geographic (Florence, Siena, Rome, Naples, Venice, and Milan). Topics include artistic creativity and license, religious devotion, the revival of antiquity, observation of nature, art as problem-solving, the public reception and function of artworks, debates about style, artistic rivalry, and traveling artists. Rather than taking the form of a survey, this course selects works as paradigmatic case studies, and analyze contemporary attitudes toward art of this period through study of primary sources.

Taught by: Kim

Course usually offered in fall term

Also Offered As: ARTH 250

Activity: Lecture

1 Course Unit
ARTH 652 Venice and the Mediterranean
This course explores the art and architecture of Venice and her mainland and overseas colonies, with emphasis upon the Dalmatian coast and Aegean islands. Topics include cartography and empire, diffusion of Byzantine icons, and the ship as a mediator of cultural exchange.
Tu: Kim
One-term course offered either term
Also Offered As: ARTH 252
Activity: Lecture
1 Course Unit

ARTH 654 Global Renaissance and Baroque
An introduction to transcultural encounters within and beyond early modern Europe, 1450-1600. Topics include: the theory and historiography of global art; artistic relations between Venice, the Byzantine and Ottoman Empires, and islands in the Eastern Mediterranean; Portugal's overseas mercantile network in Africa and Asia; and the Baroque in Latin America, with emphasis upon Brazil. Our discussions focus on these paradigmatic case studies so as to question the language and terms we use to characterize confrontations between native and foreign, the self and the other.
Tu: Kim
One-term course offered either term
Also Offered As: ARTH 254
Activity: Lecture
1 Course Unit

ARTH 656 Early Modern Japanese Art and the City of Edo
Study of the major art forms and architecture of Tokugawa (or Edo) period (1603-1868). In this course, we will consider how the arts of this era occur within an increasingly urban and modern culture, particularly with regard to the city of Edo. Issues of the articulation of authority in the built environment, the reinvention of classical styles, and patronage will be raised. May include some visits to PMA, Penn Museum, or other local collections.
Tu: Davis
Course not offered every year
Also Offered As: ARTH 258, EALC 150, EALC 550
Activity: Lecture
1 Course Unit

ARTH 657 Early Prints
History of prints in the period from about 1400 to Albrecht Durer (d 1528). Relation of early Northern and Italian woodcuts, engravings, and etchings to contemporary art forms - sculpture, painting.
Tu: Silver
Course not offered every year
Also Offered As: ARTH 259
Activity: Seminar
1 Course Unit

ARTH 658 Jewish Art
Jewish Art provides a survey of art made by and for Jews from antiquity to the present. It will begin with ancient synagogues and their decoration, followed by medieval manuscripts. After a discussion of early modern representation of Jews in Germany and Holland (esp. Rembrandt), it focuses most intently on the past two centuries in Europe, American, and finally Israel and on painting and sculpture as Jewish artists began to pursue artistic careers in the wider culture. No prerequisites or Jewish background assumed.
Tu: Silver
Course not offered every year
Also Offered As: ARTH 260
Activity: Lecture
1 Course Unit

ARTH 659 Northern Renaissance Art
Survey of the principal developments in Northern Europe during the "early modern" period, i.e. the transition from medieval to modern art-making during the fifteenth and sixteenth centuries. Principal attention to painting and graphics with additional consideration of developments in sculpture, particularly in the regions of the Netherlands and German-speaking Europe. Attention focused on the works of the following artists: Van Eyck, Bosch, Durer, Holbein, Bruegel, and on topics such as the rise of pictorial genres, urban art markets, Reformation art and art for the dynastic courts of emerging nation-states.
Tu: Silver
Course not offered every year
Also Offered As: ARTH 261
Activity: Lecture
1 Course Unit

ARTH 660 German Art
This course focuses on paintings, prints, and sculptures produced in Germany around 1600. Principal attention will focus on the changing role of visual cult and altar pieces which evolve into an era of "art," and collecting of pictures. German politics and religion will be examined in relation to the images. Cultural exchange with neighboring regions of Italy and the low countries is considered.
Tu: Silver
Course not offered every year
Also Offered As: ARTH 263
Activity: Lecture
1 Course Unit
ARTh 664 Bruegel to Vermeer
Historical overview of the principal developments in Dutch painting and visual culture across the period of the Dutch Revolt (1568-1648) and beyond. Principal pictorial types, including landscape, portraits and group portraits, genre painting, still-life. Principal artists, including: Bruegel, Goltzius, Hals, Rembrandt, and Vermeer, as well as leading practitioners of each pictorial category. Consideration of cultural values inherent in such imagery, particularly against the background of Dutch society and religious diversity, along with the court culture and Catholic religiosity rejected by the national independence movement.
Taught by: Silver
Course not offered every year
Also Offered As: ARTH 264
Activity: Lecture
1 Course Unit

ARTh 665 Northern Baroque Art
Northern Baroque art comprises seventeenth-century paintings and prints from Flanders and Holland. Featured artists include: Pieter Bruegel, Hendrick Goltzius, Peter Paul Rubens, Anthony van Dyck, Frans Hals, Rembrandt, and Vermeer. Topics considered include innovations of various kinds—starting with portraits and society, landscapes, still-life, and scenes of daily life (genre pictures).
Taught by: Silver
Course not offered every year
Also Offered As: ARTH 265
Activity: Lecture
1 Course Unit

ARTh 670 The Modern City
A study of the European and American city in the eighteenth, nineteenth, and twentieth centuries. Emphasis is placed on the history of architecture and urban design; political, sociological, and economic factors also receive attention. The class considers the development of London, St. Petersburg, Washington, Boston, Paris, Vienna and Philadelphia.
Taught by: Brownlee, D.
One-term course offered either term
Also Offered As: ARTH 270
Activity: Lecture
1 Course Unit

ARTh 671 Modern Architecture, 1700-1900
The history of western architecture, ca. 1700-1900, when architecture was transformed to serve a world that had been reshaped by political and industrial revolutions. Topics to be considered include the Rococo, the English Garden, Palladianism, Romanticism, neo-classicism, the picturesque, the Greek and Gothic Revivals, and the search for a new style.
Taught by: Brownlee
One-term course offered either term
Also Offered As: ARTH 271
Activity: Lecture
1 Course Unit

ARTh 673 History of Photography
A history of world photography from 1839 to the present and its relation to cultural contexts as well as to various theories of the functions of images. Topics discussed in considering the nineteenth century will be the relationship between photography and painting, the effect of photography on portraiture, photography in the service of exploration, and photography as practiced by anthropologists; and in considering the twentieth century, photography and abstraction, photography as "fine art", photography and the critique of art history, and photography and censorship.
Course not offered every year
Also Offered As: ARTH 273
Activity: Lecture
1 Course Unit

ARTh 674 Facing America
This course explores the visual history of race in the United States as both self-fashioning and cultural mythology by examining the ways that conceptions of Native American, Latino, and Asian identity, alongside ideas of Blackness and Whiteness, have combined to create the various cultural ideologies of class, gender, and sexuality that remain evident in historical visual and material culture. We also investigate the ways that these creations have subsequently helped to launch new visual entertainments, including museum spectacles, blackface minstrelsy, and early film, from the colonial period through the 1940s.
Taught by: Shaw
Course not offered every year
Also Offered As: AFRC 294, ARTH 274, ASAM 294, CIMS 293
Activity: Lecture
1 Course Unit

ARTh 675 Revolution to Realism: European Art, 1770-1870
This course surveys the major trends in European art of the tumultuous decades stretching from French Revolution of 1789 to the rise of realism in the mid-nineteenth century. Starting with Jacques-Louis David’s revolutionary history paintings, we study Napoleonic representations of empire, Goya’s imagery of violence, romantic representations of madness and desire, Friedrich’s nationalist landscapes, as well as the politicized realism of Courbet. Some of the themes that are addressed include: the revolutionary hero, the birth of the public museum, the anxious masculinity of romanticism, the rise of industry and bourgeois culture, the beginnings of photography, the quest for national identity and, not least, the origins of the modernist painting. Throughout, we recover the original radicalism of art’s formal and conceptual innovations at times of political and social crisis. We focus on the history of French painting, but include sculpture, photography, visual culture and the development of the modern city, in England, Germany and Spain.
Taught by: Dombrowski
One-term course offered every term
Also Offered As: ARTH 275
Activity: Lecture
1 Course Unit
**ARTH 676 Impressionism**

Impressionism opened the pictorial field to light, perception, science, modernity, bourgeoisie leisure and famously the material qualities of paint itself. This course will survey the movement’s major contexts and proponents—Manet, Monet, Morisot, Cezanne, Gauguin, Van Gogh, Rodin—from its origins in the 1860’s to its demise in the 1890’s, as well as its subsequent adaptations throughout the world until World War I. Particular attention is paid to the artists’ critical reception and the historical conditions which allowed one nation, France, to claim the emergence of early Modernism so firmly for itself. The course also analyzes the effects of the rapidly changing social and cultural fabric of Paris, and its affects on artistic developments. We also look outside of France’s borders to Germany and Britain.

Taught by: Dombrowski

One-term course offered either term

Also Offered As: ARTH 276

Activity: Lecture

1 Course Unit

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**ARTH 677 The Rise of Modernity: Arts of the 19th Century**

The nineteenth century is often considered as fast-paced, politically volatile and new-media obsessed as our own age. This course explores the nineteenth century’s claim to have produced the first truly modern culture, focusing on the visual arts and metropolitan spaces of Europe and North America in their intellectual and social contexts. Stretching from the American and French Revolutions to the eve of World War I, topics to be covered include: the rise of capitalist and industrialist culture, art and revolutionary upheaval, global travel and empire, the origins of modernist art and architecture, and new media such as stereoscopes, iron and glass construction, and photography. Major artistic personalities of the age, from Jacques-Louis David and Gustave Courbet to Claude Monet and Vincent Van Gogh, and from Friedrich Schinkel and, Baron Haussmann to Frank Furness and Frank Lloyd Wright, are discussed. Each lecture will be followed by a brief period of discussion, and regular field trips take students to examine art and architecture first hand, in the museums and on the streets of Philadelphia.

Taught by: Brownlee, Dombrowski

Course not offered every year

Also Offered As: ARTH 277

Activity: Lecture

1 Course Unit

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**ARTH 678 American Art**

This course surveys the most important and interesting art produced in the United States (or by American artists living abroad) up through the 1950s. This period encompasses the history of both early and modern art in the U.S., from its first appearances to its rise to prominence and institutionalization. While tracking this history, the course examines art’s relation to historical processes of modernization (industrialization, the development of transportation and communications, the spread of corporate organization in business, urbanization, technological development, the rise of mass media and mass markets, etc.) and to the economic polarization, social fragmentation, political conflict, and the cultural changes these developments entailed. In these circumstances, art is drawn simultaneously toward truth and fraud, realism and artifice, science and spirituality, commodification and ephemerality, nationalism and cosmopolitanism, individualism and collectivity, the past and the future, professionalization and popularity, celebrating modern life and criticizing it.

Taught by: Leja, Shaw

Also Offered As: ARTH 278

Activity: Lecture

1 Course Unit

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**ARTH 680 20th Century East Asian Art**

This course reconsiders modern and contemporary art in China, Japan and Korea over the course of the twentieth century. The confrontations between modernity and tradition, state and self, the colonizer and the colonized, and collecting and the market are among its themes. The course begins with a study of the way modern art was defined at the turn of the 20th century, the promotion of oil painting and the call to preserve national styles, and the use of art at world’s fairs. The avant-garde pursuit of individuality, state-sponsored modernism, the use of art as propaganda in WWII and Communist Revolution, and the place of Chinese, Korean and Japanese art in the contemporary market are also topics covered in this course.

Taught by: Davis

Course not offered every year

Also Offered As: ARTH 280

Activity: Seminar

1 Course Unit

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**ARTH 681 Modern Architecture,1900-Present**

The architecture of Europe and America from the late nineteenth century until the present is the central subject of this course, but some time is also devoted to Latin American and Asian architecture and to the important issues of modern city planning. Topics discussed include the Arts and Crafts movement, Art Nouveau, Expressionism, Art Deco, the International Style, and Post-modernism. The debate over the role of technology in modern life and art, the search for a universal language of architectural communication, and the persistent demand that architecture serve human society are themes that are traced throughout the course.

Among the important figures to be considered are Frank Lloyd Wright, Walter Gropius, Le Corbusier, Louis Kahn, Robert Venturi, and Denise Scott Brown. The course includes weekly discussion sessions and several excursions to view architecture in Philadelphia.

Taught by: Brownlee

One-term course offered either term

Also Offered As: ARTH 281

Activity: Lecture

1 Course Unit
ARTH 682 Modern Architecture, 1900-Present
The architecture of Europe and America from the late nineteenth century until the present is the central subject of this course, but some time will also be devoted to Latin American and Asian architecture and to the important issues of modern city planning. Topics to be discussed include the Arts and Crafts movement, Art Nouveau, Expressionism, Art Deco, the International Style, and Post-modernism. The debate over the role of technology in modern life and art, the search for a universal language of architectural communication, and the insistent demand that architecture serve human society are themes that will be traced throughout the course. Among the important figures to be considered are Frank Lloyd Wright, Walter Gropius, Le Corbusier, Louis Kahn, Roventi, and Denise Scott Brown. The course includes weekly discussion sessions and several excursions to view architecture in Philadelphia.
Taught by: Brownlee
One-term course offered either term
Also Offered As: ARTH 288
Activity: Lecture
1 Course Unit

ARTH 686 Modern Art: Picasso to Pollock
Early twentieth-century art in Europe is marked by a number of exciting transformations. This period witnessed the rise of abstraction in painting and sculpture, as well as the inventions of collage, photomontage, constructed sculpture, the ready made and found object, and performance art. Encounters with the arts of Africa, Oceania and other traditions unfamiliar in the West spurred innovations in media, technique, and subject matter. Artists began to respond to the challenge of photography, to organize themselves into movements, and in some cases, to challenge the norms of art through "anti-art." A new gallery system replaced traditional forms of exhibiting and selling art, and artists took on new roles as publicists, manifesto writers, and exhibition organizers. This course examines these developments, with attention to formal innovations as well as cultural and political contexts. This course requires permission from the instructor.
Taught by: Poggi
One-term course offered either term
Also Offered As: ARTH 286
Activity: Lecture
1 Course Unit

ARTH 688 Modern Design
This survey of modern utilitarian and decorative objects spans the century, from the Arts and Crafts Movement to the present, from the rise of Modernism to its rejection in Post-Modernism, from Tiffany glass and tubular-metal furniture to the Sony Walkman. Its overall approach focuses on the aesthetics of designed objects and on the designers who created them, but the course also investigates such related topics as industrialization, technology, ergonomics, and environmental, postindustrial, and universal design. Among the major international figures whose graphics, textiles, furniture, and other products will be studied are William Morris, Frank Lloyd Wright, Josef Hoffmann, Le Corbusier and Charlotte Perriand, Mies van der Rohe, Alvar Aalto, Raymond Loewy, Charles and Ray Eames, Isamu Noguchi, Eero Saarinen, Paul Rand, Jack Lenor Larsen, Ettore Sottsass, Jr., Robert Venturi, Frank Gehry, and Philippe
Taught by: Marcus
Course not offered every year
Also Offered As: ARTH 288
Activity: Lecture
1 Course Unit

ARTH 690 Post War Japanese Cinema
Mizoguchi Kenji, Ozu Yasujiro, and Kurosawa Akira are recognized today as three of the most important and influential directors in Japanese cinema. In their films of the late 1940s and 1950s, these directors focused upon issues surrounding the human condition and the perception of truth, history, beauty, death, and other issues of the postwar period. This course places their films in period context, and pays particular attention to the connections to other visual media, and to how "art" and "history" are being defined in the cinematic context. How other directors also took up these issues, and referred to the "big three" is also be discussed.
Taught by: Davis
Course not offered every year
Also Offered As: ARTH 290
Activity: Lecture
1 Course Unit

ARTH 694 Art Now
One of the most striking features of today's art world is the conspicuous place occupied in it by the photographic image. Large-scale color photographs and time-based installations in projections are everywhere. Looking back, we can see that much of the art making of the past 60 years has also been defined by this medium, regardless of the form it takes. Photographic images have inspired countless paintings, appeared in combines and installations, morphed into sculptures, drawings and performances, and served both as the object and the vehicle of institutional critique. They are also an increasingly important exhibition site: where most of us go to see earthworks, happenings and body-art. This course is a three-part exploration of our photographic present.
Taught by: Silverman
Course usually offered in spring term
Also Offered As: ARTH 294, ENGL 059, GSWS 294, VLST 236
Activity: Lecture
1 Course Unit

ARTH 696 Contemporary Art
Many people experience the art of our time as bewildering, shocking, too ordinary (my kid could do that), too intellectual (elitist), or simply not as art. Yet what makes this art engaging is that it raises the question of what art is or can be, employs a range of new materials and technologies, and addresses previously excluded audiences. It invades non-art spaces, blurs the boundaries between text and image, document and performance, asks questions about institutional frames (the museum, gallery, and art journal), and generates new forms of criticism. Much of the "canon" of what counts as important is still in flux, especially for the last twenty years. And the stage is no longer centered only on the United States and Europe, but is becoming increasingly global. The course will introduce students to the major movements and artists of the post-war period, with emphasis on social and historical context, critical debates, new media, and the changing role of the spectator/participant.
Taught by: Poggi
Course usually offered in spring term
Also Offered As: ARTH 296
Activity: Lecture
1 Course Unit
ARTH 697 Art / Contemporary Society
How do you perform freedom? Is it something you have, or is it something you aspire towards and struggle to achieve? What role does art play in this process? This course will explore how artists in the 21st century have constructed newly creative and critical spaces of freedom through art, and how art functions as a mechanism for reflecting on contemporary identity and society. We will be attentive to how our understanding of freedom can change over time, and what happens when our personal and collective definitions come into conflict with others. Emphasis will be given in the syllabus to visual and performance art from the 1960s era to the present. Each week we will engage artists that explore the possibility of freedom in different ways, including William Pope. L., Kara Walker, Glenn Ligon, Ai Weiwei, Krzysztof Wodiczko, Allan Sekula, Laura Poitras, Laura Kurgan, and Fazal Sheikh. In learning about these artists, we will also engage the extensive digital archives of Slought (slought.org), a cultural organization located on campus. Finally, in conjunction with a Spring 2016 exhibition at Slought of the work of photographer Fazal Sheikh, we will engage the artist in conversation about the themes explored in the course. Course requirements also include weekly participation in a discussion forum, two papers, and occasional attendance at cultural events on campus.
Also Offered As: ARTH 297
Activity: Lecture
1 Course Unit

ARTH 701 Proseminar in Methods in the History of Art
The meanings we ascribe to art works of any culture or time period are a direct result of our own preoccupations and methods. This colloquium will give both a broad overview of contemporary debates in the history of art-including such issues as technologies of vision, feminism, gender and sexuality studies, globalism, the pictorial turn or material/vision culture-and locate these methods within art history's own intellectual history, as well as the history of aesthetics. The course will consist of wide-ranging weekly readings and discussion, and also clarify such key terms as iconography, formalism, connoisseurship, and the Frankfurt and Vienna Schools.
Course not offered every year
Also Offered As: AAMW 701, GRMN 578
Activity: Seminar
1 Course Unit

ARTH 710 Topics in Indian Architecture
Topic varies.
Taught by: Meister
Course not offered every year
Activity: Seminar
1 Course Unit

ARTH 711 Topics in Indian Art
Topic varies. Fall 2017: We will examine the practice and symbolism of South Asian Architecture with case studies of how to build and how to make buildings meaningful.
Taught by: Meister
Course not offered every year
Also Offered As: SAST 711
Activity: Seminar
1 Course Unit

ARTH 715 Topics in Japanese Art
Topic Varies.
Taught by: Davis
Course not offered every year
Activity: Seminar
1 Course Unit

ARTH 721 Topics in Archaeological Science
Topic varies.
Course not offered every year
Also Offered As: AAMW 721
Activity: Seminar
1 Course Unit

ARTH 722 Topics in the Art of Ancient Iran
Topic varies.
Taught by: Pittman
Course not offered every year
Activity: Seminar
1 Course Unit

ARTH 723 Topics in the Art of the Ancient Near East
Topic varies. Spring 2015: This team taught class will extend from the lead up to the Neo Sumerian Empire through the Empire and its collapse and reorganization of the political landscape of greater Mesopotamia. It will consider the imperial period internally and from the perspective of the northern and eastern neighbors. This class is an upper level graduate research seminar that will include art historical, anthropological and historical approaches. Class participation and a major research paper are required.
Taught by: Pittman
Course not offered every year
Also Offered As: AAMW 723, NELC 740
Activity: Seminar
1 Course Unit

ARTH 725 Topics in Greek and Roman Art
Topic varies.
Taught by: Kuttner
Course not offered every year
Also Offered As: AAMW 725
Activity: Seminar
1 Course Unit

ARTH 728 Topics in Greek Architecture
Topic varies.
Taught by: Haselberger
Course not offered every year
Activity: Seminar
1 Course Unit

ARTH 729 Topics in Roman Architecture and Topography
Topic varies. Fall 2015: This seminar will investigate two ancient architectural masterpieces, the 2nd c. AD Pantheon in Rome and the 6th c. AD Hagia Sophia in Istanbul. The two monuments stand at the forefront of the architectural trends under Hadrian and Justinian respectively, and are best known for their unique designs and domes of unprecedented scale. The seminar will analyze issues of design, structure, aesthetics, and symbolism. No prerequisites; skills in digital visualization are welcome.
Taught by: Haselberger, Ousterhout
Course not offered every year
Also Offered As: AAMW 729, CLST 728
Activity: Seminar
1 Course Unit
ARTH 730 Vitruvian Studies
Research on Vitruvius' ten books on architecture, art, and construction. We explore structure, sources, and intended readers of this treatise; formation of art theory and its relation to practice; statics and esthetics; Greek model vs. Italic tradition; discrepancy with the ideals of the "Augustan Revolution"; role and reception during the Renaissance and late Classical revivals (using Penn's rich collection of 16th to 20th c. Vitruvius editions); latest wave of Vitruvian scholarship. Working knowledge of Latin, French, German helpful, but not necessary.
Taught by: Haselberger
Course not offered every year
Activity: Seminar
1 Course Unit

ARTH 732 Topics in Byzantine Art and Architecture
Topic varies. Spring 2016: The graduate seminar will investigate the dynamics of artistic exchange between Constantinople and its Byzantine provinces, as well as areas under its cultural influence. Both architecture and monumental art will be considered, focusing on the period of 6th-12th centuries. Students will produce two research papers: one addressing a Constantinopolitan monument; the second assessing artistic production in a region outside the Byzantine capital.
Taught by: Ousterhout
Course not offered every year
Also Offered As: AAMW 732
Activity: Seminar
1 Course Unit

ARTH 733 Topics in Early Christian and Byzantine Architecture
Topic varies.
Taught by: Ousterhout
Course not offered every year
Activity: Seminar
1 Course Unit

ARTH 735 Topics in Islamic Art
Topic varies.
Taught by: Holod
Course not offered every year
Activity: Seminar
1 Course Unit

ARTH 736 Topics in the Islamic City
Topic varies.
Taught by: Holod
Course not offered every year
Activity: Seminar
1 Course Unit

ARTH 737 Topics in Islamic Architecture
Topic varies.
Taught by: Holod
Course not offered every year
Activity: Seminar
1 Course Unit

ARTH 738 Topics in Islamic Archaeology
Topic varies. Spring 2017: This seminar will trace the development of the field from one that was centered largely on the recovery of major monuments to one in which issues of daily life, demography, chronology and the study of settlement patterns have come to play a major role. The seminar will review work in the major zones of the Islamic world: Central Asia, Iran, Iraq, Anatolia, Syria, Palestine, Egypt, North Africa I (Libya-Tunisia), North Africa II (Algeria-Morocco), Spain. Of special interest this semester will be the study of landscape archaeology and settlement patterns. The seminar will discuss changes in patterns of settlement, trade and material culture 650-1300 CE in different areas of the Islamic world, concentrating on sites in Iran, Syria and North Africa.
Taught by: Holod
Course not offered every year
Also Offered As: AAMW 738, NELC 731
Activity: Seminar
1 Course Unit

ARTH 740 Topics in Medieval Art
Topic varies. Spring 2017: For the Christians of medieval Europe, pilgrimages were one of the key embodied experiences of faith. Reliquaries, churches with their welcoming portals, manuscripts and music: all were crafted to augment the corporeal experience of the divine. This seminar will take the material culture surrounding the relic and its veneration as a lens for exploring the Middle Ages, from the Early Christian to the High Gothic. Cross-disciplinary methodologies and cross-cultural examples will be considered to advance our understanding of these phenomena. While proceeding chronologically, each week will focus on a distinct strategy for shaping the interaction between faith and matter.
Taught by: Guerin
Course not offered every year
Also Offered As: RELS 702, SPAN 630
Activity: Seminar
1 Course Unit

ARTH 741 Topics in Medieval Architecture
Topic varies.
Course not offered every year
Activity: Seminar
1 Course Unit
ARTH 750 Topics in Southern Renaissance Art
Topic varies. Fall 2015: One of the most compelling developments in the field of art history has been the turn towards materiality. Drawing upon such diverse fields as material culture, anthropology, and the history of science and technology, materiality as an approach questions how certain substances—be they wood, metal, or glass—constitute the physical makeup of art works. Pushing beyond the distinction between mind and matter (which often manifests itself as mind over matter), materiality interrogates how the process, appearance and metaphorical associations of physical substances bear upon artistic selfhood, the constitution of viewership and the historically-contingent and ever-evolving meaning of art works. In short, materiality calls attention to the semantic potential conveyed by the stuff of art works, privileging it as much as those artists celebrated as geniuses who transcend the lowly sphere of the physical world. This course explores the use and representation of materials as well as the theories of those materials in the art and art theory of the early modern period. Issues to be discussed include the disavowal of material, material and the role of the senses, and material's capacity to evoke location, either proximate or distant.
Taught by: Kim
Course not offered every year
Activity: Seminar
1 Course Unit

ARTH 751 Topics in Early Modern Art Theory
Topic varies.
Taught by: Kim
Course not offered every year
Activity: Seminar
1 Course Unit

ARTH 753 Topics in Southern Baroque Art
Topic varies.
Taught by: Kim
Course not offered every year
Activity: Seminar
1 Course Unit

ARTH 754 Topics in Global Art
Topic varies.
Taught by: Kim, Silver
Course not offered every year
Activity: Seminar
1 Course Unit

ARTH 756 Topics in Northern Renaissance Art
Topic varies. Spring 2016: Curatorial emphasis for graduate students about the rich collections of the Johnson Collection in the Philadelphia Museum of Art. Students will work together with the Johnson Collection curator, Christopher Atkins, researching all aspects of selected works: painting history, condition, bibliography, theme, and significance for sample catalogue entries. Some of these works will eventually go on display a year later in a Johnson Collection Centennial exhibition at the PMA, so the possibility of a publication may accrue to invaluable "insider" museum experience.
Taught by: Silver
Course not offered every year
Also Offered As: DTCH 601, DTCH 661, GRMN 679
Activity: Seminar
1 Course Unit

ARTH 752 Topics in Baroque Art
Topic varies.
Taught by: Silver
Course not offered every year
Activity: Seminar
1 Course Unit

ARTH 755 Topics in Baroque Art
Topic varies. This seminar will consider major themes in Northern art of the 16th and 17th centuries, essentially from Bruegel to Vermeer. The premise is that the Reformation altered certainties in knowledge and even in perception, especially in the wake of wars, newly discovered lands, changing science and collecting of Wonders. Among new imagery topics would include: melancholy, vanitas, witchcraft, travel images, and the status of the emblem as well as allegory. Students will select a topic for semester-long investigation and co-present a class with the instructor. No prerequisites; graduate students only.
Taught by: Silver
Course not offered every year
Also Offered As: DTCH 665
Activity: Seminar
1 Course Unit

ARTH 771 Topics in 19th Century Architecture
Topic varies. Fall 2017: This seminar will explore the exhilarating architectural environment of the period ca. 1750-1900, when a ferocious appetite for artistic invention was let loose in kitchen filled with new knowledge about the entire history of human architecture. Focusing on French, German, and English architecture, the seminar will examine major texts and study important monuments, all considered in their cultural and political contexts.
Taught by: Brownlee
Course not offered every year
Activity: Seminar
1 Course Unit

ARTH 772 Topics in Visual Culture
Topic varies.
Taught by: Leja
Course not offered every year
Activity: Seminar
1 Course Unit
ARTH 775 Topics in 19th Century European Art
Topic varies. Spring 2015: Despite the fact that one exhibition on Impressionism chases the next these days, the academic study of this crucial early modernist movement has slowed since the 1970s and 1980s, when new art historical paradigms (like feminism and the social history of art) were tested on Manet, Monet and their followers. This seminar seeks to understand this development but also countermand it by establishing an account of Impressionism that fits our current global, multimedia and multidisciplinary forms of humanistic thought. To this end, we will read those recent scholars who place Impressionism within new contexts that include the history of science and technology (visual perception, psychology, evolution, chemistry), political history and theory (republicanism, revolution, empire, nationalism), and consumer culture (fashion, capitalism). We will also go back to the movement’s early critics (like Laforgue and Geffroy), in order to appreciate their strange metaphoric languages (which saw in Impressionism, for instance, the seeds of social upheaval or the most advanced eye in human evolution) and make them newly useful for a 21st-century interpretation of Impressionism’s true intellectual heft and radical aesthetics. Taught by: Dombrowski Course not offered every year Activity: Seminar 1 Course Unit

ARTH 778 Topics in 19th Century European Art
Topic varies. Taught by: Leja, Shaw Course not offered every year Activity: Seminar 1 Course Unit

ARTH 781 Topics in 19th Century American Art
Topic varies. Taught by: Brownlee Course not offered every year Also Offered As: COML 603 Activity: Seminar 1 Course Unit

ARTH 783 Topics in Comparative Art History
Topic Varies. Spring 2015: A recent turn toward global and transnational paradigms is one of the few traits shared by modernist studies across multiple disciplines. Modernism Across Borders will take advantage of this commonality among diverse sites of inquiry, treating modernism as a transborder phenomenon while also probing the limitations and still-latent potential of such an approach. This experimental, interdisciplinary seminar will devote the first two hours of each three-hour class to discussion of readings in the study of modernism. The third hour will be devoted to a presentation and discussion of a work in progress a project either of a member of the course, or of a guest. Seminar discussions will be led by a number of Penn faculty. Conveners of the overall course are Christine Poggi and Kevin M. F. Platt. Students are encouraged to bring work in progress, either on the basis of past seminars or independent projects, to form the basis for their projects in this seminar. Course not offered every year Also Offered As: COML 683, ENGL 573, SLAV 683 Activity: Seminar 1 Course Unit

ARTH 786 Topics in 20th Century Art
Topic varies. Taught by: Poggi Course not offered every year Also Offered As: COML 786, ITAL 685 Activity: Seminar 1 Course Unit

ARTH 788 Topics in 20th Century American Art
Topic varies. Taught by: Leja, Shaw Course not offered every year Activity: Seminar 1 Course Unit

ARTH 793 Topics in Cinema and Media
Topic varies. Taught by: Beckman Course not offered every year Also Offered As: CIMS 793, ENGL 797, GSWS 793 Activity: Seminar 1 Course Unit

ARTH 794 Topics in Contemporary Art
Topic varies. Fall 2016: By 1842--three years after the official invention of photography--photographers had already begun hand-coloring their daguerreotypes, and a century and a half later Richter started smearing and spattering paint onto small photographs, and exhibiting them along with his abstract and figurative paintings. By the mid-1850’s, many artists were also painting from photographs, sometimes by projecting them onto their canvases, and treating these projections as preparatory drawings. They called the resulting images “photo paintings.” And although it became increasingly “disreputable” to work in this way as the century progressed, Eugene Delacroix, Gustave Courbet, Edouard Manet, Henri Fantin-Latour, Edgar Degas and Edouard Vuillard all made paintings that are in one way or another “photographic.” Some of them also saw photography as the gateway to a new kind of figurative painting. Taught by: Silverman Course not offered every year Also Offered As: COML 787, ENGL 778 Activity: Seminar 1 Course Unit

ARTH 796 Topics in Contemporary Art
Asian American Studies (ASAM)

ASAM 001 Asian Americans in Contemporary Society
This class will introduce you to sociological research of Asian Americans and engage in the "model minority" stereotype. We begin by a brief introduction to U.S. immigration history and sociological theories about assimilation and racial stratification. The class will also cover research on racial and ethnic identity, educational stratification, mass media images, interracial marriage, multiracials, transracial adoption, and the viability of an Asian American panethnic identity. We will also examine the similarities and differences of Asian Americans relative to other minority groups.
For BA Students: Society Sector
Taught by: Kao
One-term course offered either term
Also Offered As: SOCI 103
Activity: Lecture
1 Course Unit

ASAM 002 Asian American Literature
An overview of Asian American literature from its beginnings at the turn of the twentieth century to the present. This course covers a wide range of Asian American novels, plays, and poems, situating them in the contexts of Asian American history and minority communities and considering the variety of formal strategies these different texts take.
For BA Students: Arts and Letters Sector
Course not offered every year
Also Offered As: ENGL 072
Activity: Lecture
1 Course Unit

ASAM 003 Introduction to Asian American History
This course provides an introduction to the history of Asian/Pacific Americans, focusing on the wide diversity of migrant experiences, as well as the continuing legacies of Orientalism on American-born APA's. Issues of race, class, gender, and sexuality will also be examined.
For BA Students: History and Tradition Sector
Taught by: Azuma
One-term course offered either term
Also Offered As: HIST 155
Activity: Lecture
1 Course Unit

ASAM 006 Race and Ethnic Relations
This course is cross-listed with SOCI 006 when the subject matter is related to Asian Americans.
One-term course offered either term
Also Offered As: AFRC 006, SOCI 006, URBS 160
Activity: Lecture
1 Course Unit

ASAM 013 Freshman Seminar: Asian American History
This reading seminar will focus on how different groups of Asians interacted with each other in the context of early twentieth-century American society, especially in Hawaii and California. Such issues as ethnicity, complexity of race relations (as opposed to conventional black-white binarism), and the intricate entanglements of class and race will also be examined. Topics can change each semester. Please see our website for more current information: asam.sas.upenn.edu
Taught by: Azuma
One-term course offered either term
Also Offered As: HIST 104
Activity: Seminar
1 Course Unit

ASAM 100 Asian American Activism
Please see our website for more current information: asam.sas.upenn.edu
One-term course offered either term
Activity: Seminar
1 Course Unit

ASAM 160 South Asians in the United States
This course investigates the everyday practices and customs of South Asians in America. Every immigrant group has its own history, customs, beliefs and values, making each unique while simultaneously a part of the "melting pot" or salad bowl of American society. Yet how do people define themselves and their ethnicities living in a diasporic context? By taking into account the burgeoning South Asian American population as our model, this course will explore the basic themes surrounding the lives that immigrants are living in America, and more specifically the identity which the second generation, born and/or raised in American, is developing. South Asians in the U.S. will be divided thematically covering the topics of ethnicity, marriage, gender, religion, and pop culture. Reading and assignments will discuss a variety of issues and viewpoints that are a part of the fabric of South Asia, but will focus on the interpretation of such expressive culture in the United States.
Taught by: Khan
Course usually offered in fall term
Also Offered As: SAST 290
Activity: Lecture
1 Course Unit

ASAM 170 Asian American Psychology
Using a cultural perspective, this course is intended to provide knowledge of Asian American personality, identity, and its relationship to mental well-being; analyze psycho-social research pertinent to Asian Americans; and develop critical thinking skills on Asian American issues through experiential learning/discussions.
Course usually offered in spring term
Also Offered As: SAST 170
Activity: Seminar
1 Course Unit

ASAM 200 Multicultural Psychology
Please see our website for more current information: asam.sas.upenn.edu
Activity: Lecture
1 Course Unit

ASAM 201 Topics in Asian American Sociology
Topics vary. Please see our website for more current information: asam.sas.upenn.edu
One-term course offered either term
Also Offered As: COMM 201, SOCI 150, SOCI 231, URBS 215
Activity: Lecture
1 Course Unit

ASAM 202 Topics in Asian American Literature
Topics vary. Please see our website for more current information: asam.sas.upenn.edu
One-term course offered either term
Also Offered As: CIMS 272, ENGL 272
Activity: Seminar
1 Course Unit
ASAM 203 Topics in Asian American History
Topics vary. Please see our website for more current information:
asam.sas.upenn.edu
One-term course offered either term
Also Offered As: HIST 231
Activity: Seminar
1 Course Unit

ASAM 205 Asian American Communities
Who is Asian American and how and where do we recognize Asian America? This interdisciplinary course explores the multiple factors that define Asian American identity and community. In order to provide a sketch of the multifaceted experience of this growing minority group, we will discuss a wide variety of texts from scholarly, artistic, and popular (film, cinematic) sources that mark key moments in the cultural history of Asia America. The course will address major themes of community life including migration history, Asian American as model minority, race, class, and transnational scope of Asian America. In combination with the readings, this class will foster an independent research based on site visits to various Asian American communities in Philadelphia and will host community leaders as guest lecturers.
Taught by: Khan
One-term course offered either term
Also Offered As: URBS 207
Activity: Seminar
1 Course Unit

ASAM 212 Topics in Asian American Film
Topics vary. Please see our website for more current information:
asam.sas.upenn.edu
One-term course offered either term
Also Offered As: SAST 212
Activity: Lecture
1 Course Unit

ASAM 294 Facing America
This course explores the visual history of race in the United States as both self-fashioning and cultural mythology by examining the ways that conceptions of Native American, Latino, and Asian identity, alongside ideas of Blackness and Whiteness, have combined to create the various cultural ideologies of class, gender, and sexuality that remain evident in historical visual and material culture. We will also investigate the ways that these creations have subsequently helped to launch new visual entertainments, including museum spectacles, blackface minstrelsy, and early film, from the colonial period through the 1940s.
Taught by: Shaw
Also Offered As: AFRC 294, ARTH 274, ARTH 674, CIMS 293
Activity: Lecture
1 Course Unit

ASAM 354 American Expansion in the Pacific
This class will focus on America's expansion into the Pacific around the turn of the century with the acquisition of Hawaii and the Philippines. It can deal with various issues, including the meaning of "frontier," colonialism, development of capitalist economies in the region, diplomacy, racism, migration, an American brand of Orientalism in encountering the "natives" and "heathens," and histories of the West and the Pacific Islands in general.
Taught by: Azuma
One-term course offered either term
Also Offered As: HIST 354
Activity: Lecture
1 Course Unit

ASAM 590 Sociology of Education
This graduate seminar will introduce students to some of the key theoretical and empirical work in the sociology of education. We will examine how schools work to maintain or alleviate inequality, and focus on differences in educational achievement and attainment by race, ethnicity, immigrant status, class, and gender. We will review work on the educatational experiences of youth from early childhood to young adulthood.
Taught by: Kao
Course not offered every year
Also Offered As: SOCI 596
Activity: Seminar
1 Course Unit

Asian Languages (ALAN)

ALAN 110 Elementary Vietnamese I & II
An introduction to the language of North and South Vietnam. Instruction includes reading, writing, speaking and listening.
For BA Students: Language Course
Taught by: Nguyen
One-term course offered either term
Prerequisites: For the second semester, completion of the first semester or permission of the instructor.
Activity: Lecture
1 Course Unit
Notes: Offered through the Penn Language Center.

ALAN 120 Beginning Filipino I & II
An introduction to the spoken and written Tagalog (Filipino) language. This will prepare and develop students' basic skills in speaking, listening, reading and writing Filipino at its beginning level.
For BA Students: Language Course
Taught by: Juliano
Two terms. student must enter first term.
Prerequisites: For the second semester, completion of the first semester of ALAN 120 or permission of the instructor.
Activity: Lecture
1 Course Unit
Notes: Offered through the Penn Language Center.

ALAN 121 Beginning Filipino II
Activity: Lecture
1 Course Unit

ALAN 130 Beginning Thai I & II
An introduction to the spoken and written Thai language. For BA Students: Language Course Two terms. student must enter first term. Prerequisites: For the second semester, completion of the first semester or permission of the instructor.
Activity: Lecture
1 Course Unit
Notes: Offered through the Penn Language Center.

ALAN 131 Beginning Thai II
Two terms. student must enter first term. Activity: Lecture
1 Course Unit
**ALAN 210 Intermediate Vietnamese I & II**  
A continuation of ALAN 110, the written and spoken language of Vietnam.  
For BA Students: Language Course  
Taught by: Nguyen  
One-term course offered either term  
Prerequisites: ALAN 110 or equivalent. For the second semester, completion of the first semester or permission of the instructor.  
Activity: Lecture  
1 Course Unit  
Notes: Offered through the Penn Language Center.

**ALAN 220 Intermediate Filipino I & II**  
A continuation of ALAN 120, the spoken and written Tagalog (Filipino) language. This course will develop the communicative competence of the students in handling limited communicative tasks, reading simple connected texts and writing short dialogues.  
For BA Students: Last Language Course  
Taught by: Juliano  
Two terms. student must enter first term.  
Prerequisites: For the second semester, completion of the first semester of ALAN 220 or permission of the instructor.  
Activity: Lecture  
1 Course Unit  
Notes: Offered through the Penn Language Center.

**ALAN 230 Intermediate Thai I & II**  
A continuation of ALAN 130, the spoken and written Thai language.  
For BA Students: Language Course  
Two terms. student must enter first term.  
Prerequisites: The second semester of ALAN 130 or permission of the instructor. For the second semester, completion of the first semester or permission of the instructor.  
Activity: Lecture  
1 Course Unit  
Notes: Offered through the Penn Language Center.

**ALAN 231 Intermediate Thai II**  
Activity: Lecture  
1 Course Unit

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**Astronomy (ASTR)**

**ASTR 001 A Survey of the Universe**  
A general survey, designed for the non-major, of the facts and theories of the astronomical universe, from solar system, to stars, to galaxies and cosmology. Topics include planets, satellites, small objects in the solar system, and extraterrestrial life; stars, their evolution, and their final state as white dwarfs, neutron stars, or black holes; galaxies, quasars, large structures, background radiation, and big bang cosmology. Elementary algebra and geometry will be used. This course is not recommended for physical-science majors or engineering students. Engineering students receive no credit for this course. Fulfills quantitative data analysis requirement.  
For BA Students: Physical World Sector  
Course offered summer, fall and spring terms  
Activity: Lecture  
1 Course Unit  
Notes: Only one ASTR course below ASTR 211 may be taken for credit. Engineering students receive no credit for this course.

**ASTR 006 The Solar System, Exoplanets, and Life**  
A survey course on planets and life covering our own Solar System and exoplanets orbiting other stars. Topics include the latest results and theories about: the origin and evolution of planetary systems around our Sun and other stars; the detection of exoplanets; the implications of planetary atmospheres for life; and the search for life on other planets in our Solar System. This course is designed for the non-major and elementary algebra and geometry will be used. Physical science majors and engineering students should prefer ASTR 211 to this course.  
For BA Students: Natural Science and Math Sector  
One-term course offered either term  
Activity: Lecture  
1 Course Unit  
Notes: Also fulfills General Requirement in Physical World for Class of 2009 and prior. Only one ASTR course below ASTR 211 may be taken for credit. Fulfills quantitative data analysis requirement.

**ASTR 007 The Big Bang and Beyond**  
An introductory course for students who do not intend to major in a physical science or engineering, covering theories of the Universe ranging from the ancient perspective to the contemporary hot big bang model, including some notions of Einstein’s special and general theories of relativity. Topics will include the solar system, stars, black holes, galaxies, and the structure, origin and future of the Universe itself. Elementary algebra is used. Fulfills quantitative data analysis requirement.  
For BA Students: Natural Science and Math Sector  
One-term course offered either term  
Activity: Lecture  
1 Course Unit  
Notes: Also fulfills General Requirement in Physical World for Class of 2009 and prior. Only one ASTR course below ASTR 211 may be taken for credit.

**ASTR 211 Introduction to Astrophysics I**  
This is a basic course for majors in astronomy in other physical sciences, and in engineering covering fundamental knowledge of the solar system, its formation, properties of light and matter as they affect understanding astrophysical objects, and stellar structure and evolution including black holes.  
For BA Students: Physical World Sector  
Course usually offered in fall term  
Prerequisites: MATH 104, PHYS 150, or concurrently.  
Activity: Lecture  
1 Course Unit

**ASTR 212 Introduction to Astrophysics II**  
A basic course for majors in astronomy, in other physical sciences, and in engineering. Stars, galaxies, and the evolution of the universe.  
For BA Students: Physical World Sector  
Course usually offered in spring term  
Prerequisites: MATH 114, PHYS 151, or concurrently.  
Activity: Lecture  
1 Course Unit
ASTR 250 Astronomical Techniques
Topics: spherical astronomy, timekeeping/coordinate systems, astrostatistics, telescopes, CCD’s, signal processing, imaging, and data reduction using scientific software, brief introduction to radio astronomy. Three daytime lectures each week plus evening labs in smaller groups. Attendance at one lab session per week is required by each student. Actual observing times may not correspond to the scheduled block due to the uncertainty and unpredictability of weather conditions. Requires substantial out-of-class time dedication and commitment to sharing work in small groups.
Course not offered every year
Prerequisites: ASTR 001, or ASTR 007, or ASTR 211, or ASTR 212. If a student has only taken ASTR 001 or ASTR 007, MATH 240-241 will also be required.
Activity: Lecture
1 Course Unit
Notes: The observatories at DRL are used for experimental and observational practice.

ASTR 392 Life and Death of Stars
This is an advanced undergraduate course on the life and death of stars. The course will cover the structure of stellar interiors, nuclear reactions and the formation of elements, stellar evolution, supernovae, and the physics of white dwarfs, neutron stars, and black holes. We will approach these topics from both theoretical and observational perspectives.
One-term course offered either term
Activity: Lecture
1 Course Unit

ASTR 503 Astronomical Methods and Instrumentation
Techniques of modern astronomical observations, including: detection of light from the radio through gamma rays; sources of noise in astronomical measurements; image analysis and reduction techniques; telescope optics and adaptive optics; spectroscopic measurements; radio interferometry and spectroscopy.
Course not offered every year
Activity: Lecture
1 Course Unit

ASTR 533 Galaxies: Structure, Dynamics and Formation
Galactic structure and dynamics. Observed scaling relations. Models and observations of galaxy formation and evolution. Enrollment restricted to graduate students.
Course not offered every year
Activity: Lecture
1 Course Unit

BENG 403 Beginning Bengali Part I
This course introduces students to colloquial Bengali. It gives equal emphasis to each of the four skills, reading, writing, listening, and speaking. Language will be studied in the context of socio-cultural aspects of West Bengal and Bangladesh. Besides lessons from the text, a major portion of the syllabus will be based on topics drawn from films, cultural events, festivals, food, and religion.
For BA Students: Language Course
Taught by: Banerjee
Course usually offered in fall term
Prerequisites: Beginning Bengali Part I or equivalent ascertained through placement test or permission of instructor.
Activity: Seminar
1 Course Unit

BENG 404 Beginning Bengali Part II
This course introduces students to colloquial Bengali. It gives equal emphasis to each of the four skills, reading, writing, listening, and speaking. Language will be studied in the context of socio-cultural aspects of West Bengal and Bangladesh. Besides lessons from the text, a major portion of the syllabus will be based on topics drawn from films, cultural events, festivals, food, and religion.
For BA Students: Language Course
Taught by: Banerjee
Course usually offered in spring term
Prerequisites: Beginning Bengali Part I or equivalent ascertained through placement test or permission of instructor.
Activity: Seminar
1 Course Unit

BENG 423 Intermediate Bengali Part I
This course develops the student's prior knowledge of Bengali. An attempt is made to gear the syllabus to meet the specific needs of students. The focus of the course is to develop the oral and aural skills of the learner as well as improve writing skills and reading strategies. Emphasis is also laid on increasing the sociolinguistic and strategic competence of the learners so that they will be able to function in the target culture. Besides discussions on various aspects of Bengali life, students read some short literary texts in the original Bengali version.
For BA Students: Last Language Course
Taught by: Banerjee
Two terms. student must enter first term.
Activity: Lecture
1 Course Unit

BENG 424 Intermediate Bengali Part II
This course develops the student's prior knowledge of Bengali. An attempt is made to gear the syllabus to meet the specific needs of students. The focus of the course is to develop the oral and aural skills of the learner as well as improve writing skills and reading strategies. Emphasis is also laid on increasing the sociolinguistic and strategic competence of the learners so that they will be able to function in the target culture. Besides discussions on various aspects of Bengali life, students read some short literary texts in the original Bengali version.
For BA Students: Last Language Course
Taught by: Banerjee
Course usually offered in spring term
Prerequisites: Intermediate Bengali Part I or equivalent ascertained through placement test or permission of instructor.
Activity: Seminar
1 Course Unit
BENG 433 Advanced Bengali
The objective of this course is to develop the proficiency level of the students in all the four skills by using different genres of Bengali literature (West Bengal and Bangladesh) as its course content. Reading comprehension will be enhanced as students learn to understand authentic texts at the linguistic and cultural level while discussion (description, narration, supporting opinion) on issues related to these texts aim to hone the oral and written skills. Students will be allowed to work on individual texts & topics (with the instructors permission) for their final project. This is a one semester course. Spring: Bengali Popular Culture - This course aims to use as its content, different aspects of popular Bengali culture as they are represented in media (film, television, magazines, newspapers) and arts (fashion, local and regional art, music). Students will be expected to develop their linguistic skills (description, narration, supporting opinion) and socio-cultural awareness while interacting with these varied types of texts. Students will be allowed to work on individual texts & topics (with the instructors permission) for their final project. This is a one semester course.
For BA Students: Advanced Language Course
Taught by: Banerjee.S
Course not offered every year
Activity: Lecture
1 Course Unit

Biochemistry (BCHE)

BCHE 299 Undergraduate Research Projects
Independent Research.
One-term course offered either term
Activity: Independent Study
1 Course Unit
Notes: 10-20 h., 1-2 c.u., admission by permission of the biochemistry undergraduate chairman.

BCHE 300 Senior Research Projects
One-term course offered either term
Activity: Independent Study
1 Course Unit
Notes: 10-20 h., 1-2 c.u., admission by permission of the biochemistry undergraduate chairman.

BCHE 404 Biochemistry Laboratory
Participation in research projects in the laboratories of individual faculty members. A list of possible research supervisors is available in the Biochemistry office (351 Chemistry). In addition to their laboratory projects, students will attend a weekly seminar in which their own and related work will be discussed.
Two terms. student must enter first term.
Activity: Seminar
1 Course Unit
Notes: Year long course - initial registration must occur in Fall term, 0 c.u. for first term and 2 c.u. for second term, 15h. CHEM 451 or permission of instructor required.

BCHE 580 Biological Physics
One-term course offered either term
Also Offered As: PHYS 580
Prerequisites: Physics 150-151 or 170-171, Math 104-114 or Math 104-115. Recommended: concurrent Physics 230 or prior Physics 250, basic background in chemistry and biology.
Activity: Lecture
1 Course Unit

Biochemistry and Molecular Biophysics (BMB)

BMB 508 Macromolecular Biophysics: Principles and Methods
This course introduces students to the physical and chemical properties of biological macromolecules, including proteins and nucleic acids. It surveys the biophysical techniques used to study the structure and thermodynamics of macromolecules. It is intended to be a first course for graduate students with an undergraduate background in either physics, chemistry or biology, and no necessary background in biochemistry.
Taught by: Sharp
Course usually offered in fall term
Prerequisite: Senior undergraduate or graduate level biochemistry or biophysics
Activity: Lecture
1 Course Unit

BMB 509 Structural and Mechanistic Biochemistry
The course will focus on the key biochemical task areas of living cells. The course progresses from primarily molecular level events, such as storage and translation of genetic information, creation, control and removal of proteins, to higher organization levels such as metabolic pathways, signaling pathways, regulation and homeostasis. Each section will cover structure details of the relevant molecules, appropriate binding/catalysis events, regulatory aspects, and how they fit into the relevant pathway(s) and cell function. Material will be covered with a combination of formal lectures and student presentations.
Taught by: Van Duyne
Course usually offered in spring term
Prerequisites: BMB 508 and BIOM 600 or permission of course director.
Activity: Lecture
1 Course Unit

BMB 518 Protein Conformation Diseases
Protein misfolding and aggregation has been associated with over 40 human diseases, ranging from Alzheimer's disease, Parkinson's disease, amyotrophic lateral sclerosis, prion diseases, alpha(1)-antitrypsin deficiency, inclusion body myopathy, and systemic amyloidosis. This course will include lectures, directed readings and student presentations to cover seminal and current papers on the cell biology of conformational diseases including topics such as protein folding and misfolding, protein degradation pathways, effects of protein aggregation on cell function, model systems to study protein aggregation and novel approaches to prevent protein aggregation.
Taught by: Argon and Ischiropoulos
Course offered fall; odd-numbered years
Also Offered As: CAMB 615, NGG 615
Prerequisite: BIOM 600 or equivalent
Activity: Lecture
1 Course Unit
BMB 554 Macromolecular Crystallography: Methods and Applications
This is an introductory course on methods and applications of macromolecular structure determination using X-ray crystallography. The course will be broken up into three parts: 1) Principles of X-ray crystallography involving didactic lectures on the technique with weekly problem sets; 2) Workshops on macromolecular structure determination involving hands-on experience with the technology; 3) Student "journal club" presentations on current high impact publications involving X-ray crystal structure determination.
Taught by: Marmorstein and Skordalakes
Course usually offered in fall term
Also Offered As: CHEM 555
Prerequisites: Undergraduate calculus and trigonometry
Activity: Lecture
1 Course Unit

BMB 560 Methods of Scientific Inquiry in Biological Systems
The foundational, social and methodological aspects of scientific reasoning in biomedical disciplines are discussed, including: 1) theories, laws, causal/functional explanation and experimental methodology in biology and medicine; 2) case studies in selected fields of biomedical sciences with special regards to strategies in concept and hypothesis formation, discovery, gathering evidence and testing, and 3) social and moral factors pertinent to the research enterprise.
Taught by: Wilson and Domotor
Course usually offered in spring term
Prerequisite: Graduate students in biological sciences or permission of instructors
Activity: Lecture
1 Course Unit

BMB 567 Bioinorganic Chemistry
This course covers selected topics in bioinorganic chemistry. Special emphasis is placed on dioxygen chemistry and electron transfer processes. Course topics include: 1) oxygen uptake and utilization; 2) oxygen transport; 3) oxygen and O atom incorporation into substrates; 4) metalloenzyme-catalyzed C-C bond formation; 5) the metallobiochemistry of DNA; 6) metal-sulfide proteins; 7) manganese containing metalloproteins; 8) photosystem II, light-driven electron transfer and the biological water-splitting reaction; 9) biological electron transfer; 10) electron transfer theory; 11) mechanisms of energy storage and release; and 12) long-distance electron transfer reactions.
Taught by: Dmochowski
One-term course offered either term
Also Offered As: CHEM 567
Activity: Lecture
1 Course Unit

BMB 581 Techniques of Magnetic Resonance Imaging
Detailed introduction to the physics and engineering of magnetic resonance imaging as applied to medical diagnosis. Covered are magnetism, spatial encoding principles, Fourier analysis, spin relaxation, imaging pulse sequences and pulse design, contrast mechanisms, chemical shift, flow encoding, diffusion and perfusion and a discussion of the most relevant clinical applications.
Taught by: Song and Wehrli
Course offered spring; odd-numbered years
Also Offered As: BE 581
Activity: Lecture
1 Course Unit

BMB 585 Wistar Institute Cancer Biology Course: Signaling Pathways in Cancer
This course is intended to provide foundational information about the molecular basis of cancer. When necessary the significance of this information for clinical aspects of cancer is also discussed. The main theme centers around cell cycle checkpoints with specific emphasis on the biochemistry and genetics of DNA damage signaling pathways, DNA damage checkpoints, mitotic checkpoints and their relevance to human cancer. The course is taught by the organizers and guest lecturers from universities and research institutions in the Northeast. Following every lecture, students present a research paper related to the topic of that lecture. The course is intended for first and second year graduate students but all graduate students are welcome to attend.
Taught by: Skordalakes and Murphy
Course usually offered in fall term
Also Offered As: GCB 585
Prerequisites: Undergraduates and Master’s degree candidates require permission from the course directors
Activity: Lecture
1 Course Unit

BMB 598 Tutorial
The tutorial course is designed for in-depth study of a specific topic thorough one-on-one meetings and discussions between the student and a selected BMB faculty member. The intent of the course is to broaden the students knowledge, thus the tutorial may not be taken with the student’s current rotation advisor or thesis advisor. Choice of faculty member and topic is by prior mutual agreement between the student and faculty member, subject to approval by the course director. Student and faculty member will typically meet for an hour or so 2-3 times per week. The course may take the form of literature study, or where appropriate, a mini-project (typically computer-based) A tutorial can be used by students to become more deeply acquainted with the literature related to their thesis project or to help prepare students for their Candidacy Exam. Upon completion of the tutorial, students must prepare a written description of the area studied (5-10 typewritten pages)
Taught by: Kim Sharp and staff
Course offered summer, fall and spring terms
Activity: Independent Study
1 Course Unit

BMB 601 Fundamentals of Magnetic Resonance
This course introduces basic theoretical and experimental concepts of magnetic resonance and its applications in biochemistry, biology and medicine. Topics covered include description of the phenomenon of magnetic resonance, and classical and quantum strategies to compute nuclear spin responses in liquids, solids and biological tissues, polarization transfer and multiple quantum effects and their applications in biomedicine. Nuclear spin relaxation in solid-state materials and in biological systems will be discussed. Concepts of magnetic resonance imaging, imaging strategies, image contrast, and diagnostic applications are discussed. The course includes several practicals dealing with the demonstration of NMR hardware and experiments to compute basic NMR parameters on high resolution and clinical MRI scanners. For further details of this course, visit www.mmrrcc.upenn.edu
Taught by: Reddy
Course offered fall; odd-numbered years
Activity: Lecture
0.5 Course Units
BMB 602 Imaging Biomarkers
Introduction to principles of imaging based biomarkers for studying metabolic and functional integrity of biological tissues in vivo. Topics covered include a general overview of multimodal imaging biomarkers and a special emphasis on theoretical and practical aspects of MRI biomarkers based on magnetic resonance relaxation, chemical exchange, and metabolic spectroscopy as well as functional responses and their applications in diagnostic imaging of different diseases.
Taught by: Reddy (course director), Borthakur, Elliot, Hariharan
Course offered spring; odd-numbered years
Prerequisites: BMB 601 or permission of course director; students with prior NMR and MRI background will be given priority.
Activity: Lecture
0.5 Course Units
Notes: Course meets for eight weeks (1/2 credit)

BMB 605 Drug Discovery and Development
This course will expose graduate-level students to the process of drug discovery and development. The course will be structured to cover topics from the identification of a disease-relevant target through to Phase III Clinical Trials. The course will be lecture based and there will also be student-led journal club presentations as part of the course. There will also be a writing project consisting of a 3 page proposal of how to advance one of the areas of Drug Discovery & Development covered in the course.
Taught by: Dr. Ben E. Black, UPenn and Dr. Craig A. Leach, GlaxoSmithKline
Course usually offered in spring term
Activity: Lecture
1 Course Unit
Notes: 2 X 1.5 hr sessions per week

BMB 618 Applications of High Resolution NMR Spectroscopy to Problems in Structural Biology
A lecture-based course designed to introduce graduate students to applications of modern high-resolution multinuclear and multidimensional NMR spectroscopy to problems in structural biology. The course will first introduce classical definitions and descriptions of nuclear magnetic resonance and a convenient formalism for the analysis of advanced NMR experiments. Concepts and applications of multidimensional homonuclear 1H NMR and multidimensional heteronuclear spectroscopy of proteins and nucleic acids will be described. Resonance assignment strategies including analysis of triple resonance spectroscopy will be covered. The origin, measurement and extraction of structural restraints and their use in structure determination will be surveyed and illustrated with recent examples.
Taught by: Wand
Course offered fall; odd-numbered years
Prerequisites: Undergraduate biochemistry and physical chemistry and BMB 601, or permission of instructor
Activity: Lecture
0.5 Course Units
Notes: Course meets for 8 weeks and is offered for 1/2 credit

BMB 619 Protein Folding
Introduction to the folding of mainly soluble proteins but also membrane proteins. Critical readings in the current literature and important earlier literature. Class discussion of papers from the literature with didactic lectures as required. Exposure to principles and use of equilibrium, kinetics, thermodynamics and the range of biophysical technologies as they occur in the scientific literature.
Taught by: Axelsen and Englander
Course offered spring; even-numbered years
Activity: Lecture
0.5 Course Units
Notes: Course meets for 8 weeks and is offered for 1/2 credit.

BMB 622 Physical Principles of Mechano-Enzymes
This course will provide an introduction to the biochemical, structural, and mechanical properties of energy-transducing enzymes. We will emphasize the relationships of mechanical, thermal, and chemical forces in mechano-enzyme function.
Taught by: Dominguez, Goldman, Grishchuk and Ostap
Course offered spring; even-numbered years
Prerequisite: Biochemistry
Activity: Lecture
0.5 Course Units
Notes: Course meets for 8 weeks and is offered for 1/2 credit.

BMB 624 Molecular and Physical Basis of Ion Channels
The course is a journal club format, targeted to graduate and MD/PhD students interested in ion channels from graduate programs in Physiology, Pathology, Neuroscience, Pharmacology, Biochemistry & Molecular Biophysics. It meets for one hour, once a week on alternate weeks and is coupled to the Ion Channel Journal Club, which also meets for one hour on the same alternate weeks (9:30-10:30 a.m., Thursdays, B400 Richards Building). A faculty member meets with students to discuss and review the contents of each selected article early in the week in preparation for the subsequent Journal Club presentation. This elective course is meant to introduce students to the latest advances in ion channel research and includes topics extending from biophysics, structure, and physiology to cell biology and medical applications.
Taught by: Kallen
Course offered spring; odd-numbered years
Activity: Lecture
0.5 Course Units
Notes: Course meets all semester (half time) for 1/2 credit.

BMB 626 Mass Spectrometry and Proteomics
This course will provide a detailed introduction to proteomics and mass spectrometry. The role of mass spectrometry in both characterizing proteins for traditional protein structure-function studies and identification of proteins in proteome studies will be emphasized. Targeted and global proteomes, quantitative protein profiling and compositional proteomics, and applications of proteome studies will be discussed. Intended for first and second year graduate students and others with an interest in proteomics and mass spectrometry.
Taught by: Speicher and Garcia
Course offered spring; even-numbered years
Activity: Lecture
0.5 Course Units
Notes: Course meets for 8 weeks and is offered for 1/2 credit.
BMB 627 Computer Programming for Biochemists and Biophysicists
An introductory course on programming and algorithms for scientists with an emphasis on applications to biophysics. Students will learn to write, debug, and execute basic programs through lectures, in-class workshops, and programming projects outside of class.
Taught by: Sharp and Van Duyne
Prerequisites: Permission of instructor for nonBMB students.
Activity: Lecture
0.5 Course Units
Notes: Course meets for eight weeks and is offered for 1/2 credit.

BMB 628 Principles of Scientific Instruments
Proper use of the tools of one’s trade is essential to quality assurance. General confidence in the infallibility of even simple scientific instruments (SI) can be the cause of serious misapplication of research effort. This course teaches how to think about and use all SI’s intelligently. It reviews first principles of instrument detection, selection, operation, calibration, truth-testing, trouble shooting and data analysis. Error appraisal and avoidance are analyzed using common laboratory examples. Anyone who cares is welcome. And we should all care. Emphasis sculpted to student needs.
Taught by: Liebman
Course offered spring; even-numbered years
Activity: Lecture
0.5 Course Units
Notes: Course meets for eight weeks and is offered for 1/2 credit.

BMB 629 Quantitative Problems in Biochemistry
Students will be assigned problems in a range of topics, including thermodynamics, enzyme kinetics, redox potentials, and will present their answers in class. This course is intended to complement material covered in BMB 508 and 509, providing a rigorous review of quantitative methods.
Taught by: Kallen
Course offered fall; even-numbered years
Activity: Lecture
0.5 Course Units
Notes: Course meets for 8 weeks for 1/2 credit.

BMB 632 Probing Structure and Function of Complex RNA-Protein Machines
RNA-Protein complexes or RNPs can range from simple assemblies to megadalton enzymatic machines. The latter include two of the most abundant and essential enzymatic complexes for converting genes to functional protein -the ribosome and the spliceosome. Understanding the molecular interactions that hold these RNPs together and how these complexes function has required the development of new techniques and pushed the boundaries of quantitative biochemistry. In this course we will take an in-depth look at general concepts common to many RNA binding proteins, the methods used to study protein-RNA and RNA-RNA interactions, and how the complex nature of large RNPs uniquely allow them to achieve their precise functions. The course will be a combination of both lectures and student-lead discussion of recent literature. Students will be evaluated based on their presentations of primary literature and their participation in class discussion.
Taught by: Lynch
Course offered fall; even-numbered years
Activity: Lecture
1 Course Unit

BMB 650 Current Biochemical Topics
Participation in the "Dr. George W. Raiziss Biochemical Rounds", a weekly seminar program sponsored by the Department of Biochemistry and Biophysics. Program deals with a wide range of modern biochemical and biophysical topics presented by established investigators selected from our faculty, and by leading scientists from other institutions.
Taught by: Black and Shorter
Course offered summer, fall and spring terms
Also Offered As: CAMB 702, PHRM 650
Prerequisite: Permission needed from Department
Activity: Seminar
1 Course Unit

BMB 699 Laboratory Rotation
Supervised "mini-projects" for graduate students in Biochemistry and Molecular Biophysics. End of the semester requirements are 1) poster presentations; 2) written rotation summaries; or 3) talks. Course is offered fall, winter, spring, and summer semesters.
Taught by: Kohli
Course offered summer, fall and spring terms
Activity: Laboratory
1 Course Unit

BMB 705 Candidacy Exam Preparation Course
This course is designed for second year BMB students to prepare them for the Candidacy Examination, which must be completed in the spring semester of the second year.
Taught by: Marmorstein, Lynch and Nelson
Course usually offered in spring term
Activity: Seminar
0.5 Course Units
Notes: Course meets for 8 weeks at the beginning of the spring semester, for 1/2 credit.

BMB 751 Chemical Biology
One-term course offered either term
Also Offered As: CHEM 751
Activity: Lecture
1 Course Unit

BMB 799 Independent Study (Yrs 1 - 2)
Activity: Independent Study
1 Course Unit

BMB 899 Pre-Dissertation Lab
One-term course offered either term
Activity: Independent Study
1 Course Unit

BMB 990 Master's Thesis Research
One-term course offered either term
Activity: Masters Thesis
1 Course Unit
Notes: See Department for section numbers

BMB 995 Dissertation Research
Activity: Dissertation
1 Course Unit
Notes: See Department for section numbers
Bioengineering (BE)

**BE 100 Introduction to Bioengineering**
Survey course introducing students to the breadth of bioengineering. Course consists of introductory lectures, guest speakers/panelists, and a series of small assignments that allow students to explore different facets of bioengineering and the Penn Bioengineering program. Course usually offered in fall term.
Corequisites: MATH 104, PHYS 140 or 150.
Activity: Lecture
0.5 Course Units
Notes: Freshmen Only.

**BE 101 Introduction to Bioengineering II**
Introduction to Bioengineering II. Continuation of the freshman introductory bioengineering course. This course introduces students to the design process and emphasizes its role in engineering. Course usually offered in spring term.
Prerequisite: BE 100
Activity: Lecture
0.5 Course Units
Notes: Freshmen Only

**BE 200 Introduction to Biomechanics**
This course investigates the application of statics and strength of materials to soft and hard biologic tissues. The course will cover simple force analyses of the musculoskeletal system and introduces the fundamentals of the mechanics of materials including axial loading, torsion and bending and their application to biomechanics. The lecture and recitation will be complemented with hands-on examples emphasizing connections between theoretical principles and practical applications.
Course usually offered in fall term.
Prerequisites: MATH 114, PHYS 140, or PHYS 150
Corequisite: MATH 240
Activity: Lecture
1 Course Unit

**BE 220 Biomaterials**
This course investigates the application of materials science and engineering to biomedical applications, with a focus on polymers, ceramics, and metals. The course will cover concepts related to basic material fabrication and synthesis, structure and property characterization, as well as applications of biomaterials. The lecture and recitation will be complemented with laboratory examples of material assessment and characterization.
Course usually offered in spring term.
Prerequisites: BE 200, CHEM 102
Activity: Lecture
1 Course Unit

**BE 225 Technology and Engineering in Medicine**
The course is appropriate for engineering and natural science majors including premeds. The prerequisites will not be waived. This course will provide an examination of technology with emphasis on engineering design and its impact on medicine and health. Planned topics change from year to year and include, for example, cochlear implants and visual sensory rehabilitative devices. The course includes homework and reading assignments. Every student presents a paper on a relevant biomedical technology and the underlying science and engineering design.
One-term course offered either term.
Prerequisites: Math 114, Physics 140 and 141 or Physics 150 and 151 or Physics 170 and 171; sophomore and higher only.
Activity: Seminar
1 Course Unit

**BE 301 Bioengineering Signals and Systems**
Properties of signals and systems; Examples of biological and biomedical signal and systems; Signal operations, continuous and discrete signals; Linear, time invariant systems; Time domain analysis; Systems characterized by linear constant-coefficient differential equations; Fourier analysis with applications to biomedical signals and systems; Introduction to filtering; Sampling and the sampling theorem. Examples vary from year to year, but usually include signals such as the ECG and blood pressure wave, principles of signal coding in the auditory system and cochlear implants, and simple applications in biomedical imaging.
One-term course offered either term.
Prerequisites: MATH 241, PHYS 141 OR 151, ENGR 105 can be taken as a prerequisite or corequisite.
Activity: Lecture
1 Course Unit

**BE 305 Engineering Principles of Human Physiology**
This course presents a quantitative, biophysical approach to physiology, focusing on the nervous, cardiovascular, and pulmonary systems. We will also emphasize computational modeling and analysis of physiological systems.
Course usually offered in spring term.
Prerequisites: MATH 241 and ENGR 105 (or equivalent).
Activity: Lecture
1 Course Unit
BE 306 Molecular Physiology and Cellular Engineering from Atoms to Disease
This course explores physical biology of the cell across several length and timescales, while simultaneously emphasizing molecular specificity and clinical implications such as disease outcome or biomedical applications. The course emphasizes how quantitative models can help refine our understanding of existing biological data and also be used to make useful clinical predictions. The course blends traditional models in cell biology with the quantitative approach typical in engineering, in order to introduce the student to both the possibilities and boundaries of the emerging field of physical systems biology. While teaching physical model building in cell biology through a practical, case-study approach, the course explores how quantitative modeling based on engineering principles can be used to build a more profound, intuitive understanding of cell biology. Lab modules will be embedded in the lectures and all labs will be in silico (or computational) in nature.
Course usually offered in fall term
Prerequisites: CHEM 102, MATH 241, PHYS 140/141, BIOL 121
Activity: Lecture
1 Course Unit

BE 309 Bioengineering Lab I
BE 309 is a one course-unit laboratory course with a focus on combining experimental and mathematical approaches to understand biological systems and solve bioengineering problems. The course content integrates concepts from mathematics, physics, signal analysis, control engineering, mass transport, and heat transfer with applications in physiology and pharmacology. Areas of emphasis are model development and validation, statistical analysis, experimental design, error analysis and uncertainty, and scientific writing.
Course usually offered in fall term
Prerequisites: ENGR 105, PHYS 141 or PHYS 151, MATH 240, BE 200, BE 220, ENM 375 or equivalent.
Activity: Lecture
1 Course Unit

BE 310 Bioengineering Lab II
BE 310 is a one course-unit laboratory course on the design of technology to measure and control biological systems. The course is divided into four modules: (i) microfluidics for point of care diagnostics, (ii) synthetic biology for predicting cellular behavior, (iii) electronics and signal analysis of bioelectrical signals, and (iv) bioanalytical spectroscopy for low-cost diagnostics. Each module will have two components: (i) a series of structured learning exercises to teach key concepts and methods of the topic that we are studying, and (ii) a design challenge, in which the understanding gained in the first component is used to design a solution to an open ended bioengineering challenge.
Course usually offered in spring term
Prerequisites: ENGR 105, PHYS 141/151, BE 220, BIOL 121/123, MATH 240, ENM 375 (or equivalent)
Corequisites: MATH 241, BE 301
Activity: Laboratory
1 Course Unit

BE 324 Chemical Basis of Bioengineering II
Advanced topics in physical chemistry including solution and colloid chemistry, electrochemistry, surface phenomena, and macromolecules applied to biological systems.
Course usually offered in fall term
Prerequisites: PHYS 140, 141 or 150, 151, MATH 240, CHEM 101, 102
Activity: Lecture
1 Course Unit

BE 330 Soft Materials
Soft matter is found in diverse applications including sports (helmets & cloths); food (chocolate, egg); consumer products (e.g., lotions and shampoo); and devices (displays, electronics). Whereas solids and liquids are typically hard and crystalline or soft and fluid, respectively, soft matter can exhibit both solid and liquid like behavior. In this class, we investigate the thermodynamic and dynamic principles common to soft matter as well as soft (weak) forces, self-assembly and phase behavior. Classes of matter include colloidal particles, polymers, liquid crystalline molecules, amphiphilic molecules, biomacromolecules/membranes, and food. About four active learning activities will be included.
One-term course offered either term
Also Offered As: MSE 330
Prerequisites: CHEM 102 or equivalent; MSE 220 or BE 220 or introductory physical chemistry course.
Activity: Lecture
1 Course Unit

BE 350 Introduction to Biotransport Processes
Introduction to basic principles of fluid mechanics and of energy and mass transport with emphasis on applications to living systems and biomedical devices.
Course usually offered in spring term
Prerequisites: MATH 240, PHYS 140 or 150, BE 200
Activity: Lecture
1 Course Unit

BE 400 Preceptorship in Clinical Bioengineering
Introduction to the integration of biomedical engineering in clinical medicine through lectures and a preceptorship with clinical faculty. This course is for BE majors ONLY, with preference given to BSE students.
Course usually offered in spring term
Activity: Lecture
1 Course Unit
Notes: Junior and Senior BE majors only

BE 440 Biomolecular and Cellular Engineering
This course will introduce concepts and methods for the quantitative understanding of molecular and cellular phenomena. Topics include molecular recognition, receptor-ligand binding, viral infection, signal transduction, cell adhesion, motility, and cytoskeletal dynamics. The course requires mathematics at the level of differential equations, and some knowledge of Matlab programming. A basic knowledge of cell biology is suggested, although not required.
One-term course offered either term
Also Offered As: BE 540
Activity: Lecture
1 Course Unit
BE 441 Engineering Microbial Systems
This course is designed to expose students to the principles underlying engineering microbial systems. The fundamentals of DNA, RNA, and proteins will be reviewed. An emphasis will be placed on recombinant DNA technologies, mutagenesis, cloning, gene knockouts, altered gene expression and analysis, with practical real world examples of their application. Throughout this course we will also focus on case studies and critical literature evaluation.
One-term course offered either term
Prerequisite: BIOL 121
Activity: Lecture
1 Course Unit

BE 455 Continuum Biomechanics
Continuum mechanics with applications to biological systems. Fundamental engineering conservation laws are introduced and illustrated using biological and non-biological examples. Kinematics of deformation, stress, and conservation of mass, momentum, and energy. Constitutive equations for fluids, solids, and intermediate types of media are described and applied to selected biological examples. Class work is complemented by computational laboratory experiences.
Course usually offered in fall term
Also Offered As: MEAM 455
Prerequisite: Math through 241; BE 200 or MEAM 210; BE 350 or MEAM 302
Activity: Lecture
1 Course Unit

BE 470 Medical Devices
Lab-based course where students learn the fundamentals of medical device design through hands-on projects using microcontrollers. Students first learn basic design building blocks regularly employed in microcontroller-based medical devices, and then carry out a small design project using those building blocks. Projects are informed by reverse-engineering of competing products, FDA regulations, and marketplace considerations.
Course usually offered in spring term
Prerequisites: Junior or Senior BE Majors only, ENGR 105, permission of the instructor
Activity: Laboratory
1 Course Unit
Notes: Students who have taken ESE 350 or a similar course may not enroll

BE 480 Introduction to Biomedical Imaging
Introduction to the mathematical, physical and engineering design principles underlying modern medical imaging systems including x-ray computed tomography, ultrasonic imaging, and magnetic resonance imaging. Mathematical tools including Fourier analysis and the sampling theorem. The Radon transform and related transforms. Filtered backprojection and other reconstruction algorithms. Bloch equations, free induction decay, spin echoes and gradient echoes. Applications include one-dimensional Fourier magnetic resonance imaging, three-dimensional magnetic resonance imaging and slice excitation.
Course usually offered in spring term
Prerequisite: BE 301 or ESE 325
Activity: Lecture
1 Course Unit

BE 483 Molecular Imaging
This course will provide a comprehensive survey of modern medical imaging modalities and the emerging field of molecular imaging. The basic principles of X-ray, ultrasound, nuclear imaging, and magnetic resonance imaging will be reviewed. The course will also cover concepts related to contrast media and targeted molecular imaging. Topics to be covered include the chemistry and mechanisms of various contrast agents, approaches to identifying molecular markers of disease, ligand screening strategies, and the basic principles of toxicology and pharmacology relevant to imaging agents.
Course usually offered in fall term
Also Offered As: BE 583, MMP 507
Prerequisites: MATH 241, BIOL 215 or BE 305
Activity: Lecture
1 Course Unit

BE 490 Independent Project in Bioengineering
An intensive independent study experience on an engineering or biological science problem related to bioengineering. Requires preparation of a proposal, literature evaluation, and preparation of a paper and presentation. Regular progress reports and meetings with faculty advisor are required.
One-term course offered either term
Prerequisites: Sophomore, Junior and Senior BE majors only
Activity: Independent Study
1 Course Unit

BE 492 Independent Project in Bioengineering
Second semester of an independent project.
One-term course offered either term
Prerequisites: Sophomore, Junior and Senior BE majors only.
Activity: Independent Study
1 Course Unit

BE 495 Senior Design Project
Group design projects in various areas of bioengineering. Project ideas are proposed by the students in the Spring semester of the Junior year and refined during the Fall semester. The course guides the students through choosing and understanding an impactful biomedical problem, defining characteristics of a successful design solution to eliminate or mitigate a problem or fulfill a need, identifying and prioritizing constraints, creatively developing potential design solutions, iteratively refining design options, defining and implementing an optimal solution, and evaluating how well the solution fulfills the need. Final oral and written reports are required. Also emphasized are teamwork, project management, time management, regulations/standards, and effective communication.
Course usually offered in fall term
Prerequisite: Seniors in BE or Department Permission
Activity: Lecture
1 Course Unit

BE 496 Senior Design Project
Second semester of a two semester design project.
Course usually offered in spring term
Prerequisite: Seniors in BE or Department Permission
Activity: Lecture
1 Course Unit
BE 497 Senior Thesis in Biomedical Science
An intensive independent project experience incorporating both technical and non-technical aspects of the student's chosen career path. Chosen topic should incorporate elements from the student's career path electives, and may involve advisors for both technical and non-technical elements. Topics may range from biomedical research to societal, technological and business aspects of Bioengineering. A proposal, regular progress reports and meetings with a faculty advisor, a written thesis, and a presentation are required.
Course usually offered in fall term
Prerequisites: Seniors in BAS or Department Permission.
Activity: Lecture
1 Course Unit

BE 498 Senior Thesis in Biomedical Science
Second semester of a year-long project.
Course usually offered in spring term
Prerequisite: Seniors in BAS or Department Permission
Activity: Lecture
1 Course Unit

BE 502 From Biomedical Science to the Marketplace
This course explores, through own work (this is, own discovery) the transition from fundamental knowledge to its ultimate application in a clinical device or drug. Emphasis is placed upon factors that influence this transition and upon the integrative requirements across many fields necessary to achieve commercial success. Special emphasis is placed upon entrepreneurial strategies, intellectual property, and the FDA process of proving safety and efficacy.
Course usually offered in fall term
Prerequisite: Graduate students or permission of the instructor
Activity: Lecture
1 Course Unit

BE 504 Biological Data Science II: Data Mining Principles for Epigenomics
This course will teach upper level undergraduates and graduate students how to answer biological questions by harnessing the wealth of genomic and epigenomic data sets generated by high-throughput sequencing technologies.
Course usually offered in spring term
Prerequisites: General Chemistry, basic biomechanics
Activity: Lecture
1 Course Unit

BE 505 Quantitative Human Physiology
Introduction to human physiology using the quantitative methods of engineering and physical science. Emphasis is on the operation of the major organ systems at both the macroscopic and cellular level.
One-term course offered either term
Prerequisites: Graduate students or permission of the instructor.
Activity: Lecture
1 Course Unit

BE 507 Biomechanics and Biotransport
The course is intended as an introduction to continuum mechanics in both solid and fluid media, with special emphasis on the application to biomedical engineering. Once basic principles are established, the course will cover more advanced concepts in biosolid mechanics that include computational mechanics and bio-constitutive theory. Applications of these advanced concepts to current research problems will be emphasized.
Course usually offered in spring term
Prerequisites: MATH 241, BE 200, 350
Activity: Lecture
1 Course Unit

BE 512 Bioengineering III: Biomaterials
This course provides a comprehensive background in biomaterials. It covers surface properties, mechanical behavior and tissue response of ceramics, polymers and metals used in the body. It also builds on this knowledge to address aspects of tissue engineering, particularly the substrate component of engineering tissue and organs.
Course usually offered in spring term
Prerequisites: General Chemistry, basic biomechanics
Activity: Lecture
1 Course Unit

BE 513 Bioengineering Case Studies
BE 514 Rehab Engineering and Design
Students will learn about problems faced by disabled persons and medical rehabilitation specialists, and how engineering design can be used to solve and ameliorate those problems. The course combines lectures, multiple design projects and exercises, and field trips to clinical rehabilitation facilities. Students will have substantial interaction with clinical faculty, as well as with patients.
Course usually offered in fall term
Also Offered As: IPD 504
Prerequisite: Graduate students or permission of the instructor
Activity: Lecture
1 Course Unit

BE 515 Bioengineering Case Studies
This course has the unofficial title "What Makes Medical Technology Work?" We will examine biomedical devices and technologies with significant engineering components for use in breast cancer detection, for minimally invasive treatment of cancer and other disease, and applied neuroscience technologies for rehabilitation. Various factors that determine the success of particular medical systems will be discussed, including the "fit" of the technology with a medical need, testing for safety and efficacy, FDA premarket approval requirements, clinical studies used to assess the technology for evidence-based medicine. The class will examine successful and unsuccessful examples of these technologies. The course will require extensive reading of papers from the professional literature, group presentations and papers. BE seniors and graduate students are encouraged to enroll.
Course usually offered in fall term
Prerequisites: Graduate students or permission of the instructor.
Activity: Lecture
1 Course Unit
BE 518 Optical Microscopy
Course usually offered in spring term
Also Offered As: NGG 521
Prerequisites: BE 301 (Signals and Systems) or equivalent, computer programming experience, preferably MATLAB (e.g., as used the BE labs, BE 310). Some basic neuroscience background (e.g. BIOL 215, BE 305, INSC core course), or independent study in neuroscience, is required. This requirement may be waived based upon practical experience on a case by case basis by the instructor.
Activity: Lecture
1 Course Unit

BE 521 Brain-Computer Interfaces
The course is geared to advanced undergraduate and graduate students interested in understanding the basics of implantable neuro-devices, their design, practical implementation, approval, and use. Reading will cover the basics of neuro signals, recording, analysis, classification, modulation, and fundamental principles of Brain-Machine Interfaces. The course will be based upon twice weekly lectures and "hands-on" weekly assignments that teach basic signal recording, feature extraction, classification and practical implementation in clinical systems. Assignments will build incrementally toward constructing a complete, functional BMI system. Fundamental concepts in neurosignals, hardware and software will be reinforced by practical examples and in-depth study. Guest lecturers and demonstrations will supplement regular lectures.
Course usually offered in spring term
Also Offered As: CBE 541
Prerequisites: BE 301 (Signals and Systems) or equivalent, computer programming experience, preferably MATLAB (e.g., as used the BE labs, BE 310). Some basic neuroscience background (e.g. BIOL 215, BE 305, INSC core course), or independent study in neuroscience, is required. This requirement may be waived based upon practical experience on a case by case basis by the instructor.
Activity: Lecture
1 Course Unit

BE 530 Theoretical Neuroscience.
This course will develop theoretical and computational approaches to structural and functional organization in the brain. The course will cover: (i) the basic biophysics of neural responses, (ii) neural coding and decoding with an emphasis on sensory systems, (iii) approaches to the study of networks of neurons, (iv) models of adaptation, learning and memory, (v) models of decision making, and (vi) ideas that address why the brain is organized the way that it is. The course will be appropriate for advanced undergraduates and beginning graduate students.
Course usually offered in spring term
Also Offered As: PHYS S85
Prerequisites: Knowledge of multivariable calculus, linear algebra and differential equations is required (except by permission of the instructor). Prior exposure to neuroscience and/or Matlab programming will be helpful.
Activity: Lecture
1 Course Unit

BE 537 Biomedical Image Analysis
This course covers the fundamentals of advanced quantitative image analysis that apply to all of the major and emerging modalities in biological/biomaterials imaging and in vivo biomedical imaging. While traditional image processing techniques will be discussed to provide context, the emphasis will be on cutting edge aspects of all areas of image analysis (including registration, segmentation, and high-dimensional statistical analysis). Significant coverage of state-of-the-art biomedical research and clinical applications will be incorporated to reinforce the theoretical basis of the analysis methods.
Course usually offered in fall term
Also Offered As: CIS 537
Prerequisites: Math through multivariate calculus (MATH 241), programming experience, as well as some familiarity with linear algebra, basic physics, and statistics
Activity: Lecture
1 Course Unit

BE 540 Biomolecular and Cellular Engineering
This course will introduce concepts and methods for the quantitative understanding of molecular and cellular phenomena. Topics include molecular recognition, receptor-ligand binding, viral infection, signal transduction, cell adhesion, motility, and cytoskeletal dynamics. The course requires mathematics at the level of differential equations, and some knowledge of Matlab programming. A basic knowledge of cell biology is suggested, although not required.
One-term course offered either term
Also Offered As: BE 440, CBE 540
Prerequisites: Graduate students or permission of the instructor.
Activity: Lecture
1 Course Unit

BE 541 Engineering and Biological Principles in Cancer
This course provides an integrative framework and provides a quantitative foundation for understanding molecular and cellular mechanisms in cancer. The topics are divided into three classes: (1) the biological basis of cancer; (2) cancer systems biology; and (3) multiscale cancer modeling. Emphasis is placed on quantitative models and paradigms and on integrating bioengineering principles with cancer biology.
Course usually offered in spring term
Also Offered As: CBE 541
Prerequisite: Seniors in BE or permission of the instructor
Activity: Lecture
1 Course Unit

BE 546 Fundamental Techniques of Imaging I
This course covers the fundamentals of modern techniques in biological and in vivo biomedical imaging. This practical course consists of a series of hands-on lab exercises, covering major imaging modalities, but also extends to non-radiology modalities of interest in biological, pathological or animal imaging (e.g., optical imaging). Topics include x-ray, mammography, CT, proton therapy, radiation safety and brachytherapy. The emphasis will be on hands-on aspects of all areas of imaging and imaging analysis. Small groups of students will be led by a faculty member with technical assistance as appropriate.
Course usually offered in spring term
Prerequisites: Graduate students or permission of the instructor.
Activity: Lecture
1 Course Unit
BE 547 Fundamental Techniques of Imaging 2 (BE 483/583 or MMP 507 preferred).
This laboratory course covers the fundamentals of modern medical imaging techniques. Students will participate in a series of hands-on exercises, covering the principals of X-ray imaging, CT imaging, photoacoustic imaging, diffusion tensor imaging, localized magnetic resonance (MR) spectroscopy, MR contrast agents, diffuse optical spectroscopy, and bioluminescence imaging. Each lab is designed to reinforce and expand upon material taught in BE483/583 Molecular Imaging and MMP507 Physics of Medical Imaging
Course usually offered in spring term
Prerequisites: Graduate students or permission of the instructor.
Activity: Lecture
1 Course Unit

BE 551 Biomicrofluidics
The focus of this course is on microfluidics for biomedical applications. Topics to be covered in the first half of this course include microscale phenomena, small-scale fabrication techniques, and sensing technologies that are often leveraged in the development of microfluidic systems for the study of biomolecules, cells, tissues, and organs in living biological systems. In the second half of this course, strong emphasis will be placed on the application of microfluidics in cell biology, bioanalytical chemistry, molecular biology, tissue engineering, and drug discovery.
Course usually offered in fall term
Prerequisites: Experience with an undergraduate level fluid mechanics course is preferred. Examples of relevant SEAS courses include BE 350 (Biotransport), CBE 350 (Fluid Mechanics), and MEAM 302 (Fluid Mechanics).
Activity: Lecture
1 Course Unit

BE 553 Principles, Methods, and Applications of Tissue Engineering
Tissue engineering demonstrates enormous potential for improving human health. This course explores principles of tissue engineering, drawing upon diverse fields such as developmental biology, cell biology, physiology, transport phenomena, material science, and polymer chemistry. Current and developing methods of tissue engineering, as well as specific applications will be discussed in the context of these principles. A significant component of the course will involve review of current literature within this developing field.
Course usually offered in spring term
Prerequisite: Graduate Standing or instructor's permission
Activity: Lecture
1 Course Unit

BE 554 Engineering Biotechnology.
Advanced study of re DNA techniques; bioreactor design for bacteria, mammalian and insect culture; separation methods; chromatography; drug and cell delivery systems; gene therapy; and diagnostics.
Course usually offered in fall term
Also Offered As: CBE 554
Prerequisites: Graduate standing, Senior standing, Admitted Junior submatriculants
Activity: Lecture
1 Course Unit

BE 555 Nanoscale Systems Biology
Nano-science and engineering approaches to systems in biology are of growing importance. They extend from novel methods, especially microscopies that invite innovation to mathematical and/or computational modeling which incorporates the physics and chemistry of small scale biology. Proteins and DNA, for example, are highly specialized polymers that interact, catalyze, stretch and bend, move, and/or store information. Membranes are also used extensively by cells to isolate, adhere, deform, and regulate reactions. In this course, students will become familiar with cell & molecular biology and nanobiotechnology through an emphasis on nano-methods, membranes, molecular machines, and ‘polymers’ - from the quantitative perspectives of thermodynamics, statistical physics, and mechanics. We specifically elaborate ideas of energetics, fluctuations and noise, force, kinetics, diffusion, etc. on the nano- thru micro- scale, drawing from very recent examples in the literature. Laboratory experiments will provide hands-on exposure to microscopies in a biological context (eg. fluorescence down to nano-scale, AFM), physical methods (eg. micromanipulation, tracking virus-scale particles or quantum dots), and numerical problems in applied biophysics, chemistry, and engineering. A key goal of the course is to familiarize students with the concepts and technology (plus their limitations) as being employed in current research problems in nanoscale systems biology, extending to nanobiotechnology.
Course usually offered in fall term
Also Offered As: CBE 555, MEAM 555
Prerequisites: Background in Biology, Physics, Chemistry or Engineering with coursework in Thermodynamics or permission of the instructor.
Activity: Lecture
1 Course Unit

BE 557 From Cells to Tissue: Engineering Structure and Function
The goal of this course is to introduce students to engineering concepts in understanding and manipulating the behavior of biological cells. We will try to understand the interplay between cells, their extracellular microenvironment, and intracellular signaling pathways in regulating cellular and multicellular structure and function. In particular, we will explore the use of modern experimental approaches to characterize and manipulate cells for bioengineering applications, and the concepts in scaling cellular engineering functional tissues. In this context, we will focus on several topics, including signal transduction and the molecular regulation of cell function, cellular microenvironment, cell adhesion and mechanics, stem cells, multicellularity, and experimental models of tissue development.
One-term course offered either term
Also Offered As: CBE 582
Prerequisites: Math through 241; BE350, BE324 as pre- or corequisites; Molecular & cellular biology
Activity: Lecture
1 Course Unit
BE 558 Principles of Biological Fabrication
BE 558 introduces methodological approaches that are currently used for the de novo construction of biological molecules - primarily, nucleic acids and proteins - and how to use these molecules to engineer the properties of cells and intact tissue. By the end of the semester, students should (i) possess a molecular-scale understanding of key biological synthesis (ii) and assembly processes, (ii) gain an intuition for how to create novel (iii) methodologies based on these existing processes, and (iii) appreciate (iv) the drivers of technology adoption (e.g. cost, time, ease, and (v) reproducibility). Throughout the course, we will place the material in context of applications in bioengineering and human health, including: protein engineering, drug discovery, synthetic biology & optogenetics, bio-inspired materials, and bio-electronic devices.
Course offered fall; odd-numbered years
Prerequisites: Graduate standing or permission of the instructor.
Undergraduate level biology, physics and chemistry.
Activity: Lecture
1 Course Unit

BE 559 Multiscale Modeling of Chemical Systems
This course provides theoretical, conceptual, and hands-on modeling experience on three different length and time scales - (1) electronic structure (A, ps); (2) molecular mechanics (100A, ns); and (3) deterministic and stochastic approaches for microscale systems (um, sec). Students will gain hands-on experience, i.e., running codes on real applications together with the following theoretical formalisms: molecular dynamics, Monte Carlo, free energy methods, deterministic and stochastic modeling.
Course not offered every year
Also Offered As: CBE 559, SCMP 559
Prerequisites: Undergraduate courses in numeral analysis and statistical mechanics.
Activity: Lecture
1 Course Unit

BE 561 Musculoskeletal Biology and Bioengineering
The goal of this course is to educate students in core principles and expose them to cutting-edge research in musculoskeletal biology and bioengineering through (1) lectures covering the basic engineering principles, biological fundamentals, and clinical practices involved in the function, repair, and regeneration of the musculoskeletal tissues; (2) critical review and presentation by student groups of recent and seminal publications in the field related to the basic science, translation, and clinical practice of musculoskeletal biology and bioengineering, with discussion input by faculty members with relevant expertise. This course will place an emphasis on delivering multidisciplinary formalisms of cell and molecular biology, mechanics, material science, imaging, and clinical medicine as it relates to the field of musculoskeletal bioengineering and science.
Course offered fall; odd-numbered years
Prerequisites: Graduate student standing in Engineering and/or CAMB.
Undergraduate students with permission of the instructor.
Activity: Lecture
1 Course Unit

BE 562 Drug Discovery and Development
Intro to Drug Discovery; Overview of Pharmaceutical Industry and Drug Development Costs, Timelines; High Throughput Screening (HTS): Assay Design and Sensitivity Solid Phase Synthesis and Combinatorial Chemistry; Enzyme Kinetics; Fluorescence, Linearity, Inner-filter effect, quenching; Time dynamics of a Michaelis-Menten Reaction; Competitive Inhibitor; FLINT, FRET, TRF, FP SPA, alpha-screen, Enzyme HTS (protease); Cell based screening; Fura-2 ratio, loading signaling; Gfp/calcmodulin-gfp integrated calcium response; Estrogen/ERE-Luc HTS; Problems with cell based screening (toxicity, permeability, nonspecificity); Instrumentation, Robotics/Automation; Z-factor; SAR, Positioning Scanning; Microarray HTS; IC50, % Conversion in HTS and IC50, Assay Optimization.
Course usually offered in spring term
Also Offered As: CBE 562
Prerequisite: Graduate standing or permission of the instructor
Activity: Lecture
1 Course Unit

BE 566 Network Neuroscience
The human brain produces complex functions using a range of system components over varying temporal and spatial scales. These components are coupled together by heterogeneous interactions, forming an intricate information-processing network. In this course, we will cover the use of network science in understanding such large-scale and neuronal-level brain circuitry.
Course usually offered in spring term
Also Offered As: ESE 566
Prerequisites: Graduate standing or permission of the instructor.
Experience with Linear Algebra and MATLAB.
Activity: Lecture
1 Course Unit

BE 567 Mathematical Computation Methods for Modeling Biological Systems
This course will cover topics in systems biology at the molecular/cellular scale. The emphasis will be on quantitative aspects of molecular biology, with possible subjects including probabilistic aspects of DNA replication, transcription, translation, as well as gene regulatory networks and signaling. The class will involve analyzing and simulating models of biological behavior using MATLAB.
One-term course offered either term
Also Offered As: AMCS 567, GCB 567
Prerequisites: Graduate standing or permission of the instructor.
Activity: Lecture
1 Course Unit

BE 570 Biomechatronics
Mechatronics is the combination of mechanical, electrical and computer engineering principles in the design of electromechanical systems. Biomechatronics is the application of these principles to human biology and includes orthopaedic, hearing, respiratory, vision and cardiovascular applications. In this hands-on, project-based course, these biomechatronic systems will be explored. Students will learn the basic mechanical and electrical elements needed to complete a biomechatronic design challenge including basic circuits, design considerations, material fabrication, microcontrollers and mechanisms (e.g. converting rotational motion into linear motion). Students will carry out a final design project utilizing these building blocks.
Course usually offered in fall term
Prerequisites: A first course in programming (Matlab and/or C++ preferred), Senior standing in BE or permission of the instructor
Activity: Lecture
1 Course Unit
BE 580 Medical Radiation Engineering
This course in medical radiation physics investigates electromagnetic and particulate radiation and its interaction with matter. The theory of radiation transport and the basic concept of dosimetry will be presented. The principles of radiation detectors and radiation protection will be discussed.
Course usually offered in fall term
Also Offered As: PHYS 582
Prerequisite: Junior standing
Activity: Lecture
1 Course Unit

BE 581 Techniques of Magnetic Resonance Imaging
Detailed introduction to physics and engineering of magnetic resonance imaging as applied to medical diagnosis. Covered are: Bloch equations, spatial encoding principles, Fourier analysis, spin relaxation, imaging pulse sequences and pulse design, contrast mechanisms, imaging, induced magnetism, flow encoding, diffusion and perfusion, high-field MRI and a discussion of the most relevant clinical applications.
Course offered spring; odd-numbered years
Also Offered As: BMB 581
Prerequisites: Graduate standing or permission of the instructor.
Activity: Lecture
1 Course Unit

BE 583 Molecular Imaging
This course will provide a comprehensive survey of modern medical imaging modalities and the emerging field of molecular imaging. The basic principles of X-ray, ultrasound, nuclear imaging, and magnetic resonance imaging will be reviewed. The course will also cover concepts related to contrast media and targeted molecular imaging. Topics to be covered include the chemistry and mechanisms of various contrast agents, approaches to identifying molecular markers of disease, ligand screening strategies, and the basic principles of toxicology and pharmacology relevant to imaging agents.
Course usually offered in fall term
Also Offered As: BE 483, MMP 507
Prerequisites: MATH 241, BIOL 215 or BE 305
Activity: Lecture
1 Course Unit

BE 584 Mathematics of Medical Imaging and Measurements
In the last 25 years there has been a revolution in image reconstruction techniques in fields from astrophysics to electron microscopy and most notably in medical imaging. In each of these fields one would like to have a precise picture of a 2 or 3 dimensional object which cannot be obtained directly. The data which is accesible is typically some collection of averages. The problem of image reconstruction is to build an object out of the averaged data and then estimate how close the reconstruction is to the actual object. In this course we introduce the mathematical techniques used to model measurements and reconstruct images. As a simple representative case we study transmission X-ray tomography (CT). In this context we cover the basic principles of mathematical analysis, the Fourier transform, interpolation and approximation of functions, sampling theory, digital filtering and noise analysis.
Course not offered every year
Also Offered As: MATH 584
Prerequisites: MATH 314, MATH 508 and 509 or permission of the instructor.
Activity: Lecture
1 Course Unit

BE 586 Signal Analysis & Process
This course takes off where BE 301 ends. The course will add new topics and methods as well as depth and rigor accompanied with biomedical applications. In particular, the course will emphasize discrete-time signal processing, relationship between continuous-time and discrete-time signals, Fourier transform methods, filtering, signal sampling, and reconstruction and biomedical applications.
Course not offered every year
Prerequisite: BE 301
Activity: Lecture
1 Course Unit

BE 597 Master's Thesis Research
For students working on an advanced research program leading to the completion of master's thesis.
One-term course offered either term
Activity: Masters Thesis
1 Course Unit

BE 599 Master's Independent Study
The purpose of BE 599 is to allow a student to create a customized curriculum to study material beyond or outside the scope of our standard BE course offerings. Independent study is NOT a research or design project, it is a one-on-one or small-group course with a professor. The course should require an effort comparable to that of a regular course, about 10-12 hours per week. A paper or presentation is required
One-term course offered either term
Activity: Independent Study
1 Course Unit

BE 601 Fund. of Magn Resonance
Course offered fall; odd-numbered years
Also Offered As: BMB 601
Activity: Lecture
0.5 Course Units

BE 604 Imaging Biomarkers
Course offered spring; odd-numbered years
Also Offered As: BMB 602
Activity: Lecture
0.5 Course Units

BE 608 Translational Therapeutics
To provide an in-depth view of the process by which scientific discoveries are commercialized. This course covers discovery in the laboratory, technology transfer, regulatory, financial, and managerial issues involved in moving a technology from the lab into the market place. The course contents fall into three broad categories: (1) examples of scientific discoveries that are candidates for commercialization, (2) fundamental elements of technology transfer, such as intellectual property protection and licensing, and (3) aspects of commercialization, such as regulatory approval, financing, and startup formation. In using this structure, the course provides parallel coverage of both the science and the commercialization process, in such a way that the elements of one contribute to the student’s experience in learning the other.
Course usually offered in spring term
Also Offered As: MTR 620
Prerequisite: Engineering students only or permission of the instructor
Activity: Lecture
1 Course Unit
**BE 612 Materials Affecting Cell and Molecular Function**
This course provides advanced knowledge regarding the effect of the various classes of materials on tissues, cells and molecules, with the emphasis on musculoskeletal tissues. Topics include the effect of particulate matter, controlled release carriers and scaffolds for tissue repair. Emphasis is placed on recent developments in tissue engineering of bone and cartilage. The course discusses the use of materials science techniques in the study of tissue-engineered constructs. Data in the literature related to the subject matter will be extensively discussed and the students will write two articles on selected topics.
Course not offered every year
Prerequisites: Graduate standing or permission of the instructor.
Activity: Lecture
1 Course Unit

**BE 640 The Extracellular Matrix**
This course is geared towards first and second year graduate students in BGS/CAMB and SEAS/BE with an interest in the interface of extracellular matrix (ECM) cell biology and biomechanics. Students will learn about the ECM and adhesion receptors and their impact on the cytoskeleton and signaling, as well as fundamental concepts in biomechanics and engineered materials. We will discuss how these topics can inform the study of cell biology, physiology and disease. An additional objective of the course is to give students experience in leading critical discussions and writing manuscript reviews. Invited outside speakers will complement the strengths of the Penn faculty.
Course offered spring; even-numbered years
Also Offered As: CAMB 703
Prerequisites: BIOM 600. Graduate students only.
Activity: Lecture
1 Course Unit

**BE 645 Biological Elasticity**
Large deformation mechanics of biological materials. Nonlinear elasticity theory, strain energy functions, constitutive laws of hyperelastic and viscoelastic biological materials. Applications to heart, lung, and arteries.
Course not offered every year
Prerequisite: BE 510 or equivalent
Activity: Lecture
1 Course Unit

**BE 650 Advanced Biomedical Imaging Applications**
The course will cover a broad range of biomedical imaging technologies including X-ray, MRI, US, molecular and optical imaging. The curriculum will focus on the design of biomedical imaging based research studies spanning from basic technology development through clinical trials. This discussion oriented course is expected prepare students for integrating imaging technology and biomedical concepts to answer biological and medical questions.
Course usually offered in fall term
Activity: Lecture
1 Course Unit

**BE 662 Advanced Molecular Thermodynamics**
This course begins with a brief review of classical thermodynamics, including the development of Maxwell relationships and stability analysis. The remainder of the course develops the fundamental framework of statistical mechanics, then reviews various related topics including ideal and interacting gases, Einstein and Debye models of crystals, lattice models of liquids, and the basics of distribution function theory. Course usually offered in spring term
Also Offered As: CBE 618, MEAM 662
Prerequisites: Graduate Standing or permission of the instructor.
Activity: Lecture
1 Course Unit

**BE 699 Bioengineering Seminar**
This is a required course for BE PhD candidates and involves attendance at seminars related to bioengineering topics, which can be either within the departmental seminar series or through other relevant seminar series on campus. The goal is to expose students to a breadth of bioengineering topics beyond their specific dissertation work. Students are required to submit summaries of the attended seminars to receive course credit.
One-term course offered either term
Activity: Seminar
0.5 Course Units

**BE 899 PhD Independent Study**
The purpose of BE 899 is to allow a student to create a customized curriculum to study material beyond or outside the scope of our standard BE course offerings. Rather than a research or design project, BE 899 is a one-on-one or small-group course with a professor. Students must submit a proposal outlining the study area along with the professor’s approval. A paper or presentation is required.
One-term course offered either term
Activity: Independent Study
1 Course Unit
Notes: Graduate Students Only

**BE 890 Masters Thesis**
For Master’s students who have completed the course requirements for the Master’s degree and are strictly working to complete the Master’s Thesis leading to the completion of a Master’s degree. Permission Required.
One-term course offered either term
Activity: Masters Thesis
1 Course Unit

**BE 990 Thesis**
Thesis leading to the completion of a Master’s degree. Permission
One-term course offered either term
Activity: Independent Study
1 Course Unit

**BE 995 Doctoral Dissertation Status**
Ph.D. Students register for Doctoral Dissertation Status after they have advanced to Ph.D. candidacy by completing the Candidacy Exam which consists of the Dissertation Proposal Defense. Permission required.
One-term course offered either term
Prerequisites: For Ph.D. Candidates only
Activity: Dissertation
1 Course Unit

**BE 999 Thesis/Dissertation Research**
For students working on an advanced research program leading to the completion of master’s thesis or Ph.D. dissertation requirements.
One-term course offered either term
Activity: Independent Study
1 Course Unit
Bioethics (BIOE)

BIOE 282 Lying, Cheating, Stealing, and Killing: How to Think About Professional Ethic
Professionals - in business, medicine, law, and politics - face myriad ethical dilemmas in their daily work life that challenge, and sometimes conflict with, the moral commitments that guide their everyday life. This course systematically examines the ethical dimensions of these four professional roles, asking questions such as: Are there limits to what we should sell? How far should competitors go to "win"? Who should get ventilators in a flu pandemic? Is it morally permissible for physicians to assist in suicide? Should lawyers represent terrorists or child killers? How far does attorney-client privilege go? Is it morally justifiable to torture enemy combatants? Should politicians lie?
Taught by: Allen/Emanuel/Hirschmann/Strudler
Also Offered As: PSCI 282
Activity: Lecture
1 Course Unit

BIOE 401 Intro To Bioethics
Course usually offered in fall term
Also Offered As: BIOE 601
Activity: Lecture
1 Course Unit

BIOE 402 Foundations of Bioethics
Also Offered As: BIOE 602
Activity: Lecture
1 Course Unit

BIOE 505 SEX AND BIOETHICS
While the topics of sex and sexuality have a long and storied history in medical culture, they have been especially complex and problematic in the past century. With the creation of distinct sexually-minded medical fields since the late 19th-century including sexology, psychiatry, and hormonal studies, medicine has also occasioned the very categories and labels of the homosexual, the hermaphrodite, theinvert, and the nymphomaniac, to name a few. While medical historians and queer theorists have paid almost obsessive attention to these subjects, bioethicists have intervened to a lesser degree and on only a handful of relevant subjects. In this course, we will address the range of historical and theoretical matters that speak to this intersection of bioethics and sex, paying special attention to the health concerns of lesbian, gay, bisexual, trans, queer, and intersex (LGBTQI) persons. Who has sex with whom? What does it mean to pathologize or diagnose such desires? How do we raise the stakes when considering persons who question their sex or who are in sexual transition? And how do such questions reveal the dilemmas of bioethicists at large, not just those related to matters of sex and sexuality? Accordingly, this course will consider a range of historical and contemporary topics which speak to the bioethical dilemmas of the intersection of medicine, sex, and sexuality, including: the gay adolescent, the intersex person, gay-conversion therapies, the prospect of gay gene studies, sex addiction, and blood/organ donation policies in wake of the HIV/AIDS pandemic. Specifically, we will focus on literary sources (poetry, memoirs, diaries, and films) as well as on non-literary accounts (medical texts, bioethical scholarship, legal cases, and historical records) that explore the emotional and somatic aspects of matters related to sex and bioethics.
Activity: Lecture
1 Course Unit

BIOE 540 Challenging Clinical Ethics: Managing patient/caregiver conflicts through mediation.
The contemporary healthcare system in which patients, families, institutions and a multiplicity of caregivers interact over matters of life and death with legal, ethical, emotional and scientific complexities inherently gives rise to a variety of disputes. Such disputes are frequently highly charged and are often emergent in nature. In recent years, mediation has grown exponentially as a dispute resolution mechanism of choice. Not surprisingly, the success of mediation and a wider understanding of the process, has led to its application in the realm of healthcare disputes with encouraging results. This course will initially provide an overview of classical mediation theory and practice. Students will be introduced to negotiation fundamentals critical to the practice of mediation. Similarities and differences between mediation in the healthcare field, as distinct from other contexts, will be examined. All class members will participate in mediation role-plays designed to simulate disputes of the kind prevalent in healthcare landscape
Taught by: Bergman
Course not offered every year
Prerequisites: None.
Activity: Lecture
1 Course Unit

BIOE 545 Mediation Intensive I
Students will be placed in a variety of clinical situations in which they will play the roles of disputants and mediators, with ongoing discussions and critiques of mediator performance. Each student will be videotaped during their mediation to elicit feedback from the group and to catalyze self-criticism. As distinct from the course, BIOE 540: Challenging Clinical Ethics, in which negotiation and mediation theory are taught as a prelude to clinical simulations, this course references the literature solely in relation to problems encountered in the hands-on mediation of specific cases. Students may take the mediation intensives in any order; they do not need to be taken from I to IV. Students may take all 4 intensive courses, as the material will not be repeated.
Taught by: Edward J. Bergman, Autumn Fiester, Lance Wahlert
Prerequisites: There are no prerequisites for this course.
Activity: Seminar
1 Course Unit

BIOE 546 Mediation Intensive II
Students will have an immersion experience, learning mediation through role-playing simulations. Note that the format is similar to Mediation Intensive I, but the Mediation Intensive II will NOT duplicate simulations. Students in this course will learn to effectively manage clinical disputes among and between caregivers, patients, and surrogates through mediation; discover how to define problems and assess underlying interests to generate mutually acceptable options; role play in a variety of clinical situations as both disputants and mediators; practice mediation with professional actors; and receive constructive feedback in a supportive environment. Students will also be required to complete a written research paper. Students may take the mediation intensives in any order; they do not need to be taken from I to IV. Students may take all 4 intensive courses, as the material will not be repeated.
Taught by: Edward J. Bergman, Autumn Fiester, Lance Wahlert
Prerequisites: There are no prerequisites for this course.
Activity: Seminar
1 Course Unit
BIOE 547 Mediation Intensive III
Students will have an immersion experience, learning mediation through role-playing simulations. Note that the format is similar to Mediation Intensive I and II, but med. intensive III will NOT duplicate simulations. Students in this course will: learn to effectively manage clinical disputes among and between caregivers, patients, and surrogates through mediation; discover how to define problems and assess underlying interests to generate mutually acceptable options; role play in a variety of clinical situations as both disputants and mediators; practice mediation with professional actors; and receive constructive feedback in a supportive environment. Students will also be required to complete a written research paper. Students may take the mediation intensives in any order; they do not need to be taken from I to IV. Students may take all 4 intensive courses, as the material will not be repeated.
Taught by: Edward J. Bergman, Autumn Fiester, Lance Wahlert
Activity: Seminar
1 Course Unit

BIOE 548 Mediation Intensive IV
Students will have an immersion experience, learning mediation through role-playing simulations. Note that the format is similar to earlier mediation intensives but the mediation intensive IV will NOT duplicate simulations. Students in this course will: learn to effectively manage clinical disputes among and between caregivers, patients, and surrogates through mediation; discover how to define problems and assess underlying interests to generate mutually acceptable options; role play in a variety of clinical situations as both disputants and mediators; practice mediation with professional actors; use video-tapes of simulations to improve mediation techniques and strengthen interpersonal skills; receive constructive feedback in a supportive environment. Students may take the mediation intensives in any order; they do not need to be taken from I to IV. Students may take all 4 intensive courses, as the material will not be repeated.
Taught by: Edward J. Bergman, Autumn Fiester, Lance Wahlert
Prerequisite: None
Activity: Seminar
1 Course Unit

BIOE 550 Bioethics and Society
This set of courses will deal with bioethical issues in popular culture addressed from a social science perspective. Courses to be offered include: "Sociology of Bioethics," and "Media and the Doctor-Patient Relationship."
Taught by: MERZ, JON
Course not offered every year
Activity: Lecture
1 Course Unit
Notes: This is a topics course - for information on the topic currently being offered, please go to the course listing on the Bioethics website: http://www.med.upenn.edu/mbe.

BIOE 551 Sociological Topics in Bioethics
This set of courses provides a rigorous introduction to the use of sociological methods and perspective to address bioethical topics and issues. Past courses have included the "Sociology of Medicine," Medical Errors," and "Sociology of Jewish Bioethics."
Course not offered every year
Activity: Lecture
1 Course Unit
Notes: This is a topics course - for information on the topic currently being offered, please go to the course listing on the Bioethics website: http://www.med.upenn.edu/mbe.

BIOE 552 Anthropological Topics in Bioethics
This set of courses provides an introduction to the use of anthropological methods and approaches to address bioethical issues. Courses might include cross-cultural studies of medicine and doctoring, diversity and the culture of medicine, cross-cultural bioethics.
Course not offered every year
Activity: Lecture
1 Course Unit
Notes: This is a topics course - for information on the topic currently being offered, please go to the course listing on the Bioethics website: http://www.med.upenn.edu/mbe.

BIOE 553 Historical Topics in Bioethics
This set of courses provides a historical perspective on the field of bioethics and/or key issues or areas within the field. Courses that might be offered include the history of medicine and the history of science.
Course not offered every year
Activity: Seminar
1 Course Unit
Notes: This is a topics course - for information on the topic currently being offered, please go to the course listing on the Bioethics website: http://www.med.upenn.edu/mbe.

BIOE 554 Religious Topics in Bioethics
This set of courses examine the role of spirituality in the field of bioethics. Courses might be taught from a single religious perspective or provide an overview of many different perspectives. Past courses have included "Spirituality and Bioethics."
Course not offered every year
Activity: Lecture
1 Course Unit
Notes: This is a topics course - for information on the topic currently being offered, please go to the course listing on the Bioethics website: http://www.med.upenn.edu/mbe.

BIOE 556 Evidence in Bioethics and Health Policy
The ability to critically appraise scholarly work is a necessary skill to effectively contribute to bioethics and health policy debates, and for development and implementation of health interventions. The object of this course is to provide students with the skills needed to become fluent in reading and assessment of empirical bioethics and health service research. The course will review and evaluate a wide range of qualitative and quantitative methods utilized in bioethics, health policy, and medical research. Specifically, students will learn the conceptual rational for standard qualitative and quantitative methods, their strengths and weakness. At course completion, students should be able to critically evaluate empirical research published in top bioethics, health policy, and medical journals.
Taught by: Maclean
Course usually offered in fall term
Activity: Lecture
1 Course Unit
BIOE 558 Reproductive Health

Whether dealing with personal decisions or public policy, reproductive health matters are almost always controversial and often intractable. It is almost 50 years since the Supreme Court decision Griswold v Connecticut "settled" the right to contraceptives yet the last several years have been marked by increasing legislative action and judicial review of this right. This course will explore the ethical dimensions of reproductive health controversies including: 1) the moral and legal status of the human embryo and fetus in the context of assisted reproduction, embryonic stem cell research and abortion; 2) contraception, including over-the-counter provision of emergency contraception and contraceptives and legislation challenges to contraceptive insurance coverage in the Affordable Care Act; 3) attempts to restrict access to abortion by restricting later term abortion, mandating informed consent and waiting periods, and regulating abortion clinics; 4) maternal-fetal relationship including prenatal testing and the regulation of women's behavior while pregnant; 5) assisted reproduction and 6) global concerns such as sex selective abortion, forced abortion and sterilization and reproductive rights in relation to population dynamics and environmental concerns.

Activity: Lecture
1 Course Unit

BIOE 560 Clinical Approaches to Bioethics

This set of courses examines issues in bioethics from the perspective of the practicing clinician, physician, nurse, or other health care professional. These courses will often use case studies or clinical experience to analyze or understand contemporary problems in bioethics. An example of such a course is "Clinical Dilemmas Through the Life Cycle."

Course not offered every year
Activity: Lecture
1 Course Unit

Notes: This is a topics course - for information on the topic currently being offered, please go to the course listing on the Bioethics website: http://www.med.upenn.edu/mbe.

BIOE 565 Rationing

You have one liver but three patients awaiting a liver transplant. Who should get the liver? What criteria should be used to select the recipient? Is it fair to give it to an alcoholic? These are some of the questions that arise in the context of rationing and allocating scarce health care resources among particular individuals, what is called micro-allocation decisions. There are also macro-allocation decisions that focus on how health care systems distributes resources across populations. Using the cases of organs for transplantation, the rationing for vaccines in a flu pandemic, and oncology drug shortages, the course will critically examine alternative theories for allocating scarce resources among individuals. Using both the need to establish priorities for global health aid and to define an essential benefit package for health insurance, the course will critically examine diverse theories for macro-allocation from cost-effectiveness analysis to age-based rationing to accountability for reasonableness.

Taught by: Ezekiel Emanuel, Harald Schmidt
Prerequisite: None
Activity: Lecture
1 Course Unit

BIOE 567 Global Bioethics

This course considers various theoretical approaches to global justice and global governance and analyzes their implications for global health. The course includes two parts. The first part examines accounts of cosmopolitanism, nationalism and other theories of global justice, critically assessing duties ascribed by each that may be owed universally to all persons or confined within associative boundaries of communities or nations. The second part explores applications to global health governance encompassing consideration of human rights and the operation and accountability of global institutions such as the United Nations, the International Monetary Fund, the World Bank, and the World Health Organization. The course scrutinizes the relevance of global justice for governing the global health realm, evaluating the current global health system and proposals for reforming it.

Activity: Lecture
1 Course Unit

BIOE 570 Bioethics and Policy

This set of courses will look at bioethical topics from either a legal or public policy perspective. Past courses have included: Ethics of Managed Care, Law, Medicine and Policy, and Legal Aspects of Healthcare in America.

Course not offered every year
Activity: Lecture
1 Course Unit

Notes: This is a topics course - for information on the topic currently being offered, please go to the course listing on the Bioethics website: http://www.med.upenn.edu/mbe.

BIOE 571 Global Health Policy

This course considers various theoretical approaches to global justice and global governance and analyzes their implications for global health. The course includes two parts. The first part examines accounts of cosmopolitanism, nationalism and other theories of global justice, critically assessing duties ascribed by each that may be owed universally to all persons or confined within associative boundaries of communities or nations. The second part explores applications to global health governance encompassing consideration of human rights and the operation and accountability of global institutions such as the United Nations, the International Monetary Fund, the World Bank, and the World Health Organization. The course scrutinizes the relevance of global justice for governing the global health realm, evaluating the current global health system and proposals for reforming it.

Activity: Lecture
1 Course Unit

BIOE 572 Global Bioethics

According to the WHO, around 30 million people with HIV/AIDS should receive anti-retroviral treatment. But only 10 million do. Drugs containing tenofovir—the standard of care in developed countries are expensive. Stavudine-based treatments are much cheaper but have worse side-effects. Is it ethical to use stavudine-based rather than tenofovir-based treatments in sub-Saharan Africa? Smoking rates have decreased drastically in most developed countries. But they are increasing in many developing countries. Established public health measures are not implemented, and the tobacco industry pursues a range of marketing activities that would be unacceptable in developed countries. As a consequence, global deaths from smoking are expected to increase to 1bn by the end of the 21st century, with 80% of deaths in developing countries. Is industry’s behavior immoral or normal in a global market? ARDS is a disease of premature newborns. Is it ethical to test a new ARDS drug in Bolivia if the drug—if proven to be effective—will be very expensive and accessible only to the richest people in Bolivia and other developing countries? An overarching question that these different cases raise is whether there are universal ethical standards that should apply to all people, or whether regional variations should be acceptable. Universalists typically argue that there must be no double standards, and that people should be treated the same regardless of where they live. Pragmatists raise concerns about moral imperialism, neo-colonialism, or insufficient respect for cultural or other differences. Increasing globalization fuels debates about which of competing sets of moral standards is the right one. Looking at a range of diverse cases including healthcare research, health policy, flu pandemics, family planning, smoking and obesity policy, and genetically modified crops, this course explores controversies in the cross winds of market forces, politics and ethics, and examines the roles and responsibilities of key actors and international policy guidance.

Course usually offered in fall term
Activity: Lecture
1 Course Unit
BIOE 575 The Future of the American Health Care System: Health Policy and the Affordable Care Act
This course will provide students a broad overview of the current U.S. healthcare system. The course will focus on the challenges facing the health care system, an in-depth understanding of the Affordable Care Act, and its potential impact upon health care access, delivery, cost, and quality. The U.S. health care system is the world’s largest, most technologically advanced, most expensive, with uneven quality, and an unsustainable cost structure. This multi-disciplinary course will explore the history and structure of the current American healthcare system and the impact of the Affordable Care Act. How did the United States get here? The course will examine the history of and problems with employment-based health insurance, the challenges surrounding access, cost and quality, and the medical malpractice conundrum. As the Affordable Care Act is implemented over the next decade, the U.S. will witness tremendous changes that will shape the American health care system for the next 50 years of more.
Taught by: Ezekiel Emanuel, J. Sanford Schwartz
Course usually offered in fall term
Also Offered As: HCMG 250, HCMG 850
Prerequisite: None
Activity: Lecture
1 Course Unit
Notes: Course open to graduate students and upper level undergraduates. Freshman and Sophomores may request permission to enroll. Email mbe-info@mail.med.upenn.edu

BIOE 580 Research Ethics
This class is intended to give students a broad overview of research ethics and regulation. The students will come out of the class with an understanding of the moral bases of scientific ethics and the historical evolution of biomedical research ethics. Students will be fully conversant with the development, implementation, and limitation of US human subjects regulation. The course will include reading assignments and lectures addressing the following topics: ethics and morality in science, science in society, scientific integrity, misconduct: from FFP to MIM; conflicts of interest; collegiality, publication, and authorship; ethics codes and regulation; research with human subjects; historical review of human experimentation; human subjects regulation (HHS, FDA), Institutional Review Boards; informed consent, waivers, vulnerable populations, privacy and the confidentiality of records; and research on animals.
Taught by: Merz
Course not offered every year
Activity: Lecture
1 Course Unit

BIOE 585 Ethics of Research in Vulnerable Populations
This is an advanced seminar focused on human subjects research in resource-constrained regions of the world. Students are expected to have a grounding in US regulations and policies. The students will come out of the class with an appreciation for issues raised by research involving populations vulnerable to manipulation and exploitation, a sensitivity to cultural issues, and an awareness of methods for appropriately engaging communities and performing ethically sound research. The course includes reading assignments, lectures, case-based and discussions addressing topics ranging from social and anthropological research, vulnerability and exploitation, biomedical research, pharmaceutical sponsorship, traditional knowledge and biopiracy, and equity and access. Grade will be based on 3 written case evaluations (70%) and class discussion and participation (30%).
Prerequisites: Either BIOE 580: Research Ethics or a short set of supplemental background reading.
Activity: Lecture
1 Course Unit

BIOE 590 Philosophical Topics in Bioethics
This set of courses provides a philosophical perspective on bioethical topics and issues. This can include courses that integrate ethical theory with concern for particular applications of theory or conceptual issues in medicine, health care, and the life sciences. Past courses have included Philosophy of Death and Dying, Genetics and Ethics, Philosophy of Medicine, Pragmatic Bioethics, and Feminism and Bioethics.
Course not offered every year
Activity: Lecture
1 Course Unit
Notes: This is a topics course - for information on the topic currently being offered, please go to the course listing on the Bioethics website: http://www.med.upenn.edu/mbe.

BIOE 601 Introduction to Clinical Bioethics
This course is intended to serve as a broad introduction to the field of bioethics. The course will focus on three of the most important areas in bioethics: Genetics & Reproduction, Human Experimentation, and End-of-Life. Each module of the course will cover essential bioethics concepts, relevant legal cases, and classical readings of that theme. Each module will include one guest lecture from our distinguished bioethics faculty.
Taught by: Fiester
Course usually offered in fall term
Also Offered As: BIOE 401
Activity: Lecture
1 Course Unit

BIOE 602 Conceptual Foundations in Bioethics
This course examines the various theoretical approaches to bioethics and critically assesses their underpinnings. Topics to be covered include an examination of various versions of deontological theories, utilitarianism, virtue ethics, principlism, casuistry, feminist ethics, narrative theory, and pragmatism.
Course usually offered in spring term
Also Offered As: BIOE 402
Activity: Lecture
1 Course Unit
BIOE 604 Empirical Methods in Bioethics
This course provides an introduction to social science research design and methods for students interested in conducting research on issues in bioethics. The course is appropriate for students who, rather than conducting research themselves, will use research findings to make or challenge arguments in policy statements or other writings. Emphasis is placed on the logic of research design as the way to relate topic of inquiry with method so that evidence produced is pertinent and useful. Students will design research projects and explore a variety of methods available to conduct research. Students will also learn to integrate research ethics into the formulation and design of their inquiries.
Course not offered every year
Activity: Lecture
1 Course Unit

BIOE 605 Mentored Research I
Activity: Masters Thesis
1 Course Unit

BIOE 606 Mentored Research II
Activity: Masters Thesis
1 Course Unit

BIOE 607 Mentored Research III
Activity: Masters Thesis
1 Course Unit

BIOE 608 Mentored Research IV
Activity: Masters Thesis
1 Course Unit

BIOE 688 Bioethics in China: Research, Industry, and Practice
Course Objective: The intent of this course is to offer students a broad understanding of bioethical issues in China. Students will be challenged to consider whether there is a unique Chinese Ethic, or whether Chinese culture and practice can be understood as harmonized with Western values and morals. Specific topics include: Ethical considerations in outsourcing clinical trials to China; Pharmaceutical marketing practices in China; Physician-Patient interactions and the notions of autonomy; Ethics in health policy; Intellectual property and the regulatory landscape; Challenges in conducting business and research in China, including organizational practices and business Ethics. Course Format: Students will travel to Beijing, Nanjing and Shanghai where the program will include site visits, academic lectures, and meetings with policymakers, Chinese and expatriate business leaders and others. Visits to significant cultural sites will also be included. Class meetings will be held prior to and following the trip to China and will include distinguished guest speakers from the US and abroad. Student Requirements/Evaluation: Students will be required to read all assigned articles and book chapters and to come to class sessions prepared for discussion. 25% of the course grade will be based on student participation in the breakfast journal club and guest presentations. Students will be required to write a 10-15 page research paper on some aspect of bioethics in China. This paper will count towards 50% of the final grade. Students will be asked to present their paper at the post-trip class, and this presentation will count for the remaining 25% of the course grade.
Taught by: Joe Powers
Prerequisite: None
Activity: Seminar
1 Course Unit

BIOE 996 Research Topics
This course serves the final MBE project. This course requires students to work with faculty to produce original research that is of publishable quality. Past students have published in Nature, Science, and other prominent journals.
One-term course offered either term
Activity: Independent Study
1 Course Unit
Notes: This course is only open to students in the Master of Bioethics program.

BIOE 999 Independent Study
One-term course offered either term
Activity: Independent Study
1 Course Unit
Notes: This course is only open to students in the Master of Bioethics program.

Biological Basis of Behavior (BIBB)

BIBB 030 Neurobiology of Brain Disorders
The human brain is clearly the most complicated and magical organ in the body. We don't completely understand how it works, but we do know, unfortunately, for a variety of reasons, the human brain is prone to failure, either by acute injury, chronic degeneration, genetic flaws in its composition, or unknown disturbances in its behavior. Diseases of the brain can take many forms but are all uniformly devastating for individuals, families, and our society, and are also very costly. This course will explore the ways in which various brain disorders (both neurological and psychiatric) manifest themselves and discuss their underlying neurobiological mechanisms. In addition, the social and economic impact of these diseases on society will be considered, as well as some well-publicized political issues surrounding many of these brain disorders.
Taught by: Dichter
Activity: Seminar
1 Course Unit

BIBB 050 Forensic Neuroscience
Progress in behavioral neuroscience and brain imaging techniques, such as functional and structural Magnetic Resonance Imaging (MRI) and Positron Emission Tomography (PET) has forced the courts to reconsider the role of behavioral sciences in courtroom decision-making. The goal of this course is to enable students to understand and interpret the use of behavioral neuro evidence in the justice system. The course will introduce the students to the relevant behavioral neuroscience constructs, principles of brain imaging and rules of scientific evidence. Students will be asked to use this introductory knowledge to critically evaluate the use of brain imaging and other behavioral neuroscience techniques as evidence in representative legal cases. For each case, students will serve as neuroscience experts for the defense or prosecution and prepare, present and defend their testimony against the opposing team. Through this course, students will develop the ability to critically evaluate brain imaging and other neuroscience data in forensic and legal settings.
Taught by: Langleben
Activity: Seminar
1 Course Unit
BIBB 060 Music and the Brain
Every human culture that has ever been described makes some form of music. The musics of different cultures cover a wide range of styles, but also display fascinating similarities, and a number of features are shared by even the most disparate musical traditions. Within our own culture, music is inescapable—there are very few individuals who do not listen to some form of music every day and far more who listen to music virtually all day long. Appreciation of music comes very early: newborns prefer music to normal speech and mothers all over the world sing to their babies in a fundamentally similar way. And yet, despite this seeming ubiquity, the real origin and purpose of music remains unknown. Music is obviously related to language, but how? Why do so many cultures make music in such fundamentally similar ways? What goes into the formation of music "taste" and preferences? Does music have survival value, or is it merely "auditory cheesecake", a superfluous byproduct of evolution as some critics have maintained? What is the nature of musical ability and how do musicians differ from non-musicians? In this course, we will look for answers by looking at the brain. Almost 200 years of scientific research into brain mechanisms underlying the production and appreciation of music is beginning to shed light on these and other questions. Although the sciences and the arts are often seen as entirely separate or even in opposition, studying the brain is actually telling us a lot about music, and studying music is telling us just as much about the brain.
Taught by: Kaplan
Activity: Seminar
1 Course Unit

BIBB 080 Brain Changes Through Tragedy and Triumph
There are currently major advances in understanding how the brain works. Whereas sixty years ago, it was believed that the mature brain was a fixed structure, new research shows not only that the brain can change, but also that it changes continuously throughout life. An overview of neuroplasticity, as it refers to change in the nervous system, will be presented in this course. Major topics will regard: an introduction to the brain anatomy necessary in explanations of neuroplastic changes that occur in response to the nerve injury and brain damage; a consideration of addiction and pain as conditions involving maladaptive forms of neuroplasticity; and an overview of lifelong brain changes illustrating neuroplasticity as a lifelong process.
Taught by: Jacqueline Cunningham
Activity: Lecture
1 Course Unit

BIBB 109 Introduction to Brain and Behavior
Introduction to the structure and function of the vertebrate nervous system. We begin with the cellular basis of neuronal activities, then discuss the physiological bases of motor control, sensory systems, motivated behaviors, and higher mental processes. This course is intended for students interested in the neurobiology of behavior, ranging from animal behaviors to clinical disorders.
For BA Students: Living World Sector
Taught by: Kane and McLean
One-term course offered either term
Also Offered As: BIOL 109, PSYC 109
Activity: Lecture
1 Course Unit

BIBB 150 Sex and Human Nature
This is an introduction to the scientific study of sex in humans. Within an evolutionary framework, the course examines genetic, physiological, ecological, social and behavioral aspects of sex in humans. After providing the basic principles of evolutionary biology, the course will examine the development of sexual anatomy and physiology. How is sex determined? How is orgasm achieved? Why do girls and boys develop sexually at different ages? The role of ecology and social life in shaping human mating patterns will be evaluated through the use of ethnographies and cross-cultural materials on a variety of human cultures. Does everybody have sex the way we do? Why marry? Are there biological bases for love? Why do we experience jealousy? Finally, topics relevant to human sexuality today will be discussed, such as recreational sex, contraception, and sexually transmitted diseases. Examples are drawn primarily from traditional and modern human societies; data from studies of nonhuman primates are also considered.
For BA Students: Living World Sector
Taught by: Schurr
Course usually offered in spring term
Also Offered As: ANTH 104, GSWS 103
Activity: Lecture
1 Course Unit

BIBB 160 ABCS of Everyday Neuroscience
This course is an opportunity for undergraduates to share their interest and enthusiasm for neuroscience with students in grades 9-12 attending urban public schools in West Philadelphia. The course will allow Penn students to develop their science communication and teaching skills. Students will prepare neuroscience demonstrations, hands-on activities, and assessment tools. In parallel, the course aims to engage local high school students, increasing their interest and knowledge in science, and ultimately promoting lifelong science literacy.
Taught by: Lori Flanagan-Cato
Prerequisite: BIBB109
Activity: Lecture
1 Course Unit

BIBB 217 Visual Neuroscience
An introduction to the scientific study of vision, with an emphasis on the biological substrate and its relation to behavior. Topics will typically include physiological optics, transduction of light, visual thresholds, anatomy and physiology of the visual pathways, retinal processing, properties of visual cortex, and color vision.
Taught by: Rust
Course usually offered in spring term
Also Offered As: PSYC 217, VLST 217
Prerequisites: BIBB 109, PSYC 001, COGS 001 or VLST 101
Activity: Lecture
1 Course Unit
BIBB 227 Physiology of Motivated Behaviors
This course focuses on evaluating the experiments that have sought to establish links between brain structure (the activity of specific brain circuits) and behavioral function (the control of particular motivated and emotional behaviors). Students are exposed to concepts from regulatory physiology, systems neuroscience, pharmacology, and endocrinology and read textbooks as well as original source materials. The course focuses on the following behaviors: feeding, sex, fear, anxiety, the appetite for salt, and food aversion. The course also considers the neurochemical control of responses with an eye towards evaluating the development of drug treatments for: obesity, anorexia/cachexia, vomiting, sexual dysfunction, anxiety disorders, and depression.
Taught by: Grill
One-term course offered either term
Also Offered As: PSYC 127
Prerequisite: PSYC001
Activity: Lecture
1 Course Unit

BIBB 231 Animal Behavior
The evolution of social behavior in animals, with special emphasis on group formation, cooperation among kin, mating systems, territoriality and communication.
Taught by: Seyfarth/Cheney
One-term course offered either term
Also Offered As: BIOL 231, PSYC 231
Prerequisite: PSYC 001 or BIOL 102 or BIOL 122
Activity: Lecture
1 Course Unit

BIBB 233 Neuroethology
In course, students will learn how neurobiologists study the relationship between neural circuitry and behavior. Behaviors such as bat echolocation, birdsong, insect olfaction, spatial navigation, eye movement and others will be used to explore fundamental principles of brain function that include brain oscillations, population codes, efference copy, sensorimotor maps and sleep replay. The course will also discuss the various methodologies that are used to address these questions. The reading material will be derived mostly from the primary literature.
Taught by: McLean
Course usually offered in spring term
Prerequisite: BIBB 109
Activity: Lecture
1 Course Unit

BIBB 240 Human Chronobiology and Sleep
Topics to be covered include basic principles of chronobiology; neuroscience mechanisms of circadian rhythms and sleep; phylogeny and ontogeny of sleep; human sleep and sleep disorders; circadian dysfunction; circadian and sleep homeostatic influences in human health and safety.
Taught by: Dinges
Course usually offered in spring term
Prerequisite: BIBB109
Activity: Lecture
1 Course Unit
Notes: Students may not receive credit for both BIBB240 and BIBB040

BIBB 249 Cognitive Neuroscience
The study of the neuronal systems that underlie human perception, memory and language; and of the pathological syndromes that result from damage to these systems.
Taught by: Epstein
One-term course offered either term
Also Offered As: PSYC 149
Prerequisite: PSYC 001 or BIBB 109
Activity: Lecture
1 Course Unit

BIBB 251 Molecular and Cellular Neurobiology
Cellular physiology of neurons and excitable cells; molecular neurobiology and development. Topics include: action potential generation; synaptic transmission; molecular and physiological studies of ion channels; second messengers; simple neural circuits; synaptic plasticity; learning and memory, and neural development.
Taught by: Schmidt, M./Kaplan
Course usually offered in fall term
Also Offered As: BIOL 251
Prerequisites: BIOL 101 and 102, or BIOL 121; PHYS 102 or 151 strongly recommended
Activity: Lecture
1.5 Course Unit
Notes: (3hrs. lec., 3hrs. lab, 1.5 c.u.)

BIBB 260 Neuroendocrinology
This course is designed to examine the various roles played by the nervous and endocrine systems in controlling both physiological processes and behavior. First, the course will build a foundation in the concepts of neural and endocrine system function. Then, we will discuss how these mechanisms form the biological underpinnings of various behaviors and their relevant physiological correlates. We will focus on sexual and parental behaviors, stress, metabolism, neuroendocrine-immune interactions, and mental health.
Taught by: Flanagan-Cato
One-term course offered either term
Also Offered As: PSYC 239
Prerequisite: BIBB 109 or Permission of Instructor
Activity: Lecture
1 Course Unit

BIBB 269 Autonomic Physiology
This course will introduce the student to the functioning of the autonomic nervous system (ANS), which is critically involved in the maintenance of body homeostasis through regulation of behavior and physiology. The course will begin with a review of the basic anatomy and physiology of the ANS including the sympathetic, parasympathetic and enteric divisions. The mechanisms by which the ANS regulates peripheral tissues will be discussed, including reflex and regulatory functions, as will the effect of drugs which modulate ANS activity. The role of the ANS in regulating behavior will be addressed in the context of thirst, salt appetite and food intake.
Taught by: Heerding
Course usually offered in spring term
Prerequisite: BIBB 109
Activity: Lecture
1 Course Unit
**BIBB 270 Drugs, Brain and Mind**
The course will begin with a review of basic concepts in pharmacology including: routes of drug administration, drug metabolism, the dose response curve, tolerance and sensitization. Following a brief overview of cellular foundations of neuropharmacology (neuronal biology, synaptic and receptor function), the course will focus on several neurotransmitter systems and the molecular and behavioral mechanisms mediating the mind-altering, addictive and neuropsychiatric disorders, including depression, schizophrenia and anxiety with an emphasis on their underlying neurobiological causes, as well as the pharmacological approaches for treatment.

Taught by: Kane
Course usually offered in fall term
Also Offered As: PSYC 225
Prerequisite: BIBB 109 or PSYC 109
Activity: Lecture
1 Course Unit

**BIBB 310 Laboratory in the Structure of the Nervous System**
A laboratory course designed to familiarize the student with the fundamental gross and histological organization of the brain. The mammalian brain will be dissected and its microscopic anatomy examined using standard slide sets. Comparative brain material will be introduced, where appropriate, to demonstrate basic structural-functional correlations.

Taught by: McLean
One-term course offered either term
Prerequisite: BIBB 109 or permission of instructor
Activity: Laboratory
1 Course Unit
Notes: Lab Fee: $50

**BIBB 350 Developmental Neurobiology**
This course will focus on cellular and molecular mechanisms of the organogenesis of the central nervous system. A goal of the course will be to understand the form, function and pathology of the adult nervous system in terms of antecedent developmental processes.

Taught by: McGurk
One-term course offered either term
Prerequisites: BIBB 109 or BIOL 101 or Permission of Instructor
Activity: Lecture
1 Course Unit

**BIBB 399 Independent Research**
Individual research of an experimental nature with a member of the standing faculty leading to a written paper. The grade is based primarily on a serious term paper describing original research carried out by the student. Students must submit a proposal prior to registering. During the semester, students must attend two seminars to discuss planning and independent research project, ethical concerns in research and writing a scientific paper. Attendance at the meetings is mandatory. Students doing more than one credit of independent study will be required to present a poster at the annual BBB Symposium.

Taught by: Standing Faculty
One-term course offered either term
Prerequisites: BIBB 109 and Permission of the Director
Activity: Independent Study
1 Course Unit

**BIBB 417 Seminar in Perception: Visual Processing**
This seminar will focus on how visual information is processed by the eye and the brain to produce visual perception. These issues will be explored through lectures and student presentations of journal articles, combined with Matlab-based tutorials and exercises. The course requires no prior knowledge of visual processing, math, or computer programming.

Taught by: Rust
One-term course offered either term
Also Offered As: PSYC 417
Prerequisites: BIBB 109, Psych 149 or Psych 217, or permission of instructor
Activity: Seminar
1 Course Unit

**BIBB 420 Smell and Taste**
All organisms respond to chemicals in their environment. This chemosensation guides diverse behaviors such as a feeding, avoiding predators, sex, and social interactions. This course will provide a broad survey of our current understanding of taste and smell, focusing on insect and rodent model systems as well as studies in humans. The course will begin with a review of chemical signal transduction mechanisms, and build to an exploration of the cortical integration of chemical signals and chemical guided behaviors. Class time will emphasize primary literature, discussion, and student presentations. The goal is to reach an integrated understanding of the physiology and psychology of chemical sensory systems. In the process, students will learn to read and critically evaluate data from primary research articles.

Taught by: Lewandowski
Course not offered every year
Prerequisites: Introductory Psychology and Biology, BIBB 109. PSYC 111 (Perception) preferred.
Activity: Seminar
1 Course Unit

**BIBB 421 Functional Imaging of the Human Brain**
The course will provide a detailed overview of functional brain imaging and its potential uses. Issues regarding advantages and disadvantages of different modalities, study design image analysis & interpretation and how these relate to various neurological & psychological phenomena will be discussed. Class will cover the following specific topics in this general time frame: Introduction to functional brain function, basics of nuclear medicine imaging (including instrumentation, image acquisition, and radiopharmaceuticals for positron emission tomography and single photon emission computed tomography), imaging of neurological disorders, imaging of psychological disorders, introduction to activation studies, image analysis and statistical problems, study design, literature review, journal article presentation, tour of Penn imaging facilities, interpretation of imaging studies, implications for clinical and research, and implications for understanding the human mind and consciousness.

Taught by: Newberg
Course usually offered in spring term
Prerequisite: BIBB 109
Activity: Seminar
1 Course Unit
BIBB 429 SEMINAR HUMAN MEMORY: Big Data, Memory, and the Human Brain
Taught by: Kahana
Also Offered As: PSYC 429
Prerequisite: CIS121 & Python experience
Activity: Seminar
1 Course Unit
Notes: Instructor permission required. Application form can be found here: http://psychology.sas.upenn.edu/undergraduate/forms

BIBB 430 Neurobiological Basis of Autism
This course examines the neurobiological processes underlying autism spectrum disorders. In this seminar course, we will first examine the brain phenotypes associated with Autism Spectrum Disorders (ASD), in addition to investigating the genetic and environmental contributions to the etiology and pathophysiology of ASD. After an initial examination of the clinical literature and research, we will focus on animal models of ASD, including those of syndromic causes of autism (Rett Syndrome, Tuberous Sclerosis, Fragile X) and investigate changes in neurotransmitter systems and synaptic dysfunctions in the brain of these models.
Taught by: Herrington
One-term course offered either term
Prerequisite: BIBB 109
Activity: Lecture
1 Course Unit

BIBB 442 Neurobiology of Learning and Memory
This course focuses on the current state of our knowledge about the neurobiological basis of learning and memory. A combination of lectures and student seminars will explore the molecular and cellular basis of learning in invertebrates and vertebrates from a behavioral and neural perspective.
Taught by: Abel
Also Offered As: BIOL 442, NGG 575, PSYC 421
Prerequisites: BIOL 251, BIBB 251 or Permission of Instructor
Activity: Seminar
1 Course Unit

BIBB 460 Neuroendocrinology Seminar
This course is an upper-level seminar, designed to examine the various roles played by the nervous and endocrine systems in controlling both physiological processes and behavior. We will focus on sexual and parental behaviors, stress, metabolism, neuroendocrine-immune interactions, and mental health. The format will be a mixture of lectures and journal club discussions based on recent primary literature in the field of neuroendocrinology. Students will also write several short papers based on the clinical neuroendocrinology.
Taught by: Flanagan-Cato
One-term course offered either term
Also Offered As: PSYC 439
Prerequisite: BIBB 109 or Permission of Instructor
Activity: Seminar
1 Course Unit

BIBB 466 Molecular Genetic of Neurological Disease
Also Offered As: BIOL 466
Activity: Lecture
1 Course Unit

BIBB 469 Stress Neuroscience
Stress can be caused by a variety of conditions, ranging from low-level noise in the workplace to life-threatening situations and these stressors can cause changes in the physiology and behavior of individuals. This course will examine the neural mechanisms underlying physiological and emotional responses to stress in a journal club format. Topics to be covered include anxiety disorders, depression and other mood disorders, the differential effects of stress on males and females, the physiological effects of stress on the immune system and feeding behavior, the effects of maternal stress on offspring as well as strategies to mitigate the effects of stress.
Taught by: Heerding
One-term course offered either term
Prerequisite: BIBB 109
Activity: Seminar
1 Course Unit

BIBB 470 Animal Models of Neuropsychiatric Disorders
This seminar will focus on the significant role of animal models in the investigation of the pathophysiology of a variety of human neuropsychiatric disorders as well as in the development of treatments for these disorders. The course will focus on the use of genetically modified mice in the investigation of Autistic Spectrum Disorders (ASD), anxiety and affective disorders, schizophrenia and obsessive-compulsive disorder (OCD), with an emphasis on the limitations of such models. Class time will consist of short lectures and open discussions via student-led presentations. Emphasis will be placed on the critical analysis of primary literature.
Taught by: Kane
Course not offered every year
Prerequisite: BIBB 109
Activity: Seminar
1 Course Unit

BIBB 473 Neuroeconomics
This course will review recent research that combines psychological, economic and neuroscientific approaches to study human and animal decision-making. A particular focus will be on how evidence about the neural processes associated with choices might be used to constrain economic and psychological theories of decision-making. Topics covered will include decisions involving risk and uncertainty, reinforcement learning, strategic interactions and games, and social preferences.
Taught by: Kable
Also Offered As: NGG 706, PSYC 473
Prerequisites: PSYC 149, 253, or 265
Activity: Seminar
1 Course Unit
BIBB 475 Neurodegenerative Diseases
This course will familiarize students with advances in our understanding of the clinical features and pathogenesis of a wide range of neurodegenerative diseases, including Alzheimer's disease and other dementias, prion diseases, Parkinson's disease and atypical parkinsonisms, neurodegenerative ataxias, motoneuron diseases, degenerative diseases with chorea, iron and copper disorders, and mitochondrial diseases. Students will analyze original research reports on a range of proposed pathological cellular processes that may represent steps in cell death pathways leading to neuron loss seen in these diseases. Significant emphasis will be placed on the fast-expanding field exploring genetic contributions to neurodegenerative disease, as identification of genetic mutations pathogenic for familial neurodegenerative diseases has been a major driving force in neurodegenerative research and pointed researchers towards essential molecular process that may underlie these disorders. Strategies for therapeutic intervention in the management, prevention, and cure of neurodegenerative disease will be addressed.
Taught by: Lexow
Course not offered every year
Prerequisite: BIBB 109 or Permission of Instructor
Activity: Seminar
1 Course Unit

BIBB 479 Neural Systems and Behavior
This course will investigate neural processing at the systems level. Principles of how brains encode information will be explored in both sensory (e.g. visual, auditory, olfactory, etc.) and motor systems. Neural encoding strategies will be discussed in relation to the specific behavioral needs of the animal. Examples will be drawn from a variety of different model systems.
Taught by: Schmidt, M./Medina
Course not offered every year
Also Offered As: BIOL 451, PSYC 479
Prerequisites: BIOL 251/BIBB 251 and permission of instructor
Activity: Lecture
1 Course Unit

BIBB 480 Biological Basis of Psychiatric Disorders
The contributions of basic sciences (neuroanatomy, neuropsychology, neurochemistry, and neuropathology) to an understanding of behavior and behavioral disorders will be covered and important psychiatric disorders will be discussed, primarily from the viewpoint of their biological aspects. Emphasis will be placed on critical evaluation of research strategies and hypotheses.
Taught by: Lexow
One-term course offered either term
Prerequisite: BIBB 109 or Permission of Instructor
Activity: Seminar
1 Course Unit

BIBB 481 Behavioral Pharmacology
This seminar course reviews the behavioral effects of drugs in animals, the general biological and psychological principles of drug action, and the relationship between drugs that affect brain monoamine and opiate systems and their behavioral effects. Introductory lectures on general topics will be followed by advanced discussion of specific topics in a journal club format through student presentations.
Taught by: Heering
Course not offered every year
Prerequisite: BIBB 109
Activity: Seminar
1 Course Unit

BIBB 482 Clinical Psychopharmacology
This course examines the history, rationale and putative mechanism of action of drugs used in the treatment of psychiatric disorders. Emphasis is placed on neurobiological processes underlying psychopathology and pharmacological intervention. Drugs currently in use as well as new drugs in development will be covered. Strategies, techniques, issues and challenges of clinical psychopharmacological research will be addressed and new approaches to drug discovery, including the use of pharmacogenomics and proteomics to understand variability in drug response and identify new molecular drug targets, will be covered in depth. Specific drug classes to be considered include antidepressants, anxiolytics, typical and atypical antipsychotics, narcotic analgesics, sedative hypnotics, and antiepileptic medications. A contrasting theme throughout the course will be the use of drugs as probes to identify neural substrates of behavior.
Taught by: Lexow
Course not offered every year
Prerequisite: BIBB 109 or Permission of Instructor
Activity: Seminar
1 Course Unit

BIBB 485 Signaling in Nerve and Muscle
This seminar based course will expand and deepen knowledge gained in BIBB 251 about excitability in the nervous system and about how synapses function. A new area of study will be skeletal and cardiac muscle which are both excitable tissues. A particular focus of the course will be the roles which calcium ions play as second messengers in nerve, muscle and synapse. We will learn about how calcium is handled in nerve and muscle and about the techniques used to study intracellular calcium. The later part of the course will have a journal club format, based on the reading and presentation of original papers. These will include papers on calcium related muscle diseases and on the integration of nerve and muscle signaling in animal motor behaviors.
Taught by: Hollingworth
One-term course offered either term
Prerequisite: BIBB251 or Permission
Activity: Lecture
1 Course Unit

BIBB 492 Experimental Methods in Synaptic Physiology
In this lab course, a small number of students meet once per week to discuss topics in synaptic physiology and to become proficient at sharp electrode techniques for intracellular recording, using isolated ganglia from the snail Helisoma. The first part of each class will consist of discussion of weekly reading from the primary literature, with the remainder of the class devoted to hands-on experiments. After learning to record from and characterize single neurons, students will study synaptic transmission by stimulating incoming nerve trunks or by recording from pairs of interconnected neurons. As a midterm assignment, students will prepare and present a short research proposal using this model system, to be evaluated by the class. For the last half of the course, the class will work together on one or two of these proposals, meeting at the end of each class to pool our data, analyze the results and discuss their significance.
Taught by: Kaplan
One-term course offered either term
Prerequisite: BIBB251
Activity: Laboratory
1 Course Unit
Notes: Lab fee $100
BIBB 499 Senior Honors Thesis
Continuation of BIBB 399 research. Students will be required to give an oral presentation of their research at the annual BBB symposium Honors Seminar.
Taught by: Standing Faculty
One-term course offered either term
Prerequisites: BIBB 399, Permission of BIBB Director and a GPA of 3.5 or better
Activity: Independent Study
1 Course Unit

BIB 585 Theoretical and Computational Neuroscience
This course will develop theoretical and computational approaches to structural and functional organization in the brain. The course will cover: (i) the basic biophysics of neural responses, (ii) neural coding and decoding with an emphasis on sensory systems, (iii) approaches to the study of networks of neurons, (iv) models of adaptation, learning and memory, (v) models of decision making, and (vi) ideas that address why the brain is organized the way that it is. The course will be appropriate for advanced undergraduates and beginning graduate students. A knowledge of multi-variable calculus, linear algebra and differential equations is required (except by permission of the instructor). Prior exposure to neuroscience and/or Matlab programming will be helpful.
Taught by: Balasubramanian
Course not offered every year
Also Offered As: BE 530, NGG 594, PHYS 585, PSYC 539
Activity: Lecture
1 Course Unit

BIOL 011 Humans in a Microbial World
Microbes are a fundamental part of life on this planet. This course will explore the causes and consequences of the distribution and abundance of microbes (microbial ecology) as well as microbial evolution on human health and disease risk. We will address the interplay between human society and microbial ecology and evolution in shaping disease risk and directing scientific study. This course will apply concepts from basic biology, ecology, and evolution to study infectious microbes as living creatures.
For BA Students: Living World Sector
Taught by: Brisson
Course not offered every year
Activity: Seminar
1 Course Unit
Notes: May not be counted toward the Biology major or minor

BIOL 014 Descent with Modification: An introduction to the science of evolution
Evolution provides the unifying framework for the biological sciences and has been confirmed by a huge and diverse body of evidence. Public opinion polls show, however, that evolution continues to be socially and politically controversial in the United States. In this freshman seminar, we will explore the scientific basis for evolution by reading and discussing historical sources, a current nonspecialist text on evolution, and selected papers and articles from the scientific and popular literature. With our knowledge of evolutionary fact and theory as background, we will also discuss social and political opposition to the teaching of evolution. Grading will be based on participation in class discussions and on performance in several brief writing assignments. There is no course prerequisite, but high school introductory biology would be helpful.
For BA Students: Living World Sector
Taught by: Sniegowski
Course offered fall; even-numbered years
Activity: Seminar
1 Course Unit
Notes: May not be counted toward the Biology major or minor. General biology background preferred but not required

BIOL 017 The Biology of Food
This course will examine the ways in which humans manipulate - and have been manipulated by - the organisms we depend on for food, with particular emphasis on the biological factors that influence this interaction. The first part of the course will cover the biology, genetics, evolution, and breeding of cultivated plants and animals; the second part will concern the ecological, economic, and political factors that influence food production. Lab activities include demonstrations and field trips to local farms.
For BA Students: Living World Sector
Taught by: Poethig
Course offered spring; odd-numbered years
Activity: Lecture
1 Course Unit
Notes: May not be counted toward the Biology major or minor

BIOL 019 Biological Science and Public Policy
This course will examine the scientific basis of public policy decision making in areas of human health, the environment, energy, and agriculture. A general understanding of the science involved in these areas - predominantly genetics, cell biology, physiology, and ecology - will be applied to topics such as drug and herbicide resistance, endangered species, regulation of biotechnology, microbial sources of energy, control of toxic substances, and the war against cancer. No formal background in biology or policy is required. The course should be particularly useful for non-science students who would like to gain insight into areas of biology of importance to public decision making and to students of public policy who would like a better background on biological issues.
Course usually offered in fall term
Prerequisite: High school biology recommended
Activity: Lecture
1 Course Unit
Notes: May not be counted toward the Biology major or minor. Only offered through the College of Liberal and Professional Studies
BIOL 101 Introduction to Biology A
General principles of biology focusing on the basic chemistry of life, cell biology, molecular biology, and genetics in all types of living organisms. Particular emphasis will be given to links between the fundamental processes covered and current challenges of humankind in the areas of energy, food, and health.
For BA Students: Living World Sector
One-term course offered either term
Activity: Lecture
1.5 Course Unit
Notes: (3 hrs. lec., 3 hrs. lab, 1.5 c.u.) Biology majors and pre-medical students should take either BIOL 101 or 121. BIOL 101 is the companion course to BIOL 102 and should be taken before BIOL 102.

BIOL 102 Introduction to Biology B
General principles of biology focusing on evolution, physiology, development, and ecology in all types of living organisms.
For BA Students: Living World Sector
One-term course offered either term
Activity: Lecture
1.5 Course Unit
Notes: (3 hrs. lec., 3 hrs. lab, 1.5 c.u.) BIOL 102 is the companion course to BIOL 101 and should be taken after BIOL 101.

BIOL 109 Introduction to Brain and Behavior
Introduction to the structure and function of the vertebrate nervous system. We begin with the cellular basis of neuronal activities, then discuss the physiological basis of motor control, sensory systems, motivated behaviors, and higher mental processes. This course is intended for students interested in the neurobiology of behavior, ranging from animal behaviors to clinical disorders.
For BA Students: Living World Sector
Taught by: Kane and McLean
One-term course offered either term
Also Offered As: BIBB 109, PSYC 109
Activity: Lecture
1 Course Unit

BIOL 121 Introduction to Biology - The Molecular Biology of Life
An intensive introductory lecture course covering the cell, molecular biology, biochemistry, and the genetics of animals, bacteria, and viruses. This course is comparable to Biology 101, but places greater emphasis on molecular mechanisms and experimental approaches. Particular attention is given to the ways in which modern cell biological and molecular genetic methods contribute to our understanding of evolutionary processes, the mechanistic basis of human disease, and recent biotechnological innovations. Students are encouraged to take BIOL 121 and 123 concurrently.
For BA Students: Living World Sector
Course usually offered in fall term
Prerequisites: Solid high school biology and strong high school chemistry or CHEM 101
Corequisite: BIOL 123 is recommended
Activity: Lecture
1 Course Unit
Notes: Biology majors and pre-medical students should take either BIOL 101 or 121. BIOL 121 is the companion course to BIOL 124 and may be taken before or after BIOL 124

BIOL 123 Introductory Molecular Biology Laboratory
An intensive introductory laboratory course emphasizing how molecular biology has revolutionized our understanding of cell and organism functions. BIOL 121 and 123 should be taken concurrently.
Taught by: Hogan
Course usually offered in fall term
Corequisite: BIOL 121 or credit by exam for BIOL 101 or 121
Activity: Lecture
0.5 Course Units
Notes: (1 hr. lec., 3 hrs. lab, 0.5 c.u.) Students may not take both BIOL 101 and 123 for credit.

BIOL 124 Introductory Organismal Biology Lab
An intensive introductory laboratory course in organismal biology.
Taught by: Robinson/Hogan
Course usually offered in spring term
Prerequisite: Solid high school biology or credit by exam for BIOL 102
Activity: Lecture
0.5 Course Units
Notes: (1 hr. lec., 3 hrs. lab, 0.5 c.u.) BIOL 124 is the companion course to BIOL 121 and may be taken before or after BIOL 121. Students may not take both BIOL 102 and 124 for credit.

BIOL 138 Energy Transformations and Living Off-the-Grid
The course will examine major sources of energy on earth: sunlight, mechanical, chemical and biological, and how this energy is transformed into useful energy for humans - typically electrical energy or food. Considerable emphasis will be on forms of regenerative energy that can be used when living off-the-grid. As a case study, we will examine some approaches taken by the US military to provide energy capability for dismounted Marines operating on foot in austere environments. Faculty lectures will be supplemented by guest lectures from leaders in government and industry. No scientific knowledge is assumed beyond high school biology, chemistry and physics. Energy is necessarily a quantitative subject so students should be comfortable with quantitative approaches. A major goal of this course is for students to develop an awareness for the amounts of energy they use in their daily lives, and how they might reduce them. As an exercise, students will measure how much energy their smart phones and laptops use in a day and try to generate a comparable amount of energy through physical effort.
Taught by: Rome
Course usually offered in fall term
Prerequisites: High school biology and math
Activity: Seminar
1 Course Unit

BIOL 140 Humans and the Environment
Intensive exposure to current issues and solutions in contemporary human interactions with the environment. Global in scope, but focused on case histories. Emphasis on providing biological and sociological background for a given major environment-human interaction, and state-of-the-art suggested solutions.
For BA Students: Natural Science and Math Sector
Taught by: Janzen
Course usually offered in fall term
Also Offered As: BIOL 440
Prerequisites: Sophomore standing or greater. Some biology background suggested
Activity: Lecture
1 Course Unit
BIOL 199 Clinical & Translational Research
Independent study for students doing research based on data that is generated in a clinical setting. Projects must be sponsored by standing faculty of the University of Pennsylvania and co-sponsored by a faculty member in the Department of Biology. The project must be of biological interest and must use appropriate quantitative or statistical methods. A final paper is required. Apply at the Academic Office, 102 Leidy Labs.
One-term course offered either term
Activity: Independent Study
1 Course Unit

BIOL 205 Cell Biology
A conceptual view of cell structure and function including membrane structure, intracellular organelles, membrane trafficking, surface receptors and signal transduction, the cytoskeleton, cell motility and communication, and the cell cycle. Cell biology is a dynamic field and recent research discoveries will be included in the lectures.
Taught by: Guo and Svitkina
Course usually offered in fall term
Prerequisites: BIOL 101 and 102, or BIOL 121
Activity: Lecture
1 Course Unit

BIOL 211 Essentials of Molecular Biology and Genetics
This course will survey the discipline of molecular genetics. Mendelian and molecular genetics will be discussed as well as the use of genetic analysis to address questions in all areas of biology. The processes of DNA replication, transcription, and translation will be discussed at the molecular level. Other topics include the regulation of gene expression and genomics. This course is open to students in the College of Liberal and Professional Studies only.
One-term course offered either term
Prerequisites: BIOL 101 and 102 or BIOL 121 or equivalent courses
Activity: Lecture
1 Course Unit

BIOL 213 Essentials of Vertebrate Physiology
A comparative and quantitative approach to the physiological function of vertebrates. Topics include muscles, nervous system, cardiovascular system, respiration, and renal function. This course is open to students in the College of Liberal and Professional Studies only.
One-term course offered either term
Prerequisites: BIOL 101 and 102 or BIOL 121 and 124 or equivalent courses
Activity: Lecture
1 Course Unit

BIOL 215 Vertebrate Physiology
The course will focus on integrative aspects of physiological function of vertebrates. Comparative, environmental and quantitative approaches will be used. Major topics include muscle, the cardiovascular system, respiration, renal function and the nervous system.
Taught by: Woodward
One-term course offered either term
Prerequisite: BIOL 102 or 121 or 124
Activity: Lecture
1 Course Unit

BIOL 221 Molecular Biology and Genetics
This course will survey the discipline of molecular genetics. Two broad areas will be considered 1) Molecular Biology: DNA replication, transcription, translation, regulation of gene expression in both prokaryotic and eukaryotic systems, and genomics and 2) Genetics: basic Mendelian & molecular genetics.
Taught by: Bonini/Gallagher/Guild/Levine
One-term course offered either term
Also Offered As: BIOL 527, GCB 527
Prerequisite: BIOL 101 or 121
Activity: Lecture
1 Course Unit
BIOL 230 Evolutionary Biology
Theories and mechanisms of evolution, with emphasis on the genetic basis of evolutionary change.
Taught by: Schmidt, P
Course usually offered in spring term
Prerequisites: BIOL 101 and 102, or BIOL 121
Activity: Lecture
1 Course Unit

BIOL 231 The Evolution of Animal Behavior
The evolution of social behavior in animals, with special emphasis on group formation, cooperation among kin, mating systems, territoriality and communication.
Course not offered every year
Also Offered As: BIBB 231, PSYC 231
Prerequisite: BIOL 102 or 121 or PSYC 001
Activity: Lecture
1 Course Unit

BIOL 240 Ecology: From individuals to ecosystems
The study of living organisms in their natural environment, spanning the ecological physiology of individuals, the structure of populations, and interactions among species, including the organization of communities and ecosystem function.
Taught by: Helliker/Akcay
Course usually offered in fall term
Prerequisite: BIOL 102 or 121
Activity: Lecture
1 Course Unit

BIOL 251 Molecular and Cellular Neurobiology
Cellular physiology of neurons and excitable cells, molecular neurobiology and development. Topics include: action potential generation, synaptic transmission, molecular and physiological studies of ion channels, second messengers, simple neural circuits, synaptic plasticity, learning and memory, and neural development.
Taught by: Schmidt, M./Kaplan
Course usually offered in fall term
Also Offered As: BIBB 251
Prerequisites: BIOL 101 and 102, or BIOL 121; PHYS 102 or 151 strongly recommended
Activity: Lecture
1.5 Course Unit
Notes: (3hrs. lec., 3hrs. lab, 1.5 c.u.)

BIOL 275 Elements of Microbiology
Microbiology plays a central role in diverse areas of human life such as infectious disease, ecology, and biotechnology. This course will cover aspects of modern microbiology with an emphasis on prokaryotic organisms. The topics will include basic aspects of microbial diversity, genetics, and pathogenesis as well as examples of applied microbiology. This course is open to students in the College of Liberal and Professional Studies only.
One-term course offered either term
Prerequisites: BIOL 101 or 121, BIOL 211 or 221 or equivalent strongly recommended
Activity: Lecture
1 Course Unit
Notes: Combined lecture and lab course.

BIOL 276 Comparative Vertebrate Anatomy and Evolution
This course will survey the phylogeny and anatomy of vertebrate organisms from a comparative evolutionary perspective. The lecture will concentrate on the history, diversity, structure and function of vertebrates. A companion lab course, BIOL 336, is available for those students interested in a more complete understanding of vertebrate anatomy.
Taught by: Dunham
Course usually offered in spring term
Prerequisite: BIOL 102 or 121
Activity: Lecture
1 Course Unit

BIOL 304 Infectious Disease Biology
This course focuses on selected topics concerning infectious agents, the diseases they cause in humans, and the social and scientific challenges they pose. The first section addresses the principles of epidemiology and microbial pathogenesis, as well as pathophysiology of infectious diseases. In the second section, tools and techniques of diagnosis, tracking, and control of infectious diseases will be discussed. To develop a broad understanding of the many different aspects of infectious processes, selected viral, fungal, protozoan, and helminthic pathogens and related infectious diseases will be presented. This course is open to students in the College of Liberal and Professional Studies only.
Course usually offered in spring term
Prerequisites: BIOL 221, 275 and 404, the later of which may be taken concurrently
Activity: Lecture
1 Course Unit

BIOL 306 Histology
This course is designed to introduce the undergraduate student to the structure of tissues at the cellular level and to the way in which those tissues are assembled into organs. This knowledge of structure will be the basis for discussion of tissue and organ function. This course is open to students in the College of Liberal and Professional Studies only.
One-term course offered either term
Prerequisites: BIOL 101 and 121, and BIOL 201 or 205 recommended
Activity: Lecture
1 Course Unit

BIOL 330 Comparative Vertebrate Anatomy and Evolution
Taught by: Dunham
Course usually offered in spring term
Prerequisite: BIOL 102 or 121
Activity: Lecture
1 Course Unit

BIOL 336 Comparative Vertebrate Anatomy Lab
Laboratory portion of BIOL 330 Comparative Vertebrate Anatomy and Evolution. Students will learn comparative anatomy through dissection of representative vertebrates. Students taking the lab must have credit or register for the lecture course, BIOL 330.
Taught by: Dunham
Course usually offered in spring term
Prerequisite: BIOL 330 previously or concurrently is required
Activity: Laboratory
0.5 Course Units
Notes: (3 hrs lab., 0.5 c.u.)
BIOL 354 Developmental Biology
A view of how an animal embryo is specified to develop and differentiate into a wide spectrum of cell types, and how the spatial patterns and axes of embryos are determined. The course will focus on genetic and molecular approaches, but will also cover the comparative anatomy of developing embryos to the extent necessary to understand the conserved aspects of embryonic patterning. Special emphasis will be placed on organisms with particular advantages for the study of embryonic development: e.g., mouse, frog, zebrafish, and Drosophila. The first half of the course will cover cell fate restrictions, cloning animals using nuclear transfer, stem cell biology, formation of the embryonic axes in vertebrates and Drosophila, and patterning of the neural tube and mesodermal tissues. The second half of the course will focus on emerging ideas and findings in the field, with emphasis on analysis of original literature.
Taught by: Wagner J
Course usually offered in spring term
Prerequisite: BIOL 205 or 221
Activity: Lecture
1 Course Unit

BIOL 375 Microbial Diversity and Pathogenesis
Microbiology plays a central role in diverse areas of human life such as infectious disease, ecology, and biotechnology. This course will cover aspects of modern microbiology with an emphasis on prokaryotic organisms. The topics will include basic aspects of microbial diversity, genetics, virology, and pathogenesis as well as examples of applied microbiology.
Taught by: Pohlschroder
Course usually offered in spring term
Also Offered As: BIOL 575
Prerequisites: BIOL 101 and 102 or BIOL 121, BIOL 221
Activity: Lecture
1 Course Unit

BIOL 376 Microbial Diversity and Pathogenesis Lab
The importance of microbiology in complex issues, such as the impact of the microbiome in human health or as alternative energy sources, is being appreciated more and more each day. This upper level laboratory course provides students with a robust technical skill set while also giving them an opportunity to participate in an authentic research project that may lead to novel discoveries. Students will generate research questions, formulate hypotheses, design experiments, analyze data, and present their research findings to the class. In each project, students will use the cutting edge approach of metagenomics to evaluate the microbial diversity of their environment via Next Generation Sequencing. Students will also examine the function of microbial species within their communities. Potential projects include the isolation of novel antibiotic producers and the antibiotic they produce, designing and optimizing microbial fuel cells that can be used to generate electricity, or isolating antibiotic resistant bacteria and attempting novel approaches to inhibit or prevent their growth.
Taught by: Pohlschroder and Hogan
Course usually offered in spring term
Also Offered As: BIOL 576
Prerequisite: BIOL 375 previously or concurrently is recommended but not required
Activity: Laboratory
1 Course Unit
Notes: (6 hrs lab., 1.0 c.u.)

BIOL 399 Independent Study
Laboratory research with a faculty member in the Department of Biology. Research may also be conducted elsewhere on campus but co-sponsored by a faculty member in Biology. A final paper is required. Apply at the Biology Academic Office, 102 Leidy Labs.
One-term course offered either term
Activity: Independent Study
1 Course Unit

BIOL 400 Field Botany
Students will learn to identify plants in the field using keys and manuals; lab exercises will also include the use of quantitative techniques for measuring plant populations and characterizing plant communities. Students will learn how to collect and prepare herbarium specimens. Most of the class time will be spent outdoors and two Saturday field trips are required.
Taught by: Block and Skema
Course usually offered in fall term
Prerequisite: BIOL 101 or 124 or permission of instructor
Activity: Laboratory
1 Course Unit

BIOL 401 Prokaryotic Microbiology: A Pragmatic View
This interactive course is intended for a small group of students aspiring to pursue research in microbiology, preferably using prokaryotes. Students will study selected papers and will attend the Prokaryotic Microbiology Seminars on Fridays. Specific problems of importance to a given field at a particular time will be critically analyzed and discussed: How were cutting edge techniques of the time used to address these problems? How would the same problems be approached using current techniques? The emphasis of the course will be on learning to become a thoughtful experimentalist rather than acquiring the hottest emerging knowledge.
Taught by: Daldal
Course usually offered in spring term
Prerequisite: BIOL 375 is recommended but not required
Activity: Seminar
1 Course Unit

BIOL 404 Immunobiology
Early development of microbiology, pathology, and immunobiology; molecular and cellular bases of immune phenomena including: immunity to pathogens, immune diseases, autoimmunity, and hypersensitivity. This course is open to students in the College of Liberal and Professional Studies only.
One-term course offered either term
Prerequisites: BIOL 201 or 205 and BIOL 211 or 221
Activity: Lecture
1 Course Unit
BIOL 405 First Line of Defense: The Role of Innate Immunity in Disease
All organisms, from bacteria to humans, rely on innate, non-specific defense systems to protect against infection and mediate damage. Even in organisms that can generate highly specific and efficient adaptive responses, such as humans, defects in innate immune system components can be fatal. In this course, we will examine the cellular and molecular mechanisms of the components of the innate immune system through discussion of primary literature. We will explore how the innate immune system influences the course of infections and cancer, as well as autoinflammatory disorders that lead to host tissue damage. Though our focus will be on mammalian immunity, we will also explore the evolutionary development of innate immunity through comparison of systems in different organisms.
Taught by: Elliott
Course usually offered in fall term
Prerequisites: BIOL 205 or permission of instructor, BIOL 221 recommended
Activity: Seminar
1 Course Unit

BIOL 406 Molecular Mechanisms of Infectious Disease Biology
This course is designed for advanced undergraduates and beginning graduate students with a particular interest in infectious disease biology. Note that this course is not a comprehensive survey of the field and is not appropriate for students seeking a lecture course on disease. The primary objective of this course is to teach students considering a career in the biomedical sciences how to read, discuss, and question research papers effectively. Intensive classroom discussions focus on the experimental methods used, results obtained, interpretation of these results in the context of pathogen interactions with host cells and organisms, and implications for basic research and therapeutic development.
Taught by: Roos
Course usually offered in spring term
Prerequisite: BIOL 205; BIOL 221 recommended
Activity: Seminar
1 Course Unit

BIOL 407 Cancer Cell Biology
This course will focus on the molecular mechanisms by which fundamental cellular processes are disrupted in the development of cancer.
Taught by: Keith
Course usually offered in fall term
Prerequisites: BIOL 205 and 221 or equivalent courses
Activity: Seminar
1 Course Unit

BIOL 410 Advanced Evolution
Mechanisms of evolution at the genetic and populational levels. Empirical and theoretical approaches to natural selection, population structure, gene flow, and quantitative genetics will be emphasized.
Taught by: Sniegowski/Plotkin
Course offered fall; odd-numbered years
Prerequisite: BIOL 205 or permission of instructor
Activity: Lecture
1 Course Unit

BIOL 411 Evolutionary Ecology
This course will focus on topics at the intersection of evolutionary biology and ecology, including the evolution of cooperation and conflict from genes to societies to ecological communities, life history evolution, and the evolution of interspecific interactions and ecological communities. The course will use a combination of lectures and discussion of readings from the primary literature.
Taught by: Linksvayer
Course usually offered in spring term
Prerequisite: BIOL 230 or 231 or 240
Activity: Seminar
1 Course Unit

BIOL 415 Freshwater Ecology
Survey of the physical, chemical and biological properties of freshwater ecosystems, both riverine and lentic, natural and polluted.
Taught by: Arscott
Course usually offered in spring term
Also Offered As: ENVS 416
Prerequisites: BIOL 101 or 211 and one semester of college chemistry
Activity: Lecture
1 Course Unit

BIOL 417 Theoretical Population Biology
Introduction to basic theoretical tools to study the evolutionary and ecological dynamics of populations. Topics to be discussed include: basic population dynamics and population genetics theory, evolutionary game theory/adaptive dynamics, social evolution (kin selection/multilevel selection), life-history evolution, and stochastic models. Other topics may be added based on the specific interests of students in the class.
Taught by: Akcay
Course usually offered in spring term
Prerequisites: BIOL 230 and MATH 104 recommended
Activity: Seminar
1 Course Unit

BIOL 421 Molecular Genetics
A detailed analysis of gene structure and expression in both prokaryotic and eukaryotic organisms. Rapid advances in DNA technology and genomics will be emphasized. The application of these advances to the molecular genetic analysis of development, cell function and disease will be discussed.
Taught by: Weinberg
Course usually offered in fall term
Prerequisite: BIOL 221 or equivalent course
Activity: Lecture
1 Course Unit
BIOL 422 Human Genetics and Genomics
In this course we will discuss the identification and characterization of genetic diversity in the human genome, the genetic basis of normal variable traits, and the genetic basis of human disease. The study of the human genome increasingly impacts almost every aspect of our society, from medicine to law enforcement to how we view ourselves. The focus of this course will be to apply concepts and methods of genetics and genomic analysis (gene mapping, genome sequencing, epigenetics, gene expression) to better understand the genetic basis of both normal variable traits as well as disease. We will discuss how to distinguish the evolutionary and demographic forces (i.e. mutation, migration, selection, population size) that influence genotypic and phenotypic variation within and among human populations. We will discuss how genomics and population genetics methodologies are being applied to study modern human origins, analysis of ancient DNA, ancestry, and population history. We will also discuss the implications of these studies for personalized medicine.
Taught by: Tishkoff
Course offered spring; odd-numbered years
Also Offered As: CAMB 422
Prerequisite: BIOL 221
Activity: Lecture
1 Course Unit

BIOL 425 Biochemistry and Molecular Genetics Superlab
Intensive laboratory class where open-ended, interesting biological problems are explored using modern lab techniques. Topics may include protein structure/function studies; genetic screens, genomics and gene expression studies; proteomics and protein purification techniques; and molecular cloning and DNA manipulation. The course emphasizes developing scientific communication and independent research skills. Course topics reflect the interests of individual Biology faculty members. This course is recommended for students considering independent research.
Taught by: Wagner J
One-term course offered either term
Prerequisite: BIOL 204 or 205 or 221 or an equivalent course is recommended
Activity: Laboratory
1 Course Unit

BIOL 431 Genome Science and Genomic Medicine
This course will be a focused study of genomes, genomic techniques, and how these approaches are and will be used in diagnosing and treating human disease. Topics will include genome sequencing, analysis of sequences and microarrays, and new techniques including high-throughput sequencing and reverse genetic analysis with a focus on genome-wide mutant collections.
Taught by: Gregory
Course usually offered in spring term
Also Offered As: CAMB 431
Prerequisite: BIOL 221; BIOL 421 strongly recommended
Activity: Lecture
1 Course Unit

BIOL 432 Human Genetics and Genomics
In this course we will discuss the identification and characterization of genetic diversity in the human genome, the genetic basis of normal variable traits, and the genetic basis of human disease. The study of the human genome increasingly impacts almost every aspect of our society, from medicine to law enforcement to how we view ourselves. The focus of this course will be to apply concepts and methods of genetics and genomic analysis (gene mapping, genome sequencing, epigenetics, gene expression) to better understand the genetic basis of both normal variable traits as well as disease. We will discuss how to distinguish the evolutionary and demographic forces (i.e. mutation, migration, selection, population size) that influence genotypic and phenotypic variation within and among human populations. We will discuss how genomics and population genetics methodologies are being applied to study modern human origins, analysis of ancient DNA, ancestry, and population history. We will also discuss the implications of these studies for personalized medicine.
Taught by: Tishkoff
Course offered spring; odd-numbered years
Also Offered As: CAMB 422
Prerequisite: BIOL 221
Activity: Lecture
1 Course Unit

BIOL 426 Molecular Physiology
This course is designed for advanced undergraduate and graduate students who are interested in molecular physiology of sensory signal transduction. The major topics to cover will be signal transduction mechanisms used by membrane ion channels and receptors that detect the sensory stimuli (light, sound, temperature and taste, for example) and transmit the signals to the nervous system. Modern molecular/structural techniques (patch clamp, protein crystallization, molecular genetics, expression cloning and protein purification) will be introduced along with each topic. References will be primary research articles. Students will critically evaluate research discoveries by reading and presenting one to two original research papers. Each student is required to write a 10-page research proposal and to critique proposals written by fellow students.
Taught by: Ren
Course usually offered in fall term
Prerequisite: A year of introductory biology or equivalent
Activity: Seminar
1 Course Unit

BIOL 433 The Genetics of Adaptation: How sex, conflict, and pathogens shape modern genomes
In this course we explore the genetic basis of adaptation. We will investigate the forces that drive adaptation (e.g., environmental stress, pathogens, conflict, sex), the genetic mechanisms of adaptation (protein sequence changes, expression divergence, gene duplication, etc.), and the consequences of adaptation for contemporary cellular functions, developmental processes, and ecological interactions. The class meetings will be structured around both lectures and student-led discussions of the primary literature.
Taught by: Levine
Course usually offered in spring term
Prerequisite: BIOL 221 or 230 or permission of instructor
Activity: Seminar
1 Course Unit

BIOL 434 Biostatistics
This course is designed for students interested in the use of statistics in biology. The course covers the basic ideas of probability and statistical inference as they apply to biological problems. The material is illustrated with examples from the biological sciences, with emphasis on applications rather than abstract theory. The course will be divided into several different areas: basic probability theory, descriptive statistics, principles of experimentation and design of experiments, statistical inference (both parametric and non-parametric), and specialized techniques for analyzing data from biological experiments. There will be a strong emphasis on the use of computer programs for data analysis.
Taught by: Kim
Course usually offered in fall term
Prerequisite: Prerequisite: BIOL 204 or 230 or equivalent
Activity: Lecture
1 Course Unit

BIOL 437 Introduction to Computational Biology & Biological Modeling
The goal of this course is to develop a deeper understanding of techniques and concepts used in Computational Biology. The course will strive to focus on a small set of approaches to gain both theoretical and practical understanding of the methods. We will aim to cover practical issues such as programming and the use of programs, as well as theoretical issues such as algorithm design, statistical data analysis, theory of algorithms and statistics. This course WILL NOT provide a broad survey of the field nor teach specific tools but focus on a deep understanding of a small set of topics. We will discuss string algorithms, hidden markov models, dimension reduction, and machine learning (or phylogeny estimation) for biomedical problems.
Taught by: Kim
Course usually offered in fall term
Also Offered As: CIS 536, GCB 536
Prerequisites: Intermediate level biology; MATH 104; BIOL 446 or equivalent. Probability theory and linear algebra are highly recommended
Activity: Lecture
1 Course Unit
BIOL 438 Systems Biology: Integrative physiology and biomechanics of the muscular system
The course will focus on muscle function from the level of molecules to whole animal locomotion. At each level of organization, muscle function will be explored from mechanical and energetic viewpoints. The course will include lectures, demonstrations, and several guest expert lectures. Students will also be introduced to realistic musculo-skeletal modelling and forward dynamic simulations to explore integrated function.
Taught by: Rome
Course usually offered in spring term
Prerequisites: 1 year physics, 1 year chemistry, and BIOL 215 or 251
Activity: Lecture
1 Course Unit

BIOL 440 Advanced Analysis of Humans and the Environment
Advanced version of BIOL 140: Humans and the Environment. Additional readings and course work as directed.
For BA Students: Natural Science and Math Sector
Taught by: Janzen
Course usually offered in fall term
Also Offered As: BIOL 140
Prerequisite: Permission of instructor
Activity: Lecture
1 Course Unit

BIOL 442 Neurobiology of Learning and Memory
This course focuses on the current state of our knowledge about the neurobiological basis of learning and memory. A combination of lectures and student seminars will explore the molecular and cellular basis of learning in invertebrates and vertebrates from a behavioral and neural perspective.
Course usually offered in fall term
Also Offered As: BIBB 442, NGG 575, PSYC 421
Prerequisite: BIOL 251/BIBB 251 or PSYC 001 or permission of instructor
Activity: Seminar
1 Course Unit

BIOL 446 Statistics for Biologists
Introductory probability theory. Principles of statistical methods. Problems of estimation and hypothesis testing in biology and related areas.
Taught by: Plotkin
Course usually offered in fall term
Prerequisite: MATH 104 or equivalent; or permission of instructor
Activity: Lecture
1 Course Unit

BIOL 448 Principles of Drug Action
Principles of Drug Action covers the concepts of pharmacological sciences as they relate to biochemistry, cell biology, and drug therapy. The intent of the course is to provide a solid grounding in targets of drug action, dose-response relationships, pharmacodynamics, and pharmacokinetics. The grounding is achieved by a discussion of these concepts explicitly and, through selected examples, implicitly. The first part of the course covers each of the concepts. Emphasis is placed on the integration with principles of cell biology and biochemistry. The second part of the course covers selected therapeutic applications. The applications chosen fall within four areas: cardiovascular, brain and behavior, antipyretic and anti-inflammatory, and antimicrobial. They are used to recapitulate important concepts and provide insight into the interplay between pharmacology and human physiology. The applications and the areas they represent are by no means comprehensive, but students will be able to pursue additional interests through papers.
Taught by: Manning
Course usually offered in fall term
Prerequisite: BIOL 205; BIOL 204 is recommended
Activity: Lecture
1 Course Unit

BIOL 451 Neural Systems and Behavior
This course will investigate neural processing at the systems level. Principles of how brains encode information will be explored in both sensory (e.g. visual, auditory, olfactory, etc.) and motor systems. Neural encoding strategies will be discussed in relation to the specific behavioral needs of the animal. Examples will be drawn from a variety of different model systems.
Taught by: Schmidt, M.
Course usually offered in spring term
Also Offered As: BIBB 479, PSYC 479
Prerequisites: BIOL 251/BIBB 251 or permission of instructor
Activity: Lecture
1 Course Unit

BIOL 456 Neural Circuits for Survival
A fundamental goal of neuroscience is to understand how neural circuits in the brain function to influence behavior. The aim of this course is to highlight the neural basis of behavior and discuss modern approaches and novel methods to study the neuronal control of classically studied aspects of behavior. Through a combination of discussions, student presentations, and interactive lectures, we will explore the neural systems that regulate the interactions an animal has with the external world. We will explore sensory systems (such as vision, taste, and olfaction), motor systems, and survival behaviors (such as feeding, drinking, mating, and aggression). The course evaluation will be based largely on written work, participation, and presentations.
Taught by: Betley
Course usually offered in spring term
Prerequisite: BIOL 251/BIBB 251 or permission of instructor
Activity: Seminar
1 Course Unit
BIOL 466 Molecular Genetics of Neurological Disease
This course will focus on the molecular basis of neurological diseases, exploring in detail key papers that cover topics including defining the disease genes, development of animal models that provide mechanistic insight, and seminal findings that reveal molecular understanding. Diseases covered will include neurological diseases of great focus today such as Alzheimer's, Fragile-X and autism, dementia, motor neuron degeneration, and microsatellite repeat expansion disorders. The course will provide a perspective from initial molecular determination through current status. Students will gain an understanding of how the molecular basis of a disease is discovered (from classical genetics to modern genomics) and how such diseases can be modeled in simple genetic systems for mechanistic insight. The course will be comprised of lectures with detailed analysis of primary literature and in-class activities. Grading will be based on class participation, exams, and written papers.
Taught by: Bonini
Course usually offered in fall term
Also Offered As: BIBB 466
Prerequisite: BIOL 221 is required; BIOL 251 and BIOL 421 are recommended
Activity: Lecture
1 Course Unit

BIOL 469 Plant Physiology Through Space and Time
This course is a lab/lecture/seminar hybrid that will meet once per week for three hours. Each session will consist of mini-lecture/lab, paper discussions/lab, or solely lab efforts. All reading assignments will be available on Canvas (no textbook fees). We will examine various aspects of photosynthesis, water relations and nutrient acquisition in the context of the evolutionary progression of higher plants. With each subject, we will consider, measure, and in some cases model whole-plant physiology while examining sub-cellular-level controls and ecosystem-to-global-level consequences. This course is designed to give molecular biologists through earth-system scientists the tools to measure and understand whole-plant physiological responses to molecular manipulation and environmental variability. All students will learn to appreciate the context of their work on both micro and macro scales.
Taught by: Helliker
Course usually offered in spring term
Prerequisite: BIOL 240 or permission of instructor
Activity: Seminar
1 Course Unit

BIOL 477 The Science and Art of Biotechnology
Biotechnology transforms basic biological research into pharmaceutical therapies. This course will examine some explanations for American biotechnology vitality by studying case histories in which fundamental, biological observations were subsequently developed, successfully and unsuccessfully, for therapeutic applications. Along the way, we will also seek to understand the interactions among academic research institutions, biotechnology companies, large pharmaceutical companies, the Food and Drug Administration, financial institutions, venture groups, and the Patent and Trademark Office. Classes will be highly interactive. Students will present case histories in a critical fashion. Ultimately, students will conduct mock negotiations focused on university technology transfers, clinical trial design, financing, and intellectual property.
Taught by: Roth
Course usually offered in fall term
Prerequisite: Either BIOL 204 or 205 or 221 or permission of the department
Activity: Seminar
1 Course Unit

BIOL 480 Advanced Cell Biology
This course is designed for beginning graduate students and advanced undergraduates with a particular enthusiasm for cell biology. Biology 480 does not attempt to cover all aspects of cell biology, and is therefore not appropriate for students seeking a lecture course which provides a comprehensive survey of the field. Rather, the primary objective of this course is to teach those students considering a career in the biomedical sciences how to read, discuss, and question original research papers effectively. Intensive classroom discussions focus on the experimental methods used, results obtained, interpretation of these results in the context of cell structure and function, and implications for further studies.
Taught by: Guo
Course usually offered in fall term
Also Offered As: CAMB 480
Prerequisite: BIOL 201 or 205
Activity: Lecture
1 Course Unit

BIOL 482 Cell Signaling
The evolution of multicellularity required that cells be able to both send and receive signals from their neighbors. The development of organs and differentiation of cells and tissues requires reliable and continuous communication between cells. Consequences of inappropriate or anomalous signaling include development abnormalities and cancer. This class will examine mechanisms of cell-to-cell signaling between cells in plants and animals with an emphasis on the cell biology of development.
Taught by: Gallagher
Course usually offered in fall term
Also Offered As: CAMB 482
Prerequisite: BIOL 205 or permission of instructor
Activity: Seminar
1 Course Unit

BIOL 483 Epigenetics
This course investigates epigenetic phenomena: heritable alternate states of gene activity that do not result from an alteration in nucleotide composition (mutations). Epigenetic mechanisms regulate genome accessibility and cell differentiation. They play a key role in normal development and in oncogenesis. For example both mammalian X-chromosome inactivation and nuclear transfer (cloning) are subject to epigenetic regulation. Amongst the epigenetic mechanisms we will discuss in this course are chromatin organization, histone modification, DNA methylation and non-coding RNAs. The course is geared toward advanced undergraduate and beginning graduate students and is a combination of lectures, student presentations and research presentations by guest speakers. Students will work with the current scientific literature.
Taught by: Wagner D
Course usually offered in fall term
Also Offered As: CAMB 483
Prerequisite: BIOL 221
Activity: Lecture
1 Course Unit
**BIOL 484 Cell Motility and the Cytoskeleton**
Cytoskeleton and cell motility plays a crucial role in many aspects of normal and pathological physiology of individual cells, tissues, and whole organisms, including morphogenesis, immune response, wound healing, oncogenesis, and infection. This course will cover current topics in cell biology with emphasis on cytoskeleton and cell motility and their roles in these processes. Lectures, student presentations, and discussions in the class will be based on primary scientific literature.

Taught by: Svitkina
Course usually offered in fall term
Prerequisite: BIOL 205
Activity: Seminar
1 Course Unit

**BIOL 485 The RNA World: A functional and computational analysis**
A focused study of genomic, biochemical, cellular, and molecular aspects of RNA. Topics of study will include RNA structure, RNA processing and turnover, splicing, ribozymes and riboswitches, RNA editing and modification, RNA interference, endogenous eukaryotic RNA silencing pathways, small RNA biology, computational methodologies for studying RNA biology, and RNA viruses. Lectures, students presentations, and discussions will be based on readings from the primary literature.

Taught by: Gregory
Course offered spring; even-numbered years
Also Offered As: CAMB 485
Prerequisite: BIOL 221 required; BIOL 421 strongly recommended
Activity: Seminar
1 Course Unit

**BIOL 486 Chromosomes and the Cell Cycle**
Life depends on the propagation of genetic material from one generation to the next through cycles of genome replication and cell division. The genome is copied by the parent, and one exact copy is inherited by each daughter cell. We will treat chromosomes as discrete entities, rather than collections of genes, that are replicated and divided with high fidelity to ensure that the genome remains stable over many generations. By reading selected primary literature covering several decades, we will build an understanding of the cell cycle by focusing on chromosomes and the associated molecular machinery. We will explore mechanisms that underlie replication and division, particularly control mechanisms that maintain genome integrity and are critical to prevent disease. The goal of the course is to develop a picture of the cell cycle by examining some of the key experiments and insights that have led to our current understanding.

Taught by: Lampson
Course offered spring; even-numbered years
Also Offered As: CAMB 486
Prerequisite: BIOL 205 or permission of instructor
Activity: Seminar
1 Course Unit

**BIOL 488 Advanced Topics in Behavioral Genetics**
This course focuses on the use of genetic techniques to study the molecular and cellular bases of behavior. Particular emphasis will be given to the role of genetic approaches in understanding the biological processes underlying memory storage, circadian rhythms, and neurological and psychiatric disorders. Reverse genetic approaches utilizing gene knockout and transgenic technologies, as well as forward genetic approaches using mutagenesis and quantitative genetic techniques will be discussed.

Course offered spring; even-numbered years
Also Offered As: CAMB 578, NGG 578
Prerequisite: Permission of instructor
Activity: Lecture
1 Course Unit

**BIOL 493 Epigenetics of Human Health and Disease**
Epigenetic alterations encompass heritable, non-genetic changes to chromatin (the polymer of DNA plus histone proteins) that influence cellular and organismal processes. This course will examine epigenetic mechanisms in directing development from the earliest stages of growth, and in maintaining normal cellular homeostasis during life. We will also explore how diverse epigenetic processes are at the heart of numerous human disease states. We will review topics ranging from an historical perspective of the discovery of epigenetic mechanisms to the use of modern technology and drug development to target epigenetic mechanisms to increase healthy lifespan and combat human disease. The course will involve a combination of didactic lectures, primary scientific literature and research lectures, and student-led presentations.

Taught by: Berger
Course offered spring; odd-numbered years
Also Offered As: CAMB 493
Prerequisites: BIOL 221 required, BIOL 483 recommended
Activity: Seminar
1 Course Unit

**BIOL 499 Advanced Independent Study**
A second semester of independent study, in most cases extending the research undertaken for the BIOL 399. Apply at the Biology Academic Office, 102 Leidy Labs.
One-term course offered either term
Prerequisite: BIOL 399 in the same laboratory as the proposed BIOL 499
Activity: Independent Study
1 Course Unit

**BIOL 522 Human Evolutionary Genomics**
Advanced seminar on current topics in human genomics and human evolution. Topics include the methods used for mapping and sequencing genomes; phylogenetic and population genetic analysis; and detecting variation in the human genome. This course is designed for graduate students but advanced undergraduates with a strong background in genetics are also welcome.

Taught by: Tishkoff
Course offered spring; even-numbered years
Also Offered As: CAMB 522
Prerequisite: Permission of instructor
Activity: Seminar
1 Course Unit
BIOL 527 Genetics for Computational Biology
This course will survey the discipline of molecular genetics. Two broad areas will be considered: 1) Molecular biology: DNA replication, transcription, translation, and the regulation of gene expression in both prokaryotic and eukaryotic systems and genomics and 2) Genetics: basic Mendelian & molecular genetics.
Taught by: Bonini/Gallagher/Guild/Keith
One-term course offered either term
Also Offered As: BIOL 221, GCB 527
Prerequisites: BIOL 101 or 121. Permission of instructor required
Activity: Lecture
1 Course Unit

BIOL 535 Topics in Theory of Living Systems
The goal of this course is to discuss broad conceptual theories that address complex phenomena of living systems. Example questions include: what is the molecular architecture of information processing in cells and developing organisms? What is the functional architecture of cooperative organization from molecules in a cell to whole organism social interactions? How is complex multi-factorial information represented in organisms? The course will meet once a week and students will research relevant papers, lead discussions, and generate synopsis of group discussions. At the end of the semester, faculty and students are expected to co-author a review report of the discussed topics.
Taught by: Kim, Goulian, Akcay, Balasubramanian, Raj, Mossel
Course not offered every year
Also Offered As: PHYS 535
Prerequisite: Permission of instructor
Activity: Seminar
0.5 Course Units

BIOL 537 Advanced Computational Biology
Discussion of special research topics.
Taught by: Barash, Wang
Course usually offered in spring term
Also Offered As: CIS 635, GCB 537
Prerequisite: BIOL 437 or permission of instructor
Activity: Seminar
1 Course Unit

BIOL 540 Genetic Analysis
The logic and methodology of genetic analysis in plants and animals. This lecture course will focus on the use of mutations to study gene function and higher order biological processes, methods for reporting and manipulating gene expression, and analysis of the genetic basis of natural variation.
Taught by: Poethig
Course not offered every year
Also Offered As: CAMB 541
Prerequisite: BIOL 221 or permission of instructor
Activity: Lecture
1 Course Unit

BIOL 575 Microbial Diversity and Pathogenesis
Advanced version of BIOL 375: Microbial Diversity and Pathogenesis for graduate students only. Additional readings and course work as directed.
Taught by: Pohlschroder
Course usually offered in spring term
Also Offered As: BIOL 375
Prerequisites: Permission of instructor and BIOL 221 or equivalent
Activity: Lecture
1 Course Unit

BIOL 576 Microbial Diversity and Pathogenesis Lab
Advanced version of BIOL 376: Microbial Diversity and Pathogenesis Lab for graduate students only. Additional readings and course work as directed.
Taught by: Pohlschroder and Hogan
Course usually offered in spring term
Also Offered As: BIOL 376
Prerequisites: Permission of instructor. BIOL 575 previously or concurrently is recommended but not required
Activity: Laboratory
1 Course Unit

BIOL 586 Topics in Mathematical Biology
This course will cover various mathematical models and tools that are used to study modern biological problems. The specific emphasis will vary from year to year, but typically will include an introduction to stochastic processes and computational methods that arise in evolutionary biology and population genetics. No prior knowledge of biology is needed to take this course, but a strong background in probability and familiarity with algorithms and combinatorics will be assumed.
Also Offered As: MATH 586
Prerequisites: MATH 430 or equivalent is required. MATH 241 and 340 are recommended
Activity: Lecture
1 Course Unit

BIOL 599 Master's Independent Study
Laboratory research for the Master's of Science in Biology submatriculation program. Apply at the Academic Office, 102 Leidy Labs.
One-term course offered either term
Activity: Independent Study
1.5 Course Unit

BIOL 607 Writing for Biologists
The course teaches scientific writing in a workshop format, where students both produce weekly writing assignments and critique writing submitted by others. Emphasis is placed on simplicity and clarity with the goal of writing effectively to a wide audience beyond the student's immediate research area.
Taught by: Schmidt, P
Course usually offered in fall term
Activity: Seminar
0.5 Course Units
Notes: Course open to PhD students in Biology only.

BIOL 700 Advanced Topics in Current Biological Research
Integrative seminar on current biological research for first-year PhD students.
Course usually offered in fall term
Activity: Seminar
1 Course Unit
Notes: Course open to PhD students in Biology only.
Biomedical Graduate Studies (BIOM)

BIOM 502 Molecular Basis of Disease
Taught by: Dr. Hao Shen and John Lynch
Course usually offered in spring term
Prerequisites: Permission of course directors. This course is reserved for BGS students only.
Activity: Lecture
1 Course Unit
Notes: BIOM 502 introduces students to basic mechanisms of disease and examines a different disease each week. The focus of the course will be on understanding the pathophysiology of the diseases and how research has enhanced not only our knowledge of disease mechanisms but has also led to improved therapy for patients with these diseases.

BIOM 510 Case Studies in Translational Research (CSTR)
This course is open to MD/PhD, VMD/PhD and Biomedical Graduate Studies PhD students. All second year combined degree students are expected to take this course unless excused by Dr. Brass. Enrollment is limited to 24 students but interested VMD/PhD and BGS students are welcome as space permits CSTR is a seminar style course where groups of students work with selected Penn faculty to prepare a discussion and literature review on disease topics. Topics will include gene therapy for hemophilia, retinal disease and wound healing, cytokine therapies for immune disorders, genetic sleep disturbances and vaccine development. Most of the course will focus on the analysis of successful translational research projects that are taking place here at Penn.
Taught by: Drs. Mitch Weiss, Emma Meagher and Skip Brass
Course usually offered in fall term
Activity: Seminar
1 Course Unit

BIOM 555 Regulation of the Genome
Regulation of gene expression including chromatin structure, transcription, DNA modification, RNA processing, translation, control of gene expression via microRNAs and post-translational processing.
Taught by: Drs. Zhaolan Zhou and Ben Black
Course usually offered in spring term
Prerequisite: Permission of Instructors
Activity: Lecture
1 Course Unit

BIOM 600 Cell Biology
BIOM 600 is an intermediate level graduate course designed to introduce students to the molecular components and physiological mechanisms that underlie the structure and function of cells. The course is designed as an in-depth survey to cover general concepts central to the field of biochemistry and cell biology and to emphasize these concepts within the context of current scientific research questions and technical approaches. Lectures will focus on recent discoveries in contemporary cell biology involving (i) basic cellular biochemistry; (ii) mechanisms of membrane transport and excitability; (iii) intracellular compartmentalization and protein/vesicle targeting, organelle biogenesis; (iv) cytoskeletal architecture, cell motility and adhesion; and (v) molecular mechanisms of signal transduction. Efforts will be made to familiarize students with recent technical advances in molecular, biochemical, microscopic, spectroscopic, and electrophysiologic techniques.
Taught by: Dr. Richard Assoian, Director. Dr. Kurt Engleka, Assistant Course Director. Theme Directors: Drs. Mickey Marks, John Weisel, Toshi Hoshi, and Xiaolu Yang
Course usually offered in fall term
Prerequisite: Permission of Instructor
Activity: Lecture
1 Course Unit

Biostatistics (BSTA)

BSTA 509 Introduction to Epidemiology
Taught by: Yu-Xiao Yang
Also Offered As: EPID 801
Activity: Lecture
0.5 Course Units
BSTA 511 Biostatistics in Practice
Taught by: Russell T. Shinohara
Course usually offered in fall term
Prerequisites: Open to Biostatistics student only.
Activity: Lecture
0.5 Course Units

BSTA 550 App Reg and Anal of Var
Also Offered As: PSYC 611, STAT 500
Activity: Lecture
1 Course Unit

BSTA 620 Probability I
This course covers Elements of (non-measure theoretic) probability necessary for the further study of statistics and biostatistics. Topics include set theory, axioms of probability, counting arguments, conditional probability, random variables and distributions, expectations, generating functions, families of distributions, joint and marginal distributions, hierarchical models, covariance and correlation, random sampling, sampling properties of statistics, modes of convergence, and random number generation.
Course usually offered in fall term
Prerequisites: Two semesters of calculus (through multivariable calculus), linear algebra; permission from the instructor.
Activity: Lecture
1 Course Unit

BSTA 621 Statistical Inference I
This class will cover the fundamental concepts of statistical inference. Topics include defining the survival curve, censoring, and the hazard function; the log rank test; and Cox's proportional hazards regression model. Survival analysis will include defining rates; incidence and prevalence; the chi-squared test; Fisher's exact test and its extension; relative risk and odds ratio; sensitivity; specificity; predictive values; logistic regression with goodness of fit tests; ROC curves; the Mantel-Haenszel test; McNemar's test; the Poisson model; and the Kappa statistic. Survival analysis will be introduced with emphasis on the binomial, logit and Poisson log-linear models. Examples of medical and biologic data will be used throughout the course, and use of computer software demonstrated.
Course usually offered in fall term
Prerequisites: BSTA 621, permission of instructor.
Activity: Lecture
1 Course Unit

BSTA 622 Statistical Inference II
This class will cover the fundamental concepts of statistical inference. Topics include regression and analysis of variance, general linear hypothesis, estimability, polynomial, piecewise, ridge, and weighted regression, regression and collinearity diagnostics, multiple comparisons, fitting strategies, simple experimental designs (block designs, split plot), random effects models, Best Linear Unbiased Prediction. In addition, generalized linear models will be introduced with emphasis on the binomial, logit and Poisson log-linear models. Applications of methods to example data sets will be emphasized.
Course usually offered in spring term
Prerequisites: BSTA 630, 620, 621 (may be taken concurrently), linear algebra, calculus and permission of instructor.
Activity: Lecture
1 Course Unit

BSTA 630 Statistical Methods and Data Analysis I
This first course in statistical methods for data analysis is aimed at first-year Biostatistics students. It focuses on the analysis of continuous data. Topics include descriptive statistics (measures of central tendency and dispersion, shapes of distributions, graphical representations of distributions, transformations, and testing for goodness of fit); populations and sampling (hypotheses of differences and equivalence, statistical errors); one- and two-sample t tests; analysis of variance; correlation; nonparametric tests on means and correlations; estimation (confidence intervals and robust methods); categorical data analysis (proportions; statistics and test for comparing proportions; test for matched samples; study design); and regression modeling (simple linear regression, multiple regression, model fitting and testing, partial correlation, residuals, multicollinearity). Examples of medical and biologic data will be used throughout the course, and use of computer software demonstrated.
Course usually offered in fall term
Prerequisites: Multivariable calculus and linear algebra, BSTA 620 (may be taken concurrently) and permission of instructor.
Activity: Lecture
1 Course Unit

BSTA 632 Statistical Methods for Categorical and Survival Data
This is the second half of the methods sequence, where the focus shifts to methods for categorical and survival data. Topics in categorical include defining rates; incidence and prevalence; the chi-squared test; Fisher's exact test and its extension; relative risk and odds-ratio; sensitivity; specificity; predictive values; logistic regression with goodness of fit tests; ROC curves; the Mantel-Haenszel test; McNemar's test; the Poisson model; and the Kappa statistic. Survival analysis will include defining the survival curve, censoring, and the hazard function; the Kaplan-Meier estimate, Greenwood's formula and confidence bands; the log rank test; and Cox's proportional hazards regression model. Examples of medical and biologic data will be used throughout the course, and use of computer software demonstrated.
Course usually offered in spring term
Prerequisites: BSTA 630, 620, 621 (may be taken concurrently), linear algebra, calculus and permission of instructor.
Activity: Lecture
1 Course Unit

BSTA 651 Introduction to Linear Models and Generalized Linear Models
This course extends the content on linear models in BSTA 630 and BSTA 632 to more advanced concepts and applications of linear models. Topics include the matrix approach to linear models including regression and analysis of variance, general linear hypothesis, estimability, polynomial, piecewise, ridge, and weighted regression, regression and collinearity diagnostics, multiple comparisons, fitting strategies, simple experimental designs (block designs, split plot), random effects models, Best Linear Unbiased Prediction. In addition, generalized linear models will be introduced with emphasis on the binomial, logit and Poisson log-linear models. Applications of methods to example data sets will be emphasized.
Course usually offered in spring term
Prerequisites: Linear algebra, calculus, BSTA 620, 630. BSTA 621 and 632 (may be taken concurrently), permission of instructor.
Activity: Lecture
1 Course Unit
BSTA 690 Consulting Laboratory I
Participation in the consulting laboratory is a requirement for both the Master's and Ph.D. degrees. This course covers general principles of statistical consulting and statistical consulting experience. There is training on statistical programming, preparation of reports, presentations, and the communication aspects of consulting. Each student will be expected to join one of several project teams consisting of faculty, research staff, and graduate student consultants; attend meetings along with the project team and associated investigators; participate in all or part of the design, management, analysis and reporting stages of a project; and gain valuable experience in working with actual research projects.
Taught by: Faculty
One-term course offered either term
Prerequisite: BSTA 630
Activity: Lecture
1 Course Unit

BSTA 752 Categorical Data Analysis II
Activity: Lecture
1 Course Unit

BSTA 754 Advanced Survival Analysis
This advanced survival analysis course will cover statistical theory in counting processes, large sample theory using martingales, and other state of the art theoretical concepts useful in modern survival analysis research. Examples in deriving rank-based tests and Cox regression models as well as their asymptotic properties will be demonstrated using these theoretical concepts. Additional potential topics may include competing risk, recurrent event analysis, multivariate failure time analysis, joint modeling of survival and longitudinal data, sample size calculations, multistate models, and complex sampling schemes involving failure time data.
Course usually offered in fall term
Prerequisites: BTA 622 (may be taken concurrently) and permission of instructor.
Activity: Lecture
1 Course Unit

BSTA 774 Statistical Methods for Evaluating Diagnostic Tests
This course will cover statistical methodology for evaluating diagnostic tests. The topics will include: estimation of ROC curves, comparing multiple diagnostic tests, developing diagnostic tests using predictive models, measurement error effects on diagnostic tests, random effects models for multi-reader studies, verification bias in disease classification, methods for time-dependent disease classifications, study design issues, related software, and meta-analyses for diagnostic test data.
Course usually offered in fall term
Prerequisites: BSTA 510, BSTA 630, BSTA 631 or equivalent; permission of instructor
Activity: Lecture
1 Course Unit

BSTA 820 Statistical Inference III
Statistical inference including estimation, confidence intervals, hypothesis tests and non-parametric methods.
Taught by: Faculty
Course usually offered in spring term
Also Offered As: STAT 972
Prerequisites: To be advised.
Activity: Lecture
1 Course Unit

Biotechnology (BIOT)

BIOT 599 Biot Independent Study
One-term course offered either term
Activity: Independent Study
1 Course Unit

Business Economics & Public Policy (BEPP)

BEPP 201 Introduction to Business Economics and Public Policy.
This course explores the economics and politics of public policy to provide an analytic framework for considering why, how, and with what success/failure government intervenes in a variety of policy areas. Particular attention will be paid to important policy issues relating to taxation, social security, low-income assistance, health insurance, education (both K-12 and higher ed), the environment, and government deficits. The costs and benefits of alternative policies will be explored along with the distribution of responsibilities between the federal, state and local governments. While the course will focus primarily on U.S. policies, the topics covered (e.g. tax reform, deficits versus austerity, etc.) are currently at the center of the policy debate in many other industrialized countries as well.
Taught by: Katja Seim.
One-term course offered either term
Also Offered As: BEPP 770
Prerequisites: BEPP 250.
Activity: Lecture
1 Course Unit

BEPP 203 Business in the Global Political Environment.
This course examines the non-market components of business and the broader political, regulatory, and civil context in which companies function. This course addresses how businesses interact with political and regulatory institutions, as well as the general public, with a focus on the global economy. The first portion examines the realities associated with political economy and the actual making of laws and regulations by imperfect politicians and regulators. The second portion analyzes the economic rationale for legislation and regulation in the presence of market failures. The course covers specific market failures and potential solutions including government regulation.
Taught by: Santosh Anagol/Shing-yi Wang
One-term course offered either term
Prerequisites: ECON 1 or equivalent.
Activity: Lecture
1 Course Unit
BEPP 206 Urban Public Policy and Private Economic Development.
This course considers a range of local policies in cities and regions. Examples of policies will include clusters and other local development initiatives, large-scale regional policies, employment zones, and other targeted policies. More traditional urban policies such as zoning and planning and constraints, transportation pricing, and parking policies among many others will also be considered. Practical examples will be extremely diverse and include the Silicon Valley and attempts to copy it, the Tennessee Valley Authority, housing restrictions in developing countries such as Brazil, congestion pricing in London, etc. Students will be expected to actively participate and make presentations. The course emphasizes the importance of the economic context, the understanding of the underlying rationale for policies, and how the private agents respond to public incentives. The main learning goals are the following: be able to use simple empirical tools of economic evaluations, be able to articulate a critical analysis of competing viewpoints and assessments, and be able to integrate various analytic steps into an overall assessment of economic policies that relies on sound principles and is well argued.
Taught by: Gilles Duranton
One-term course offered either term
Also Offered As: BEPP 772, REAL 206, REAL 772, REAL 972
Prerequisites: ECON 1.
Activity: Lecture
1 Course Unit

BEPP 208 Housing Markets
This course is designed for students interested in the economics and operations of housing markets. It is primarily a U.S. focused course, but does include a limited amount of international material for comparative purposes. The class is divided into four sections: (1) supply and demand for housing, including the operations of homebuilders and rental landlords; (2) house prices, including cycles and price dynamics; (3) international comparisons; and (4) public policy analysis applied to a current housing markets-related issue. This course presumes knowledge of intermediate economics, as we will apply that knowledge throughout the semester. For Wharton students, this means you must have passed BEPP 250 (undergrads) or MGEC 611 and MGEC 612 (MBAs). Non-Wharton students should have taken the equivalent course in the College.
Taught by: Joseph Gyourko
Course usually offered in spring term
Also Offered As: BEPP 708, REAL 208, REAL 708
Prerequisites: Managerial Economics (BEPP 250) or equivalent.
Activity: Lecture
1 Course Unit
Notes: Lecture with discussion required.

BEPP 210 Firms, Markets and Public Policy.
Many dimensions of firms’ strategies, including agreements with suppliers and competitors, mergers and acquisitions, pricing, and technology standards development, among others, are subject to the oversight of regulatory bodies and governmental agencies. This course studies how public policy impacts firms’ strategic choices in a host of economic environments. We will analyze pricing strategies including versioning and bundling; product standardization decisions; the management of complementarities between products; the role of network effects and platform competition; and how firms can take advantage of the regulatory environment they operate in when making such decisions. We will study, for example, why Sony won the Blu-Ray format war against the widely supported HD-DVD format; how the FCC plans to incentivize television broadcasters to return spectrum holdings for auction to wireless broadband providers; and how contracts with content providers affect firms’ strategic interactions in the e-reader market. To understand how firm strategy and public policy interact, the course will rely on a mix of simple but rigorous analytical models and case studies.
Taught by: Katja Seim.
One-term course offered either term
Also Offered As: BEPP 710
Prerequisites: BEPP 250.
Activity: Lecture
1 Course Unit

BEPP 212 Economic Analysis of Law.
The course provides an introduction to the economic analysis of law and legal institutions. Our goal is to develop intuitions about the ways law simultaneously shapes and responds to private behavioral incentives. In the first half of the course, we will survey the application of key economic concepts to basic features of the Anglo-American common law of property, contract, and tort. In the second half of the course, we will use the tools developed in our survey to focus in depth on antitrust policy in conventional as well as network industries.
Taught by: Vincent Buccola.
One-term course offered either term
Also Offered As: LGST 212
Prerequisites: ECON 1 or ECON 10.
Activity: Lecture
1 Course Unit
BEPP 214 Nonprofit Sector: Economic Challenges and Strategic Responses.
The nonprofit sector plays a key role in the provision of many goods and services which are fundamental in our society and which may be difficult to provide using market mechanisms alone. Education, health care, charitable services, and the arts are some primary examples of these. Nonprofit organizations operate in service of specific social missions rather than profit maximization, but in order to serve those missions effectively while ensuring their own survival, they must also make many of the decisions typically associated with private firms. That is, they must compete for funding, human resources, and consumers of their services, they must manage and invest their resources efficiently, and they must innovate new products and services over time. Importantly, the latter requirements may at times come in conflict with the organizations’ social values. As a result, nonprofit organizations as economic decision-makers confront a number of unique challenges to their success and growth. The goal of this course is to give students a broad overview of the economic, organizational, and strategic concerns facing the non-profit sector. Our objective is to characterize the unique economic environment, identify effective strategic governance, and management approaches, and explore how appropriate measurement techniques can inform the policy treatment of nonprofits. This course is organized around a number of lectures, readings and outside speakers, a midterm exam and a required project.
Taught by: Ashley Swanson.
Prerequisites: None.
Activity: Lecture
1 Course Unit

BEPP 220 Behavioral Economics, Markets, and Public Policy
Behavioral economics applies insights from psychology to the study of economic phenomena. This course will take the possibility of deviations from rational, self-interested behavior as a starting point, and explore two main questions: How does psychology play out in markets, where sophisticated and unsophisticated consumers and firms interact and compete? And what does behavioral economics imply for public policy? Markets have the potential to protect consumers from their biases, when firms compete to give biased consumers the best deal. In addition, markets allow for the emergence of informational intermediaries that give biased consumers advice. We will examine whether and how this remedy is provided in a diverse array of markets. Behavioral economics also affects what governments should do and what governments actually do, when they address market failures, combat poverty and inequality, and raise revenue. This course therefore also explores "Behavioral Public Finance" – optimal policy in the presence of biases – and "Behavioral Political Economy" – how biases affect the choices of politicians and regulators themselves.
Taught by: Staff.
Activity: Lecture
1 Course Unit

BEPP 230 Urban Fiscal Policy
The purpose of this course is to examine the financing of governments in the urban economy. Topics to be covered include the causes and consequences of the urban fiscal crisis, the design of optimal tax and spending policies for local governments, funding of public infrastructures and the workings of the municipal bond market, privatization of government services, and public financial systems for emerging economies. Applications include analyses of recent fiscal crises, local services and taxes as important determinants of real estate prices, the infrastructure crisis, financing and the provision of public education, and fiscal constitutions for new democracies using South Africa as an example.
Taught by: Robert Inman
Course usually offered in fall term
Also Offered As: BEPP 899, FNCE 230, REAL 230
Prerequisites: ECON 1, FNCE 101.
Activity: Lecture
1 Course Unit

BEPP 233 Consumers, Firms and Markets in Developing Countries
Nearly four-fifths of the world's population lives in low income or developing countries. Though currently far behind the U.S., the 15 fastest growing economies/markets in the world are all developing countries. And developing countries already account for 6 of the world's 15 largest economies. This course will examine economic life, including consumers, firms and markets, in low income countries. We will apply both economic theory and empirical analysis for analyzing the roles of both business and government in consumption, production and market equilibria.
Taught by: Robert Jensen
One-term course offered either term
Activity: Lecture
1 Course Unit

BEPP 236 International Housing Comparisons
This course analyzes housing finance systems and housing market outcomes across the globe. In the US, the course focuses on development of securitization markets and addresses current challenges of housing finance reform, including the future of Fannie Mae and Freddie Mac. Internationally, the course covers issues of access to housing and housing informality in developing countries, financial crises arising out of the housing sector, and potential market-oriented and public policy solutions. The course features a wide array of speakers in finance, government and academia who contribute their perspectives to pressing issues of mortgage market design.
Taught by: Susan Wachter
Course usually offered in spring term
Also Offered As: BEPP 836, REAL 236, REAL 836
Prerequisites: Econ 1 and Econ 2 or Econ 10.
Activity: Lecture
1 Course Unit
**BEPP 250 Managerial Economics**
This course will introduce you to “managerial economics” which is the application of microeconomic theory to managerial decision-making. Microeconomic theory is a remarkably useful body of ideas for understanding and analyzing the behavior of individuals and firms in a variety of economic settings. The goal of the course is for you to understand this body of theory well enough so that you can effectively analyze managerial (and other) problems in an economic framework. While this is a “tools” course, we will cover many real-world applications, particularly business applications, so that you can witness the usefulness of these tools and acquire the skills to use them yourself. We will depart from the usual microeconomic theory course by giving more emphasis to prescription: What should a manager do in order to achieve some objective? That course deliverable is to compared with description: Why do firms and consumers act the way they do? The latter will still be quite prominent in this course because only by understanding how other firms and customers behave can a manager determine what is best for him or her to do. Strategic interaction is explored both in product markets and auctions. Finally, the challenges created by asymmetric information - both in the market and within the firm - are investigated.

One-term course offered either term
Also Offered As: BEPP 950
Prerequisites: ECON 1 or equivalent; MATH 103 or equivalent.
Activity: Lecture
1 Course Unit

**BEPP 261 Risk Analysis and Environmental Management**
This course is designed to introduce students to the complexities of making decisions about threats to human health and the environment when people’s perceptions of risks and their decision-making processes differ from expert views. Recognizing the limitations of individuals in processing information, the course explores the role of techniques such as decision analysis, cost-benefit analysis, risk assessment and risk perception in structuring risk-management decisions. We will also examine policy tools such as risk communication, incentive systems, third party inspection, insurance and regulation in different problem contexts. The problem contexts for studying the interactions between analysis, perceptions, and communication will include risk-induced stigmatization of products (e.g. alar, British beef), places (e.g. Love Canal), and technologies (e.g. nuclear power); the siting of noxious facilities, radon, managing catastrophic risks including those from terrorism. A course project will enable students to apply the concepts discussed in the course to a concrete problem.

Taught by: Howard Kunreuther
Course not offered every year
Also Offered As: BEPP 761, BEPP 961, OIDD 261, OIDD 761
Prerequisites: ECON 1 helpful.
Activity: Lecture
1 Course Unit

**BEPP 263 Environmental & Energy Economics and Policy**
This course examines environmental and energy issues from an economist’s perspective. Over the last several decades, energy markets have become some of the most dynamic markets of the world economy, as they experienced a shift from heavy regulation to market-driven incentives. First, we look at scarcity pricing and market power in electricity and gasoline markets. We then study oil and gas markets, with an emphasis on optimal extraction and pricing, and geopolitical risks that investors in hydrocarbon resources face. We then shift gears to the sources of environmental problems, and how policy makers can intervene to solve some of these problems. We talk about the economic rationale for a broad range of possible policies: environmental taxes, subsidies, performance standards and cap-and-trade. In doing so, we discuss fundamental concepts in environmental economics, such as externalities, valuation of the environment and the challenge of designing international agreements. At the end of the course, there will be special attention for the economics and finance of renewable energy and policies to foster its growth. Finally, we discuss the transportation sector, and analyze heavily debated policies such as fuel-economy standards and subsidies for green vehicles.

Taught by: Arthur van Benthem
Also Offered As: OIDD 263
Activity: Lecture
1 Course Unit

**BEPP 280 Applied Data Analysis**
This course will examine how and when data can be used specifically to infer whether there is a causal relationship between two variables. We will emphasize (a) the critical role of an underlying economic theory of behavior in interpreting data and guiding analysis, as well as (b) a range of advanced techniques for inferring causality from non-experimental data, such as regression discontinuity designs, matching estimators, instrumental variables, synthetic controls, heterogeneity modeling and natural experiments. The issue of causality, and the relevance of thinking about models and methods for inferring causality, is just as central and important for "Big Data" as it is when working with traditional data sets in business and public policy. Though each lecture will contain some proofs and derivations (only calculus will be required), the emphasis will be on understanding the underlying concepts, the practical use, implications and limitations of techniques. Students will work intensively with data, drawing from examples in business and public policy. All analysis will be conducted using STATA or R. The goals of the course are for students to become expert consumers able to interpret and evaluate empirical studies as well as expert producers of convincing empirical analysis themselves. Course is well suited for students.

Taught by: Robert Jensen.
One-term course offered either term
Also Offered As: BEPP 780
Activity: Lecture
1 Course Unit
BEPP 284 Game Theory for Business and Life
The objective of this course is to make you more skilled in the art and science of strategic reasoning. Strategic situations permeate our lives and we will examine many such situations through the lens of game theory. The course is composed of game-theoretic concepts, applications, and experiential learning. The bulk of the applications are to business situations including investment and entry, bargaining, managerial incentive contracts, network effects, product location, and two-sided markets. However, given the ubiquitous presence of strategic situations in human societies, applications will extend to politics, war, sports, history, crime, theology, and every day life, and cover the existence of God, steroid use in sports, racial discrimination, land conflict, trench warfare in World War I, and the Medieval Law Merchant. Students will regularly participate in experiments involving strategic reasoning, and form teams to compete in a simulated industry environment.
Taught by: Joseph Harrington
One-term course offered either term
Prerequisite: None
Activity: Lecture
1 Course Unit

BEPP 289 Nations, Politics, and Market
This course is intended to deepen understanding of the major contemporary issues in the world economy. The focus is on the “big picture” of global economic developments and the evolution of economic thought over the last one hundred years. The topics include: financial market booms and busts; business cycles; monetary and fiscal policies; inequality; the social welfare state; technological change and economic growth; and international trade and financial arrangements. The time period covers: the Roaring Twenties; the Great Depression, the post war Golden Age (1945-1973); the stagflation of the 1970s; the Washington Consensus era of the market liberalization (1980-2007); and the 2008 financial crisis and Great Recession of 2007-2010 and its aftermath. The course also explores different schools of thought. The course will chronicle and compare economic policy and performance of the United States, Europe, Japan and emerging markets (Asia, Latin America, Africa).
Taught by: Stephen Golub
One-term course offered either term
Also Offered As: BEPP 789
Prerequisites: Econ 2 or its equivalent.
Activity: Lecture
1 Course Unit

BEPP 299 Independent Study
One-term course offered either term
Activity: Independent Study
0.5 Course Units

BEPP 305 Risk Management
The last financial crisis and subsequent recession provide ample evidence that failure to properly manage risk can result in disaster. Individuals and firms confront risk in nearly all decisions they make. People face uncertainty in their choice of careers, spending and saving decisions, family choices and many other facets of life. Similarly, the value that firms create by designing and marketing good products is at risk from a variety of sources. The bankruptcy of a key supplier, sharp rise in cost of financing, destruction of an important asset, impact of global warming, or a liability suit can quickly squander the value created by firms. In extreme cases, risky outcomes can bankrupt a firm, as has happened recently to manufacturers of automobile parts and a variety of financial service firms. The events since the Global Financial Crisis also offer stark reminders that risk can impose significant costs on individuals, firms, governments, and society as a whole. This course explores how individuals and firms assess and evaluate risk, examines the tolls available to successfully manage risk and discusses real-world phenomena that limit the desired amount of risk-sharing. Our focus is primarily on explaining the products and institutions that will serve you better when making decisions in your future careers and lives.
One-term course offered either term
Also Offered As: BEPP 805, LAW 741
Prerequisite: None
Activity: Lecture
1 Course Unit

BEPP 322 Business Insurance and Estate Planning.
This course presents an analysis of overall private wealth management. This includes planning for disposition of closely-held business interests; the impact of income taxes and other transfer costs on business interests and other assets; integration of life insurance, disability insurance, medical benefits, and long-term care insurance in the financial plan; planning for concentrated asset (e.g. common stock) positions, diversification techniques, and asset allocation strategies; distribution of retirement assets; lifetime giving and estate planning; and analysis of current developments in the creation, conservation, and distribution of estates. Attention also is given to various executive compensation techniques (including restricted stock and stock options) and planning for various employee benefits. The course also covers sophisticated charitable giving techniques and methods for financing education expenses. Reading consist of textbooks, case studies, and bulk pack articles.
Taught by: Victor Hallman.
One-term course offered either term
Also Offered As: BEPP 805, LAW 741
Prerequisite: None.
Activity: Lecture
1 Course Unit

Taught by: Jean Lemaire.
Course usually offered in fall term
Also Offered As: BEPP 851, STAT 451, STAT 851
Prerequisites: None.
Activity: Lecture
1 Course Unit
BEPP 452 Fundamentals of Actuarial Science I.
This course is the usual entry point in the actuarial science program. It is required for students who plan to concentrate or minor in actuarial science. It can also be taken by others interested in the mathematics of personal finance and the use of mortality tables. For future actuaries, it provides the necessary knowledge of compound interest and its applications, and basic life contingencies definition to be used throughout their studies. Non-actuaries will be introduced to practical applications of finance mathematics, such as loan amortization and bond pricing, and premium calculation of typical life insurance contracts. Main topics include annuities, loans and bonds; basic principles of life contingencies and determination of annuity and insurance benefits and premiums.
Taught by: Jean Lemaire.
Course usually offered in spring term
Also Offered As: BEPP 852, STAT 452, STAT 852
Prerequisites: One semester of Calculus.
Activity: Lecture
1 Course Unit

BEPP 453 Actuarial Statistics.
Taught by: Jean Lemaire.
Course usually offered in fall term
Also Offered As: BEPP 853, STAT 453, STAT 853
Prerequisites: None.
Activity: Lecture
1 Course Unit

BEPP 454 Applied Statistical Methods for Actuaries.
One half of the course is devoted to the study of time series, including ARIMA modeling and forecasting. The other half studies modifications in random variables due to deductibles, co-payments, policy limits, and elements of simulation. This course is a possible entry point into the actuarial science program. No INSR course is a prerequisite for INSR 854. The Society of Actuaries has approved INSR 854 for VEE credit on the topic of time series.
Taught by: Jean Lemaire.
Course usually offered in spring term
Also Offered As: BEPP 854, STAT 454, STAT 854
Prerequisites: None.
Activity: Lecture
1 Course Unit

BEPP 704 Financing and Managing Government.
Given government regulations, cost-benefit evaluations are critical for many private sector activities. This course studies the role of public policy in affecting the efficiency of markets and the distribution of resources in society. The first goal of the course is to survey public expenditure programs and their interaction with markets. The second goal is to discuss how the public sector raises revenue through taxation to finance these expenditure programs.
Taught by: Staff.
Course usually offered in spring term
Prerequisites: MGEC 611/612 or equivalent.
Activity: Lecture
1 Course Unit

BEPP 708 Housing Markets
This course is designed for students interested in the economics and operations of housing markets. It is primarily a U.S. focused course, but does include a limited amount of international material for comparative purposes. The class is divided into four sections: (1) supply and demand for housing, including the operations of homebuilders and rental landlords; (2) house prices, including cycles and price dynamics; (3) international comparisons; and (4) public policy analysis applied to a current housing markets-related issue. This course presumes knowledge of intermediate economics, as we will apply that knowledge throughout the semester. For Wharton students, this means you must have passed BEPP 250 (undergrads) or MGEC 611/MGEC 612 (MBAs). Non-Wharton students should have taken the equivalent course in the College.
Taught by: Joseph Gyourko
Course usually offered in spring term
Also Offered As: BEPP 208, REAL 208, REAL 708
Prerequisites: Microeconomics for Managers (MGEC 611) and Microeconomics for Managers (Advanced) (MGEC 612) or equivalent.
Activity: Lecture
1 Course Unit
Notes: Lecture with discussion required.

BEPP 710 Firms, Markets and Public Policy.
Many dimensions of firms' strategies including agreements with suppliers and competitors, mergers and acquisitions, pricing and technology standards development, among others, are subject to the oversight of regulatory bodies and governmental agencies. This course studies how public policy impacts firms' strategic choices in a host of economic environments. We will analyze pricing strategies including versioning and bundling; product standardization decisions; the management of complementarities between products; the role of network effects and platform competition; and how firms can take advantage of the regulatory environment they operate in when making such decisions. We will study, for example, why Sony won the Blu-Ray format war against the widely supported HD-DVD format; how the FCC plans to incentivize television broadcasters to return spectrum holdings for auction to wireless broadband providers; and how contracts with content providers affect firms' strategic interactions in the e-reader market. To understand how firm strategy and public policy interact, the course will rely on a mix of simple but rigorous analytical models and case studies.
Taught by: Katja Seim.
Also Offered As: BEPP 210
Prerequisites: MGEC 611, MGEC 612 or equivalent.
Activity: Lecture
1 Course Unit
BEPP 761 Risk Analysis and Environmental Management.

This course is designed to introduce students to the role of risk assessment, risk perception and risk management in dealing with uncertain health, safety and environmental risks including the threat of terrorism. It explores the role of decision analysis as well as the use of scenarios for dealing with these problems. The course will evaluate the role of policy tools such as risk communicaton, economic incentives, insurance, regulation and private-public partnership in developing strategies for managing these risks. A project will enable students to apply the concepts discussed in the course to a concrete problem. Cross-listed with OPIM 761.

Taught by: Howard Kunreuther.

Course not offered every year

Also Offered As: BEPP 261, BEPP 961, OIDD 261, OIDD 761

Prerequisites: None, but a basic understanding of microeconomics helpful.

Activity: Lecture

1 Course Unit

BEPP 763 Energy Markets & Policy

Over the last several decades, energy markets have become some of the most dynamic markets of the world economy. Traditional fossil fuel and electricity markets have been seen a partial shift from heavy regulation to market-driven incentives, while rising environmental concerns have led to a wide array of new regulations and "environmental markets". The growth of renewable energy could be another source of rapid change, but brings with it a whole new set of technological and policy challenges. This changing energy landscape requires quick adaptation from energy companies, but also offers opportunities to turn regulations into new business. The objective of this course is to provide students with the economist's perspective on a broad range of topics that professionals in the energy industry will encounter. Topics include the effect of competition, market power and scarcity on energy prices, the impact of deregulation on electricity and fossil fuel markets, extraction and pricing of oil and gas, geopolitical uncertainty and risk in hydrocarbon investments, the environmental impact and policies related to the energy sector, environmental cap-and-trade markets, energy efficiency, the economics and finance of renewable energy, and recent developments in the transportation sector.

Taught by: Arthur van Benthem

Also Offered As: OIDD 763

Activity: Lecture

1 Course Unit

BEPP 770 Introduction to Business Economics and Public Policy.

This course explores the economics and politics of public policy to provide an analytic framework for considering why, how, and with what success/failure government intervenes in a variety of policy areas. Particular attention will be paid to important policy issues relating to taxation, social security, low-income assistance, health insurance, education (both K-12 and higher ed), the environment, and government deficits. The costs and benefits of alternative policies will be explored along with the distribution of responsibilities between the federal, state, and local governments. While the course will focus primarily on U.S. policies, the topics covered (e.g. tax reform, deficits versus austerity, etc.) are currently at the center of the policy debate in many other industrialized countries as well.

Taught by: Katja Seim.

Two terms. student may enter either term.

Also Offered As: BEPP 201

Prerequisites: MGEC 611, MGEC 612 or equivalent.

Activity: Lecture

1 Course Unit

BEPP 772 Urban Public Policy and Private Economic Development.

This course considers a range of local policies in cities and regions. Examples include: clusters and other local development initiatives, large scale regional policies, employment zones and other targeted policies. More traditional urban policies such as zoning and planning and constraints, transportation pricing, and parking policies among many others will also be considered. Practical examples will be extremely diverse and include the Silicon Valley and attempts to copy it, the Tennessee Valley Authority, housing restrictions in developing countries such as Brazil, congestion pricing in London, etc. Students will be expected to actively participate and make presentations. The course emphasizes the importance of the economic context, the understanding of the underlying rationale for policies, and how the private agents respond to public incentives. The main learning goals are the following: be able to use simple empirical tools of economic evaluations, be able to articulate a critical analysis of competing viewpoints and assessments, and be able to integrate various analytic steps into an overall assessment of economic policies that relies on sound principles and is well argued.

Taught by: Gilles Duranton.

Course usually offered in spring term

Also Offered As: BEPP 206, REAL 206, REAL 772, REAL 972

Prerequisites: Microeconomics.

Activity: Lecture

1 Course Unit

BEPP 773 Urban Fiscal Policy.

The purpose of this course is to examine the financing of governments in the urban economy. Topics to be covered include the causes and consequences of the urban fiscal crisis, the design of optimal tax and spending policies for local governments, funding of public infrastructures and the workings of the municipal bond market, privatization of government services, and public financial systems for emerging economies. Applications include analyses of recent fiscal crises, local services and taxes as important determinants of real estate prices, the infrastructure crisis, financing and the provision of public education, and fiscal constitutions for new democracies using South Africa as an example.

Taught by: Robert Inman.

Course usually offered in fall term

Also Offered As: FNCE 730, REAL 730

Prerequisites: Microeconomics, FNCE 601.

Activity: Lecture

1 Course Unit

BEPP 780 Applied Data Analysis

Also Offered As: BEPP 280

Activity: Lecture

1 Course Unit
BEPP 789 Nations, Politics, and Markets.
This course is intended to deepen understanding of the major contemporary issues in the world economy. The focus is on the "big picture" of global economic developments and the evolution of economic thought over the last one hundred years. The topics include: financial market booms and busts; business cycles; monetary and fiscal policies; inequality; the social welfare state; technological change and economic growth; and international trade and financial arrangements. The time period covers: the Roaring Twenties; the Great Depression, the post war Golden Age (1945-1973); the stagflation of the 1970s; the Washington Consensus era of the market liberalization (1980-2007); and the 2008 financial crisis and ensuing Great Recession; and the recent rise of populism. This course also explores different schools of thought. The course will chronicle and compare economic policy and performance of the United States, Europe, Japan and emerging markets (Asia, Latin America, Africa).
Taught by: Steve Golub.
One-term course offered either term
Also Offered As: BEPP 289
Prerequisites: Microeconomics.
Activity: Lecture
1 Course Unit

BEPP 805 Risk Management
The last financial crisis and subsequent recession provide ample evidence that failure to properly manage risk can result in disaster. Individuals and firms confront risk in nearly all decisions they make. People face uncertainty in their choice of careers, spending and saving decisions, family choices, and many other facets of life. Similarly, the value that firms create by designing and marketing good products is at risk from a variety of sources. The bankruptcy of a key supplier, sharp rise in cost of financing, destruction of an important asset, impact of global warming, or a liability suit can quickly squander the value created by firms. In extreme cases, risky outcomes can bankrupt a firm, as has happened recently to manufacturers of automobile parts and a variety of financial service firms. The events since the Global Financial Crisis also offer stark reminders that risk can impose significant costs on individuals, firms, governments, and society as a whole. This course explores how individuals and firms assess and evaluate risk, examines the tools available to successfully manage risk, and discusses real-world phenomena that limit the desired amount of risk-sharing. Our focus is primarily on explaining the products and institutions that will serve you better when making decisions in your future careers and lives.
One-term course offered either term
Also Offered As: BEPP 305, LAW 741
Prerequisite: None.
Activity: Lecture
1 Course Unit

0.5 Course Units

BEPP 811 Risk and Crisis Management.
The growing connectivity of global economies and financial markets has produced widespread risk contagion, resulting in increased volatility and an ever-increasing demand for risk capital. This course focuses on understanding the drivers of risk contagion and ways to restore confidence in worldwide markets for pure and financial risk. The class begins with an evaluation of recent financial and pure risk events: for example, the sovereign debt crisis, Japanese earthquake, and BP Deepwater Horizon. We explore how these events are being financed in innovative ways via the capital and insurance markets. Next we emphasize the role of risk management in the preservation and creation of value, helping firms identify, measure, monitor and manage/finance risk. Doing so results in risk-adjusted returns (or return on risk-adjusted capital) that exceed the cost of capital. We devote substantial focus on the practical implementation of effective risk management/financing, given evolving regulatory and governance standards. In addition, we explore opportunities for corporate growth as well as public/private partnerships. The course will conclude with a discussion of emerging markets and the role of risk management in developing a middle class needing new forms of risk transfer/financing.
One-term course offered either term
Prerequisites: None.
Activity: Lecture
0.5 Course Units

BEPP 812 Markets for Pure Risk.
The increased frequency and severity of pure risk events hinder corporations' abilities to execute strategy and deliver sustainable financial results to stakeholders. Prominent recent examples include disruptions from Hurricane Katrina, Japan's earthquake/nuclear disaster/supply chain breakdowns, Thai floods, U.S. wildfires, and global terrorist attacks. At the same time, both industrialized and emerging economies understand that the management and financing of pure risk is critical to the success of their economies. Consequently, the rising demand for risk capital has ushered in several capital market innovations and public/private partnerships necessary for managing and financing pure risk. This course investigates these issues, beginning with an introduction to pure risks, their centers of gravity and global consequences for corporations, consumers, and the macroeconomies. Next we move on to traditional sources of risk capital provided to corporations and governments via insurance and reinsurance mechanisms. The course concludes with a discussion of new sources of risk capital provided by capital markets including catastrophic risk bonds, securitization of mortality and liability risk, and other forms of insurance-linked securities. Our focus is on the supply of risk capital to corporations and economies, recognizing the unique position of emerging economies in this nexus. Throughout, the class emphasizes current real-world cases to illustrate the competitive differences in strategies taken by hedge funds, private equity pools, and insurers, as they address the increasing need for risk capital around the world. This course complements BEPP 811, Risk and Crisis Management, which focuses on how firms can use various types of hedging instruments to manage pure risks (that is BEPP811’s emphasis is primarily on the demand side of markets for pure risks whereas BEPP 812 examines the supply side of these markets).
However, BEPP 811 is not required as a prerequisite. Format: Lecture and discussion, midterm and final.
One-term course offered either term
Prerequisites: Basic microeconomics and finance.
Activity: Lecture
0.5 Course Units
BEPP 823 Business Insurance and Estate Planning.
This course presents an analysis of overall private wealth management. This includes planning for disposition of closely-held business interests; the impact of income taxes and other transfer costs on business interests and other assets; integration of life insurance, disability insurance, medical benefits, and long-term care insurance in the financial plan; planning for concentrated asset (e.g., common stock) positions, diversification techniques, and asset allocation strategies; distribution of retirement assets; lifetime giving and estate planning; and analysis of current developments in the creation, conservation, and distribution of estates. Attention also is given to various executive compensation techniques (including restricted stock and stock options) and planning for various employee benefits. The course also covers sophisticated charitable giving techniques and methods for financing education expenses. Readings consist of textbook, case studies, and bulk pack articles. This course should be attractive to most students to help them plan for their own or their families’ financial affairs. It also should be particularly attractive to students specializing in entrepreneurship, wealth management finance, and law.
Taught by: Victor Hallman.
One-term course offered either term
Also Offered As: BEPP 322
Prerequisites: None.
Activity: Lecture
1 Course Unit

BEPP 836 International Housing Comparisons
This course analyzes housing finance systems and housing market outcomes across the globe. In the US, the course focuses in development of securitization markets and addresses current challenges of housing finance reform, including the future of Fannie Mae and Freddie Mac. Internationally, the course covers issues of access to housing and housing informality in developing countries, financial crises arising out of the housing sector, and potential market-oriented and public policy solutions. The course features a wide array of speakers in finance, government and academia who contribute their perspectives to pressing issues of mortgage market design.
Also Offered As: BEPP 236, REAL 236, REAL 836
Prerequisites: MGEC 611: Microeconomics for Managers.
Activity: Lecture
1 Course Unit

BEPP 851 Fund of Act Sci I (formerly INSR 851)
Course usually offered in fall term
Also Offered As: BEPP 451, STAT 451, STAT 851
Prerequisites: One semester of Calculus.
Activity: Lecture
1 Course Unit

BEPP 852 Fund of Actuarial Sci II (formerly INSR 852)
This specialized course is usually only taken by Wharton students who plan to concentrate in actuarial science and Penn students who plan to minor in actuarial science mathematics. It provides a comprehensive analysis of advanced life contingencies problems such as reserving, multiple life functions, multiple decrement theory with application to the valuation of pension plans.
Course usually offered in spring term
Also Offered As: BEPP 452, STAT 452, STAT 852
Prerequisites: STAT 851 OR BEPP 851.
Activity: Lecture
1 Course Unit

BEPP 853 Actuarial Statistics (formerly INSR 853)
This course covers models for insurer’s losses, and applications of Markov chains. Poisson processes, including extensions such as non-homogenous, compound, and mixed Poisson processes are studied in detail. The compound model is then used to establish the distribution of losses. An extensive section on Markov chains provides the theory to forecast future states of the process, as well as numerous applications of Markov chains to insurance, finance and genetics. The course is abundantly illustrated by examples from the insurance and finance literature. While most of the students taking the course are future actuaries, other students interested in applications of statistics may discover in class many fascinating applications of stochastic processes and Markov chains.
Taught by: Lemaire
Course usually offered in fall term
Also Offered As: BEPP 453, STAT 453, STAT 853
Prerequisites: Two semesters of Statistics.
Activity: Lecture
1 Course Unit

BEPP 854 Appl Stat Methd For Actu (formerly INSR 854)
One half of the course is devoted to the study of time series, including ARIMA modeling and forecasting. The other half studies modifications in random variables due to deductibles, co-payments, policy limits, and elements of simulation. This course is a possibly entry point into the actuarial science program. No INSR course is a pre-requisite for INSR 854. The Society of Actuaries has approved INSR 854 for VEE credit on the topic of time series.
Course usually offered in spring term
Also Offered As: BEPP 454, STAT 454, STAT 854
Prerequisites: One semester of Probability.
Activity: Lecture
1 Course Unit

BEPP 895 Global Business Week
Also Offered As: HCMG 895
Activity: Lecture
0.5 Course Units

BEPP 900 Research Seminar.
Of the many ways that doctoral students typically learn how to do research, two that are important are watching others give seminar presentations (as in Applied Economics Seminars) and presenting one’s own research. The BEPP 900 course provides a venue for the latter. Wharton doctoral students enrolled in this course present applied economics research. Presentations both of papers assigned for other classes and of research leading toward a dissertation are appropriate in BEPP 900. This course aims to help students further develop a hands-on understanding of the research process. All doctoral students with applied microeconomic interests are encouraged to attend and present. Second and third year Applied Economic Ph.D. students are required to enroll in BEPP 900 and receive one-semester credit per year of participation.
Taught by: Shing-yi Wang and Corinne Low
Two terms. student may enter either term.
Prerequisites: None.
Activity: Seminar
0.5 Course Units
Notes: Permission of instructor required.
**BEPP 904 EXPERIMENTAL ECONOMICS**
This course will help prepare you to run your own economics laboratory and field experiments. Experimental methods have been widely adopted by economists to develop new insights, and some economic theories and hypotheses are uniquely well-suited for testing with experimental tools and data. Achieving high internal and external validity requires careful experimental design. Substantive areas of application in the course will include market equilibrium, asset bubbles, learning in games, public good provision, and labor market relationships. Additional topics may include biases in individual decision-making, field experiments in development economics; and happiness, neuroeconomics, and behavioral/experimental welfare economics. Economists’ typical interests in strategic and market-based interactions raise particular methodological challenges and opportunities.

Course not offered every year
Also Offered As: OIDD 904
Activity: Lecture
1 Course Unit

**BEPP 911 Empirical Public Policy**
This course examines econometric research on a variety of topics related to public policy, with the goal of preparing students to undertake academic-caliber research. The course is not an econometrics or statistics course per se; rather, it focuses on research designs with observational data and how econometric techniques are applied in practice. The course aims to train students to do applied economic research that involves measuring effects of theoretical or practical interest. It proceeds in two major parts. The first part examines endogeneity and inference about causal relationships, instrumental variables methods and critiques, and panel data methods. The second part of the course addresses “structural” econometric modeling. Topics covered in this part include sorting and selection, entry models, and counterfactual analyses of policy changes. The course proceeds by analyzing, in detail, approximately 24 well-known empirical research papers in applied economics or related fields. These include public economics and tax policy, labor economics, law and economics, health care policy, industrial organization and competition, transportation demand and policy, and others.

Taught by: Ulrich Doraszelski
Course usually offered in spring term
Prerequisites: A graduate-level statistics or econometrics course.
Activity: Lecture
1 Course Unit

**BEPP 931 Numerical Methods in Economics**
The objective of this course is to introduce graduate students to computational approaches for solving economic models. We will formulate economic problems in computationally tractable form and use techniques from numerical analysis to solve them. Examples of computational techniques in the current economics literature as well as discuss areas where these techniques may be useful in future research will be disclosed. We will pay particular attention to methods for solving dynamic optimization problems and computing equilibria of games. The substantive applications will cover a wide range of problems including industrial organization, game theory, macroeconomics, finance, and econometrics.

Taught by: Ulrich Doraszelski
One-term course offered either term
Prerequisites: None.
Activity: Lecture
1 Course Unit

**BEPP 932 Contract Theory and Applications**
The course provides an advanced introduction to the theory of contracts and its mixture of foundational theories and applications to fields such as labor, regulation, and industrial organization.

Course usually offered in spring term
Prerequisite: None
Activity: Lecture
1 Course Unit

**BEPP 933 Public Economics: Social Insurance and Government Expenditures**
The first part of this course will examine the rationale for and economic impact (e.g., on saving, labor supply, etc.) of social insurance programs such as social security, unemployment insurance, and disability insurance. The next major part of the course will explore these same issues for government interventions in health insurance markets. The course will then cover research on public goods, externalities, fiscal federalism, and economic stimulus (including the government’s recent response to the “Great Recession”) before proceeding to an exploration of the government’s role in K-12 and high education. Both theoretical and empirical evidence will be covered along with a mix of classic studies and more cutting-edge research. Throughout the course we will discuss the tradeoffs - for example between the protection and distortion of social insurance programs – that influence government’s optional role. While the focus will be on evidence from the U.S., some research from other industrialized and developing countries will also be covered.

Prerequisites: None.
Activity: Lecture
1 Course Unit

**BEPP 934 Economics of Risk and Time**
This course deals with the economic theory of supply, demand, and equilibrium in savings and insurance markets, including social insurance. We will review decision models under conditions of risk and use these to address problems of optimal insurance, moral hazard and adverse selection, social security, and contract enforcement.

Course usually offered in fall term
Prerequisites: Economics (Basic).
Activity: Lecture
1 Course Unit

**BEPP 941 Development Economics**
This course will cover current microeconomic issues of developing countries including poverty, risk, savings, human capital, and institutions. We will also explore the causes and consequences of market failures that are common in many developing countries with a focus on credit, land, and labor markets. The course is designed to introduce recent research with focus on empirical methods and testing theories with data.

Taught by: Shing-yi Wang/Robert Jensen
One-term course offered either term
Activity: Lecture
1 Course Unit
BEPP 951 Political Economy
This course will introduce the students to the basic models of formal political economy and methods for empirically estimating those models from policy data, both for the developed and developing economies. Topics to be covered will include Downsian electoral competition and median voter politics, theories of legislative politics including minimum winning coalition and universalistic (pork-barrel) politics, models of lobbying and political corruption, models of executive influence in legislative settings. Particular attention is paid to the role of formal (constitutional) and informal (non-constitutional) institutions as they determine policy outcomes in democratic societies, including majoritarian (first-past-the-post) and proportional representation systems of elections, partisan (party) and non-partisan (special interest) legislatures, executive agenda-setting and veto powers, federal and unitary forms of government, and finally, the role of judicial review. Policy applications will focus on fiscal policy (taxes, spending, and debt), though students should feel free to apply the analysis to other public policies of interest. Students should have a firm understanding of micro-economic theory and applied econometrics.
Course usually offered in fall term
Prerequisites: PHD course with advanced microeconomics.
Activity: Lecture
1 Course Unit

BEPP 952 Economics and Law
Activity: Lecture
1 Course Unit

BEPP 961 Risk Analysis and Environmental Management
This course is designed to introduce students to the role of risk assessment, risk perception and risk management in dealing with uncertain health, safety and environmental risks including the threat of terrorism. It explores the role of decision analysis as well as the use of scenarios for dealing with these problems. The course will evaluate the role of policy tools such as risk communication, economic incentives, insurance, regulation and private-public partnerships in developing strategies for managing these risks. A project will enable students to apply the concepts discussed in the course to a concrete problem.
Taught by: Howard Kunreuther
Course not offered every year
Also Offered As: BEPP 261, BEPP 761, OIDD 261, OIDD 761
Prerequisites: None, but microeconomics helpful.
Activity: Lecture
1 Course Unit

BEPP 962 Applied Economics Seminar
The goal of this course is to help doctoral students develop critical thinking skills through both seminar participation and writing of referee reports. To this end students will attend the Wharton Applied Economics each Wednesday at noon seminar when it meets; prepare two written referee reports on WAE papers per semester, due before the seminar is presented; after attending the seminar and the ensuing discussion of the paper - students will prepare follow-up evaluations of their referee report reports, due one week after the seminar.
Taught by: Fernando Ferreira
Two terms. student may enter either term.
Also Offered As: REAL 962
Prerequisites: None.
Activity: Seminar
0.5 Course Units

BEPP 971 Market Design
The course covers Market Design, the analysis and engineering of market rules and institutions. In the last 60 years practitioners and academics have deliberately engineered the rules of an increasing number of markets, with classic examples including medical resident matching (e.g., NRMP), spectrum auctions (e.g., FCC auctions), and organ donation exchanges. In the last few years, very large markets have been created from scratch, such as eBay, Adwords, and smaller markets like odesk.com and sittercity.com. These designs use a broad set of tools, including economic theory, empirical analysis and experiments (and a fair dose of trial-and-error). With this experience, useful principles have emerged, on what market failures typically have to be addressed, and on which rules work and which do not.
Taught by: Eduardo Azevedo
Activity: Lecture
1 Course Unit

BEPP 987 Industrial Organization and Competition Policy
This course focuses on empirical methods and applications of research topics in Industrial Organization. Although not exclusively, the course will focus mostly on the application of econometric techniques used to study specific markets and antitrust policies. The topics that will be covered include the evaluation of market power and mergers, product differentiation, investment and innovation, collusion, price discrimination, vertical relations, entry and product positioning, and the dynamics of industries. The course will also discuss research methodologies related to microeconomic theory, computational methods, and econometric analysis. The applicability of the techniques goes beyond the field of Industrial Organization, and include the Labor, Health, Trade and Public economics.
One-term course offered either term
Prerequisites: Doctoral level economics (e.g. ECON 701, 703 or ECON 680, 682).
Activity: Lecture
1 Course Unit
**Cell and Molecular Biology (CAMB)**

**CAMB 422 Genomics of Human Disease and Evolution**
In this course we will discuss the identification and characterization of genetic diversity in the human genome, the genetic basis of normal variable traits, and the genetic basis of human disease. The study of the human genome increasingly impacts almost every aspect of our society, from medicine to law enforcement to how we view ourselves. The focus of this course will be to apply concepts and methods of genetics and genomics analysis (gene mapping, genome sequencing, epigenetics, gene expression) to better understand the genetic basis of both normal variable traits as well as disease for Mendelian (those traits influenced by a single gene) and complex (those traits influenced by multiple genes and environment) traits. We will discuss how to distinguish the evolutionary and demographic forces (i.e. mutation, migration, selection, population size) that influence genotypic and phenotypic variation within and among human populations. We will discuss how genomics and population genetics methodologies are being applied to study modern human origins, analysis of ancient DNA, ancestry, and population history. We will also discuss the implications of these studies for personalized medicine.

An ability to understand human genetic and genomics analyses will serve you well since in your lifetime you are almost certain to be faced with a major decision involving your heredity, and society will be forced to make major reforms in medicine, business, and law because of increasing genomics data. By the end of this class you should have a better understanding of the science behind the study of the human genome.

Taught by: S. Tishkoff
Also Offered As: BIOL 422
Prerequisite: BIOL 221
Activity: Lecture
1 Course Unit

**CAMB 431 Genome Sciences and Genomic Medicine**
This course will be a focused study of genomes, genomic techniques, and how these approaches are and will be used in diagnosing and treating human disease. Topics will include genome sequencing, analysis of sequences and microarrays, and new techniques including high-throughput sequencing and reverse genetic analysis with a focus on genome-wide mutant collections.

Taught by: B. Gregory
Also Offered As: BIOL 431
Prerequisite: BIOL 221; BIOL 421 strongly recommended
Activity: Lecture
1 Course Unit

Notes: Graduate students do not need permits or prerequisites as those will have been taken in undergraduate studies

**CAMB 480 Advanced Cell Biology**
This course is designed for beginning graduate students and advanced undergraduate students with a particular enthusiasm for Cell Biology. CAMB/BIOL 480 does not attempt to cover all aspects of cell biology, and is therefore not appropriate for students seeking a lecture course that provides a comprehensive survey of the field. Rather, the primary objective of this course is to teach those students considering a career in the biomedical sciences how to read, discuss, and question research papers effectively. Intensive classroom discussions focus on the experimental methods used, results obtained, interpretation of these results in the context of cell structure and function, and implications for further studies. There is no assigned text; students learn to critically evaluate current literature by reading original papers on selected topics in modern cell biology. Accordingly, class participation/discussion is essential and the grade will be determined significantly by that. In addition, there will be two exams including answering short questions and an essay critiquing an original paper that is selected on a topic in Cell Biology.

Taught by: Wei Guo
Course usually offered in fall term
Also Offered As: BIOL 480
Prerequisites: College level biochemistry and cell biology
Activity: Lecture
1 Course Unit

**CAMB 483 Epigenetics**
This course investigates epigenetic phenomena: heritable alternate states of gene activity that do not result from alteration in nucleotide composition (mutations). Epigenetic mechanisms regulate genome accessibility and cell differentiation. They play a key role in normal development and in oncogenesis. For example both mammalian X-chromosome inactivation and nuclear transfer (cloning) are subject to epigenetic regulation. Amongst the epigenetic mechanisms we will discuss in this course are chromatin organization, histone modification, DNA methylation and non-coding RNAs. The course is geared toward advanced undergraduate and beginning graduate students and is a combination of lectures, student presentations and research presentations by guest speakers. Students will work with the current scientific literature.

Taught by: Wagner
Course usually offered in fall term
Also Offered As: BIOL 483
Prerequisite: BIOL 221
Activity: Lecture
1 Course Unit

**CAMB 485 The RNA World: A Functional and Computational Analysis.**
A focused study of genomic, biochemical, cellular, and molecular aspects of RNA. Topics of study will include RNA structure, RNA processing and turnover, splicing, ribozymes and riboswitches, RNA editing and modification, RNA interference, endogenous eukaryotic RNA silencing pathways, small RNA biology, computational methodologies for studying RNA biology, and RNA viruses. Lectures, student presentations, and discussions will be based on readings from the primary literature.

Taught by: B. Gregory
Course usually offered in spring term
Also Offered As: BIOL 485
Prerequisites: BIOL 221 required. BIOL 421 strongly recommended.
Activity: Seminar
1 Course Unit

Notes: Graduate students will have satisfied prerequisites in their undergraduate studies
CAMB 486 Chromosomes and the Cell Cycle
Life depends on the propagation of genetic material from one generation to next through cycles of genome replication and cell division. The genome is copied by the parent, and one exact copy is inherited by each daughter cell. We will treat chromosomes as discrete entities, rather than collections of genes, that are replicated and divided with high fidelity to ensure that the genome remains stable over many generations. By reading selected primary literature covering several decades, we will build an understanding of the cell cycle by focusing on chromosomes and the associated molecular machinery. We will explore mechanisms that underlie replication and division, particularly control mechanism that maintain genome integrity and are critical to prevent disease. The goal of the course is to develop a picture of the cell cycle by examining some of the key experiments and insights that have led to our current understanding. There is no textbook for the course. Readings from the primary literature will be assigned for each meeting and provided as pdf files. Presentations of these papers and class participation, including questions and critical evaluation, are an essential part of the course. Grading will be based on a final paper in the form of a research proposal (50%) and on class participation (50%). Taught by: Lampson, M. Course usually offered in spring term Also Offered As: BIOL 486 Prerequisites: The course section is limited to PhD students only. Activity: Seminar 1 Course Unit

CAMB 493 Epigenetics of Human Health and Disease
Epigenetic alterations encompass heritable, non-genetic changes to chromatin (the polymer of DNA plus histone proteins) that influence cellular and organismal processes. This course will examine epigenetic mechanisms in directing development from the earliest stages of growth, and in maintaining normal cellular homeostasis during life. We will also explore how diverse epigenetic processes are at the heart of numerous human disease states. We will review topics ranging from an historical perspective of the discovery of epigenetic mechanisms to the use of modern technology and drug development to target epigenetic mechanisms to increase healthy lifespan and combat human disease. The course will involve a combination of didactic lectures, primary scientific literature and research lectures, and student-led presentations. Taught by: Berger Course usually offered in spring term Also Offered As: BIOL 493 Prerequisites: BIOL 221 required, BIOL 483 recommended Activity: Seminar 1 Course Unit

CAMB 501 Immunology
The purpose of this course is to provide a thorough grounding in immunology to Cell and Molecular Biology graduate students, with an emphasis on the role of the immune system in combating infectious diseases. This is a required course for CAMB students in the Microbiology, Virology and Parasitology program and the Vaccine and Gene Therapy program, replacing IMMU 506 (Immune Mechanisms). It may also be used as an elective by CAMB students in other programs such as those from the Cancer Biology program and Cell Biology, Physiology and Metabolism program. The course is divided into two parts. The first deals with innate immune response with a focus on pattern recognition and subsequent signaling in infection by bacteria, viruses, and parasites. The second half will focus on adaptive immune mechanisms, the structure, function, and molecular biology of antigen receptors and major histocompatibility complex molecules, and the development, activation, and differentiation of lymphocytes and other hematopoietic cells involved in immunity. The course is comprised of two 1.5-hour lectures per week, with Friday journal club on selected weeks. Taught by: G. Scott Worthen Course usually offered in spring term Prerequisite: BIOM 600 or instructor permit Activity: Lecture 1 Course Unit Notes: Priority given to students in the MVP GTV programs of CAMB. Second priority to CAMB students in other programs. If slots remain, then Ph.D. students from other graduate groups by permit only. Ph.D. students only.

CAMB 510 Principles of Development
This graduate course, which will include lectures and readings from the literature, is designed to provide a foundation in the principles of developmental biology. Topics covered will include: the germ line and piRNA, signaling pathways in development, pattern formation and cell specification, gastrulation, tissue differentiation, morphogenesis, cell polarity, epigenetics in development, organogenesis, stem cell biology, regeneration, and developmental evolution. The use of molecular biology, biochemistry, genomics and genetics, cell biology, and embryological manipulations will be discussed in the context of the analysis of developmental mechanisms. Taught by: M. Mullins & P. Seale Course usually offered in spring term Prerequisite: BIOL 493 or equivalent Activity: Lecture 1 Course Unit Notes: Priority given to students in the MVP GTV programs of CAMB. Second priority to CAMB students in other programs. If slots remain, then Ph.D. students from other graduate groups by permit only. Ph.D. students only.

CAMB 511 Principles of Development
This graduate course, which will include lectures and readings from the literature, is designed to provide a foundation in the principles of developmental biology. Topics covered will include: the germ line and piRNA, signaling pathways in development, pattern formation and cell specification, gastrulation, tissue differentiation, morphogenesis, cell polarity, epigenetics in development, organogenesis, stem cell biology, regeneration, and developmental evolution. The use of molecular biology, biochemistry, genomics and genetics, cell biology, and embryological manipulations will be discussed in the context of the analysis of developmental mechanisms. Taught by: M. Mullins & P. Seale Course usually offered in spring term Prerequisite: BIOL 493 or equivalent Activity: Lecture 1 Course Unit Notes: Priority given to students in the MVP GTV programs of CAMB. Second priority to CAMB students in other programs. If slots remain, then Ph.D. students from other graduate groups by permit only. Ph.D. students only.
CAMB 512 Cancer Biology and Genetics
The course objective is to introduce the students to important and current concepts in Cancer Biology and Cancer Genetics. The lectures are organized into 4 broad thematic groups: A) Cell-Autonomous Mechanisms (e.g., tumor suppressor and oncogene function, DNA repair pathways, senescence, apoptosis); B) Non Cell-Autonomous Mechanisms (e.g., tumor microenvironment, hypoxia, angiogenesis); C) Organ Systems (e.g., pancreatic cancer, hematopoietic malignancies); and D) Therapeutic Approaches (e.g. protein kinase inhibitors, immunotherapy, radiation therapy). The organizers, along with faculty from the School of Medicine, the Wistar Institute and CHOR with expertise in the corresponding areas provide lectures for the course. The students are expected to present, and participate in discussions of one or more key recent papers at Journal Clubs that are held at the end of each thematic group. There will be midterm and final exams of short essays relevant to the lectures.

Taught by: Yi Fan

Course usually offered in fall term

Prerequisites: BIOM 600 or course director permission.

Activity: Lecture

1 Course Unit

Notes: Non-CAMB students must contact the course director prior to registration. Students are not permitted to audit this course.

CAMB 518 Current Topics in Ion Channels
The course is a seminar format, specifically a journal club format, targeted to graduate students and MD/PhD students interested in ion channels. It meets for one hour, once a week for graduate students and once every other week for the entire group with formal presentation. On alternate weeks a faculty member meets with students to discuss and review the contents of each selected article for the subsequent week's presentation. This is an elective course meant to excite and intellectually enlighten students regarding the latest advances in ion channel research. It includes a wide range of ion channel topics from basic biophysics, structure, and physiology to cell biology and clinical applications. It is attended by faculty, students, and postdocs from the departments of Physiology, Pathology, Neuroscience, Pharmacology, Biochemistry & Biophysics, Psychiatry. We require a written critique of each paper presented by other participants during the semester, submitted prior to the formal presentation of the paper. This critique will be graded by a faculty member, as will the student's participation in both the preparatory sessions and formal presentation sessions. A final grade would be based on both of these components.

Taught by: Deutsch, C.

One-term course offered either term

Prerequisites: Basic knowledge of ion channels, BIOM 600 or equivalent.

Corequisite: Prerequisite must be confirmed before student can register

Activity: Seminar

1 Course Unit

CAMB 522 Human Evolutionary Genomics
Advanced seminar on current topics in human genomics and human evolution. Topics include the methods used for mapping and sequencing genomes; phylogenetic and population genetic analysis; and detecting variation in the human genome. This course is designed for graduate students but advanced undergraduates with a strong background in genetics are also welcome.

Taught by: S. Tishkoff

Course offered spring; even-numbered years

Also Offered As: BIOL 522

Prerequisite: Permission of director

Activity: Seminar

1 Course Unit

CAMB 520 The Cell Cycle, Genome Integrity and Cancer
This seminar course focuses on molecular and biochemical events that regulate cell cycle progression and genome maintenance, and explores how these processes influence cancer etiology and treatment. Specific topics will familiarize students with the key principles and recent developments within these areas. These topics include CDK-Cyclins and their inhibitors, regulation of G1-S and G2-M phase cell cycle transitions, DNA damage checkpoints and repair, the impact of chromatin regulation on DNA repair, and how each of these processes affects cancer etiology and treatment. In depth reading and evaluation of research literature will be primarily used to accomplish these aims, as well as provide instruction on rigorous experimental design and data interpretation.

Taught by: Asangani, Irfan and Greenberg, Roger

Course usually offered in fall term

Prerequisites: Completion of BIOM 600, BIOM 555 and/or equivalent graduate level course work. Anyone without such course work must obtain instructor permission.

Corequisites: Preferential registration of Cancer Biology and CAMB students up to the maximum of 12 students applies. Permission to register is required upon exceeding the 12 student limit.

Activity: Seminar

1 Course Unit

CAMB 532 Human Physiology
This course will present a survey of the physiology of most of the major organ systems. It will integrate knowledge of cellular and molecular mechanisms into an understanding of function at the tissue, organ, and organism levels. It will begin with a brief review of membrane physiology, followed by electrophysiology and signaling in nerve. Then, after a brief outline of neural control systems and their role in homeostasis, it will present motility and muscle, the cardiovascular system, respiration, the renal and gastrointestinal systems, and selected topics from the endocrine system, the reproductive systems, environmental and exercise physiology. As well as providing a basis of integrative physiology for students in fields such as physiology, bioengineering and pharmacology, it should be of interest to students of cellular and molecular biology and genetic engineering who will need to appreciate the roles of specific systems and molecules at higher levels of organization.

Taught by: Tejvir Khurana

Course usually offered in fall term

Also Offered As: PHRM 532

Prerequisites: Although not a formal prerequisite, a good foundation in cell biology at the level of BIOM/CAMB 600 (or an equivalent upper level undergraduate course) is strongly recommended. A general understanding of the chemistry and biochemistry of macromolecules, and of basic molecular biology will also be assumed. This course is primarily designed for 2nd year BGS students; 1st year students in BGS or other programs will require the permission of the instructor. This course is not open to undergraduates.

Corequisites: Students without BIOM 600 require the instructors permission.

Activity: Lecture

1 Course Unit
CAMB 534 Seminar on current genetic research: Modeling Human Disease in Diverse Genetic Systems
An advanced seminar course emphasizing genetic research in model organisms and how it informs modern medicine. Each week a student will present background on a specific human disease. This is followed by an intense discussion by the entire class of ~2 recent papers in which model organisms have been used to address the disease mechanism and/or treatment. As a final assignment, students will have the opportunity to write, edit, and publish a "News & Views" style article in the journal "Disease Models and Mechanisms". Offered spring semester.
Taught by: T. Jongens
Course usually offered in spring term
Also Offered As: NGG 534
Prerequisites: CAMB 605 or CAMB 542 or permission of the instructor.
Activity: Seminar
1 Course Unit
Notes: Priority for enrollment will be given to CAMB graduate students. Class not open to Master or undergraduate students.

CAMB 541 Genetic Analysis
Genetic analysis involves use of induced mutations and natural variation to study biological processes. This course presents the logic and technology of this approach in four model organisms (Drosophila, C. elegans, mouse, Arabidopsis) and humans.
Taught by: Poethig
Course usually offered in spring term
Also Offered As: BIOL 540
Prerequisites: A college-level introductory course in genetics / molecular biology.
Activity: Lecture
1 Course Unit

CAMB 542 Topics in Molecular Medicine
TiMM is planned as a once-weekly seminar course whose goal is to introduce students to the ways in which biomedical research can provide new insights into clinical medicine and, conversely, how knowledge of clinical disease impacts scientific discovery. There are two sections for the course — 401 and 402. Section 401 is for first year MD/PhD students only and section 402 is for VMD/PhD and PhD students.
Taught by: Section 401: Johnson, Kohli Section 402: Atchison, Mason
Course usually offered in fall term
Also Offered As: PHRM 542
Activity: Seminar
1 Course Unit
Notes: Section 402: Open to combined degree and BGS students; capped at 12 students total; non-BGS students must receive permission from course instructors.

CAMB 549 Parasites and Parasitism
Parasites infect over one quarter of the world's population and parasitic diseases are a leading cause of death globally. "Parasites and Parasitism" is to be offered to first and second year MVP students over a seven-week block in the fall semester. The course will begin with an introduction to the major protozoan and helminth pathogens of humans, their geographic distribution and the diseases they cause. Subsequent lectures will emphasize a variety of topics from the current research literature using specific parasitic pathogens as examples. These will include how various protozoans enter cells and adapt to different intracellular habitats or how helminths utilize different strategies to survive within the GI tract. Malaria and schistosomiasis will serve as examples for how parasites cause disease while trypanosomes and leishmaniasis will be discussed as models for how parasites survive or evade immune elimination. Finally, several helminth and protozoan systems will be used to demonstrate the intimate association between parasite and vector that leads to efficient transmission. In addition to lectures, weekly discussion sessions will provide an opportunity for students to review papers or research specific topics and present their findings to their colleagues.
Taught by: Hunter, C. & Lok, J.
Course usually offered in spring term
Activity: Lecture
0.5 Course Units
Notes: Permission needed from course director for non-CAMB students

CAMB 550 Genetic Principles
This is a required course of the Genetics and Gene Regulation Program and is designed to provide students with a comprehensive overview of genetic concepts and methodology. The course is organized into three parts: I Fundamental genetic concepts and tools; II Genetics of model organisms (with focus on worms, flies, zebrafish and mice); III Human genetics and disease. Each week there will be two lectures and one associated discussion/problem-solving session. Discussions emphasize practical aspects of generating and interpreting genetic data. Offered spring semester.
Taught by: Sundaram, M. & Grant, S.
Course usually offered in spring term
Activity: Lecture
1 Course Unit
Notes: Open to all PhD students in BGS, or Biology, priority given to CAMB, GCB or Biology student. Students outside of BGS or Biology or in non-PhD programs, require permission from the course director to register.

CAMB 578 Advanced Topics in Behavioral Genetics
This course focuses on the use of genetic techniques to study the molecular and cellular bases of behavior. Particular emphasis will be given to the role of genetic approaches in understanding the biological processes underlying memory storage, circadian rhythms, and neurological and psychiatric disorders. Reverse genetic approaches utilizing gene knockout and transgenic technologies, as well as forward genetic approaches using mutagenesis and quantitative genetic techniques will be discussed.
Taught by: Abel/Bucan
Course offered spring; even-numbered years
Also Offered As: BIOL 488, NGG 578
Prerequisite: Permission of Instructor
Activity: Lecture
1 Course Unit
CAMB 597 Neural Development, Regeneration and Repair
The goals of this course are to examine the principles underlying nervous system development and to learn how understanding developmental mechanisms can inform strategies to promote regeneration and repair. This is not a survey course. Rather, the course will focus on selected topics, for which we discuss the genetic, molecular and cellular strategies employed to study these problems in different model organisms. Emphasis is on how to interpret and critically evaluate experimental data. Each class is 1.5 hours in length. During the first hour, an assigned paper will be discussed in detail. During the last 20-30 minutes, faculty will introduce methods, concepts, and background information pertinent to the paper that will be discussed at the following meeting. Fall 2016 Topics: Specification and generation of Neuronal Diversity; Axon and Dendrite Tiling and Self-Avoidance; Axon Guidance at the Midline; Synapse Formation; Wiring the Olfactory System, Axon Regeneration, Somatosensory System Development, Stem Cell Replacement Strategies for Neural Repair.
Taught by: Greg J. Bashaw and Wenqin Luo
Course usually offered in spring term
Also Offered As: NGG 597
Prerequisites: Cell 600 or equivalent. Students who are not in one of the BGS graduate programs need instructor permission
Activity: Lecture
1 Course Unit

CAMB 598 Immunology for Cancer Biologists
Themes: The contribution of both adaptive and innate immune cells to tumor progression and metastasis; Mechanisms of immune-mediated edition of tumors; Barriers to tumor immunity that contribute to tumor escape. Objective of course: To learn and analyze the major aspects of the inter-relationships between the immune system and tumors. By the end of the class students should be able to answer the question: why do current immunotherapeutic approaches for cancer fail in the majority of patients? Based on the topics covered in the course, students should be able to define research avenues that will increase the efficacy of immunotherapies for cancer.
Taught by: Sandra Ryeom
Course usually offered in fall term
Prerequisites: CAMB Students only, priority given to Cancer Biology students
Activity: Lecture
1 Course Unit

CAMB 601 Advanced Virology Seminar
This seminar course covers current topics and important concepts in virology. Students will read selected papers on various topics in virology. Each subject will be illustrated by ground-breaking classic papers and innovative recent articles. Students will present a seminar under the guidance of a faculty member. Grades will be based on the guidance of a faculty member. Grades will be based on the quality of the seminar(s) and participation in discussion.
Taught by: P. Bates
Course usually offered in spring term
Prerequisite: CAMB 706 (MVP Core Course)
Activity: Seminar
1 Course Unit
Notes: Non-CAMB students must obtain instructor approval.

CAMB 605 CAMB First Year Seminar
Topics are selected by course instructors and student participants. Course instructors vary yearly. The goal of this course is to provide students with an opportunity to analyze, present, and discuss significant research papers in the field of cell and molecular biology in small group settings. The sections are taught by faculty from the different programs within the Graduate Group. This is a required course for CAMB PhD students. Other BGS students are eligible, space permitting.
Taught by: John Seykora
Course usually offered in fall term
Prerequisite: None
Activity: Seminar
1 Course Unit
Notes: Preference to CAMB students is given. Students outside of CAMB may be accepted space permitting.

CAMB 608 Regulation of Eukaryotic Gene Transcription
An advanced seminar course emphasizing the molecular biology and molecular gene expression in eukaryotes. Based on the current literature, the presentations and discussions will familiarize the student with present day technology and developing principles.
Taught by: S. Liebhaber, D. Epstein
Course usually offered in fall term
Prerequisites: BIOM 555 or equivalent (exception=MD/PhD students). Students are expected to bring their laptops to class.
Activity: Seminar
1 Course Unit
Notes: This course is limited to 14 participants. All interested students need permits from course directors before registering.

CAMB 609 Vaccines and Immunization Therapy
Vaccination is perhaps the most successful medical technological intervention. The goal of this course is to expand on students’ general understanding of the immune system and to focus this understanding towards the application of vaccination and immune therapies for the 21 century. Furthermore, the course will give the student a sense of how these principles are applied to vaccine and immune therapeutic development. The course covers basic science as well as the clinical, regulatory, ethical, and political issues and implications of modern vaccines and world health. Initial lectures review immune mechanisms believed to be responsible for vaccine induced protection from disease. Subsequent lectures build on this background to explore the science of vaccines for diverse pathogens, including agents of bioterrorism as well as vaccines for cancer. An appreciation for the application of laboratory science to the clinical development and studies of vaccines is provided in the next section of the course along with lectures, which focus on the regulatory, safety, and ethical implications of vaccines in different world situations. The financial implications of specific vaccines on global health are one focus of the course.
Taught by: David Weiner, Ph.D., Paul Offit, M.D.
Course usually offered in fall term
Also Offered As: IMUN 609
Prerequisites: Biology, biochemistry at the advanced college level, college level immunology is recommended
Activity: Lecture
1 Course Unit
Notes: Not limited to CAMB students, however first options are to CAMB students
CAMB 610 Gene Therapy and Genome Editing
This is a team-taught, survey course that focuses on the basic science relevant to achieving efficient and effective gene transfer in animal models and humans for the treatment of disease. The course includes a unit devoted to a variety of vectors useful for gene transfer, with the remainder of the course devoted to the study of current gene therapy approaches using specific diseases as models. Prior background in biochemistry, cell biology, and molecular biology is essential. Aspects of organ system anatomy and physiology, virology, and immunology that are relevant to the course material are included in the course. Because of rapid movement in this field, specific topics vary somewhat from year to year. Offered every fall.
Taught by: James Wilson
Course usually offered in fall term
Prerequisites: Background in biochemistry, cell biology and molecular biology. Any student not enrolled in a BGS graduate program who wishes to take this course must get permission in advance from Dr. Wilson. Students should send their undergraduate and graduate transcripts (including spring semester) along with their request to Dr. Wilson via email: wilsonjm@upenn.edu and copy Veronica Niblick (vniblick@upenn.edu). This class is not accepting Non-BGS masters students.
Activity: Lecture
1 Course Unit

CAMB 615 Protein Conformation Diseases
Protein misfolding and aggregation has been associated with over 40 human diseases, including Alzheimer’s disease, Parkinsons disease, amyotrophic lateral sclerosis, prion diseases, alpha (1)-antitrypsin deficiency, inclusion body myopathy, and systemic amyloidoses. This course will include lectures, directed readings and student presentations to cover seminal and current papers on the cell biology of conformational diseases including topics such as protein folding and misfolding, protein degradation pathways, effects of protein aggregation on cell function, model systems to study protein aggregation and novel approaches to prevent protein aggregation. Target audience is primarily 1st year CAMB, other BGS graduate students, or students interested in acquiring a cell biological perspective on the topic. MD/PhDs and Postdoc are welcome. MS and undergraduate students must obtain permission from course directors. Class size is limited to 14 students.
Taught by: Yair Argon;Harry Ischiropoulos
Course usually offered in fall term
Also Offered As: BMB 518, NGG 615
Prerequisite: BIOM 600 or equivalent
Activity: Lecture
1 Course Unit

CAMB 617 Emerging Infectious Diseases
A physician from just 25 years ago would not recognize two of today’s most pressing public health problems, AIDS and Hepatitis C, nor be familiar with many other infectious diseases or agents including MERS, Ebola virus, Hantavirus, HTLV-1, HHV-8 and Borrelia burgdorferi. Such a physician might also be dismayed to learn that old enemies such as tuberculosis, malaria, diphtheria, West Nile virus, meningococcal meningitis, Yellow fever, and Dengue have become more (or rather less) prevalent due to antibiotic resistance and other factors. In addition, bioterrorism, long a theoretical possibility, is now part of today’s reality and could result in the deliberate introduction of anthrax or other biological agents into the civilian population or the food supply. Thus, with the beginning of the new millennium, the medical profession, the veterinary profession, and the biomedical research establishment are faced with the triple-threat of emerging infectious diseases, reemerging infectious diseases, and bioterrorism. These topics are covered in this course, with an emphasis on student’s participation in the discussion. Emerging Infectious Diseases will cover emerging viral, bacterial and parasitic organisms, with lectures being given by faculty from the Schools of Medicine, Veterinary Medicine, Dental Medicine, and Arts and Sciences, and outside lecturers. Epidemiology, immune responses to infection, vaccine and antimicrobial agents, and pathogenesis all will be discussed. The course format will include short lectures by various faculty members to provide background information on each topic, followed by extensive discussion by students. Classes will run from 10am to 11:30AM on Mondays and Wednesdays in Johnson 207. Evaluation will be based on presentations of a research manuscript from the literature and participation in discussion sessions.
Taught by: S. Hensley, P. Bates
Prerequisites: BIOM 600 (CELL 600) and CAMB 706 (MVP Core Course) are required. Course open to graduate students only. Other students may petition the course directors for permission to enroll.
Activity: Lecture
1 Course Unit
CAMB 630 Topics in Human Genetics and Disease
Building on the foundations of the Human Genome and HapMap projects, as well as parallel efforts in model organisms, research in human genetics and genomics is progressing rapidly. Our understanding of basic concepts in genetics, and Mendelian and non-Mendelian human genetic disease is proceeding at an unprecedented pace. This course will provide students with an overview approaches to understanding current problems and techniques in human genetics. The format will be an advanced seminar course, with directed reading and student presentations. Every week, students are expected to participate in a 2-hour class session, and two students will present recent publications in human genetics and disease. After each session, instructors will meet with presenting students for 30 min. to provide individual feedback. Course directors will attend each class, and guest preceptor with relevant scientific expertise may also participate. Students will be assigned readings for the first half of the course, and then select their own papers for the second half of the course. Presentations will be prepared in consultation with course directors. Students must meet with instructors at least one to two weeks prior to the presentation date. In class, the student discussion leaders will i) present background information necessary to understand the assigned paper (10-15 min.), ii) lead discussion of the paper, focusing on critical evaluation of the methods and results, and iii) talk about the future directions for this research. Taught by: E. Shore, M. Devoto, S. Grant
Course offered fall; even-numbered years
Prerequisites: CAMB graduate students having taken CAMB550, or students in MD/PhD, veterinary genetic counseling or nursing programs with equivalent courses. Must have directors permission to register.
Activity: Seminar
1 Course Unit

CAMB 631 Cell Adhesion and the Cytoskeleton
This is a seminar course in the molecular mechanisms underlying the organization, dynamics and signaling through cell adhesion and the cytoskeleton. The course will cover the basic principles and biology of the molecules involved in cell-cell and cell-matrix adhesion and their interface with the cytoskeleton. This is an advanced seminar course. Students will present papers that will be selected to highlight classical and emerging methods including genetic screens, pharmacological studies, physical approaches, and genomic approaches. The issues addressed include regulation of cell adhesion, control of cell motility, and roles of adhesion and adhesion signaling in cancer and cardiovascular disease. Students will also present one paper of their own choosing. All presentations will be prepared in consultation with a faculty member with expertise in the specific area. The course requires a minimum of seven registered students to be offered.
Taught by: Dave Boettiger, Jeff Field
Course usually offered in spring term
Prerequisites: BIOM600 or similar course in molecular cell biology.
Activity: Seminar
1 Course Unit
Notes: Limited to BGS, SAS, and Engineering graduate group students. Others by permit only.

CAMB 632 Cell Control by Signal Transduction Pathways
This course, “Targeting the cancer cell: from mechanism to precision medicine”, will examine how various signal transduction mechanisms influence cell functions including replication, growth, transcription, translation and intracellular trafficking. We will also consider how non-cell autonomous mechanisms, such as the tumor microenvironment and the immune system influence cancer cell signaling. We will consider how important signaling pathways, such as Ras, Raf, Notch, Wnt, TGF beta, and various kinases/phosphatases become dysregulated in cancer, as well as delve into how the DNA damage response, immune system, and tumor microenvironment exert important influences on oncogenic signaling. In the first half of the course, invited faculty members will pick 2 relatively recent papers from their field that highlight important areas. Each paper will be assigned to a student, who will meet with the faculty mentor prior to the class to discuss the paper and their presentation. During the class, students will present each paper for approximately 45 minutes with time for discussion. Students will present the important background, break down the paper, look for strengths and weaknesses and come up with a plan of what the next set of experiments could or should be. In the second half of the course, students will independently pick a relevant paper for in class presentation and will also write a short “News and Views” style article based on the paper they have chosen. The goal of the course is to provide students with a view of the cancer cell that integrates both cell autonomous and non-cell autonomous signals and to use this information to consider how to successfully treat cancer.
Taught by: X. Hua, J. Field, A. Resnick, and W. Pear
Course usually offered in spring term
Also Offered As: PHRM 632
Prerequisites: BIOM 600, Molecular and Cell Biology Courses
Activity: Seminar
1 Course Unit
Notes: Priority given to PhD students. Class is limited to CAMB, PHARM, IMUN and other graduate students, including engineering. Masters will go on waiting list.

CAMB 633 Advanced Seminar in Gene Therapy
This year’s Advanced Seminar in Gene Therapy will cover controversial topics in the field. It will meet on Wednesdays from 5:30 - 7:00pm. The goal of this seminar is to provide graduate students with an understanding of the challenges, both experimentally and practical, that face the gene delivery field. At least two sessions will deal with ethical issues. With the exception of the first class meeting, each of the weekly sessions will be devoted to a group discussion of recent papers. All students are required to read the papers and submit a written critique in advance of that week's class discussion. Evaluation will be based on attendance (required), active participation, and preparation of manuscript reviews. Students will be introduced to the process of reviewing manuscripts and will be asked to provide critical reviews each week. Students will also work together to write a scientific review for submission to a peer-reviewed journal. Students who are not in CAMB need to request permission from the course director, Dr. Wilson via email (wilsonjm@upenn.edu) and copy Veronica Niblick (vniblick@upenn.edu)
Taught by: Dr. James M. Wilson.
Course offered spring; odd-numbered years
Prerequisites: Background in biochemistry, cell biology, molecular biology, and immunology.
Activity: Seminar
1 Course Unit
CAMB 637 Gene Therapy: Vectors, Immunology, and Disease
This seminar course is designed to provide students with a cohesive understanding of virology and immunology of gene therapy. Three major themes will be covered: vectors, vector immunology and gene therapy of genetic and acquired diseases. The topics to be covered are viewed as an extension of topics covered in CAMB 610 (Molecular Basis of Gene Therapy), although CAMB 610 is not an absolute prerequisite for this seminar. Each class will consist of a brief introduction by an instructor, reviewing background information related to the theme discussion. The topics are explored through discussions, led by assigned students, of seminal research articles. Students are expected to have thoroughly reviewed the assigned articles and be able to present and discuss various aspects of the papers. Regular attendance and active participation in the discussions, which focus on critical evaluation of experimental design, data presentation and interpretation, is essential. Student evaluation will be based on attendance, in-class presentation (for 50% of the letter grade), and a take-home exam (for another 50% of the grade).
Taught by: J. Riley
Course offered spring; even-numbered years
Prerequisites: Background in molecular biology, virology and immunology. BGS Students only
Activity: Seminar
1 Course Unit
Notes: BGS Students only

CAMB 691 Advanced Topics in Cell Biology & Physiology
This course, together with its companion CAMB 692, offers an advanced, in depth analysis of selected topics in cell biology and physiology. CAMB 691 and 692 are complementary courses that focus on different aspects of cell biology; these courses are offered on an alternating basis in the spring semester. The courses can be taken in either order, but require BIOM 600 or an equivalent background in basic cell biology. CAMB 691 will focus on key issues at the forefront of research in the areas of (1) Channels and transporters, (2) Vesicular and viral trafficking, (3) Tissue mechanics, (4) Heart and muscle physiology, (5) Cytoskeletal dynamics and cell division. The course format pairs faculty presentations with student-led discussion sessions highlighting important papers from the primary literature. Students will be evaluated on their presentations, their participation in class discussions, and weekly problem sets. Offered alternately in the spring semester with CAMB 692.
Taught by: E. Grishchuk, M. Marks, C. Deutsch
Course offered spring; even-numbered years
Prerequisites: BIOM 600 or a similar survey course in cell biology. Permission needed for all non-CAMB students. Advanced undergrads must contact instructor to confirm qualifications.
Activity: Seminar
1 Course Unit

CAMB 692 Advanced Topics in Cell Biology and Physiology II: Cell Signaling and Metabolism
Cells in complex organisms are required to adapt rapidly in a changing environment. Maintaining homeostasis while performing specialized functions requires that cells respond to extracellular signals as well as fluctuations in a host of intracellular metabolites. This course will cover selected topics and general principles related to signal transduction and the control of metabolic flux in living cells. The course format will include student-led discussion sessions both providing an overview of a topic as well as focusing on important papers from the primary literature. Students will be evaluated on their presentations and participation, as well as problem sets. Offered alternately in the spring semester with CAMB 691.
Taught by: J. Bauer & R. Lee
Course offered spring; odd-numbered years
Prerequisites: BIOM 600 or a similar survey course in cell biology, or the permission of the instructor.
Activity: Seminar
1 Course Unit
Notes: We encourage participation by non-CAMB students.

CAMB 695 Scientific Writing
This 7-week course is designed to introduce students to basic scientific writing skills and is ideal for second year graduate students preparing for qualifying examinations. Participants will review the general principles of clear, persuasive writing, and will apply these principles to writing for a scientific audience. Particular emphasis will be placed on conveying the significance of your research, outlining the aims, and discussing the results for scientific papers and grant proposals. The course will also provide an overview of the structure and style of research grant proposals and scientific manuscripts. Classes are highly interactive, and the majority of class time will be spent discussing student scientific writing. Evaluation: The goal of the course is to encourage active and open interaction among students. Ideal endpoints include improved self-editing, and development of effective strategies for offering and receiving editorial recommendations among peers. Grading will be predominantly based on class attendance, participation, and timely submission of assignments-not on the quality of the writing itself.
Taught by: J. Katz, J. Lok
Course usually offered in spring term
Prerequisites: BIOM 600, BIOM 555 and CAMB 605
Activity: Lecture
0.5 Course Units
Notes: Preference for enrollment in CAMB 695 is given to CAMB students with highest priority given to second-year students. Students from graduate groups other than CAMB may be enrolled if space permits.

CAMB 696 Contemporary Topics in Parasitology Research
This is a paper-based seminar course. Each week a student is assigned a recent seminal paper related to parasitology research. The papers are chosen by guest faculty. Students are required to provide concise but comprehensive background and present the paper in a journal club style format. A principal aim of the course is to develop the ability think outside of the box and to cultivate the skills necessary for developing the ability to critically appraise one's own research and that of others. The ability to present and review work will be tested.
Taught by: J. Lok and M. Povelones
Course usually offered in spring term
Prerequisites: CAMB 549-001, Parasites and Parasitism
Activity: Seminar
0.5 Course Units
CAMB 697 Biology of Stem Cells
The goal of this course is to introduce graduate students to the field of stem cell biology through lectures and reviews of important contributions from the literature. Topics include embryonic stem cells, epigenetics and reprogramming, tissue specific stem cells such as hematopoetic, neuronal and epithelial stem cells, tissue regeneration, and tissue engineering. The future potential and challenges in stem cell and regeneration biology will be discussed. Important aspects of stem cell identification and characterization utilizing multiple model systems will also be a focus. Offered Fall Semester.
Taught by: P. Gadue, P. Rompolas
Course usually offered in spring term
Prerequisites: BGS Core Courses.
Activity: Seminar
1 Course Unit
Notes: Graduate students only. NO undergraduates. Students other than CAMB will need permits. CAMB students receive priority seating.

CAMB 698 Elective Tutorials in Cell Biology
This tutorial course is designed to provide students with an in-depth knowledge of a specific topic in cell biology. The tutorial can be used to enable students to become more deeply acquainted with the literature related to their field of interest or to expand on a topic that the student found interesting in one of their basic courses. Interested students can receive help choosing a faculty mentor and proposed topic or make arrangements with faculty on their own, but all arrangements must be approved by the course director. Students taking the course will attend an initial organizational meeting during the first week of classes. Students will meet weekly (1-2 hrs) with faculty mentors to discuss the literature (typically 2-3 papers per week), and in the end will write a brief review article and give an oral presentation. Students will receive advice and feedback from the course director and mentor on organizing the presentation and writing the review-style article. Grades will be determined by both the mentor and course director, based on effort and the final presentation/paper.
Taught by: Lee, Robert (Fall semester) and Wei Tong (Spring semester)
One-term course offered either term
Prerequisites: Cell 600 or an alternative senior undergraduate, graduate, or professional school course in Cell Biology
Corequisites: Interested students must contact Dr. Lee: Robert Lee, PhD, Assistant Professor of Otorhinolaryngology and Physiology, 145A Clinical Research Building. (215) 573-9766, rjl@mail.med.upenn.edu in the fall semester and Dr. Wei Tong tongw@email.chop.edu in the spring semester.
Activity: Seminar
1 Course Unit

CAMB 700 Topics in Microbiology
This course is designed for second year students in the MVP program, and focuses on pathogen-host interactions. Students make a presentation designed for 30 minutes on a topic of their choice. The topic can be something that they are working on, or simply something that they are interested in. They are requested to provide sufficient background, discuss what is known and what is not known about the topic, and then frame two to three Specific Aims. The success of the course rests entirely upon the quality of the faculty and students involved. In past years, the class have been very interactive, with each of the 11 classes lasting about 1.5 hours. The discussions are deliberately wide-ranging, and review recent literature, techniques, and how to construct a grant. Generally, two faculty will be in attendance.
Taught by: S. Cherry
Course usually offered in spring term
Prerequisites: Permission from instructor required. Student must have taken Immunology and 2 MVP pathogen classes.
Activity: Seminar
1 Course Unit

CAMB 701 Tumor Microenvironment
Course Content: This 15-week course is designed for second year (and up) graduate students interested in learning about the tumor microenvironment. The course will cover the cross-talk between the main players (tumor cells, stroma, vasculature and immune cells) of the local tumor microenvironment field as well as the systemic response/impact of primary tumors, disseminated tumor cells and metastases, and emphasize the connections between the basic biology of the tumor microenvironment to potential therapeutic intervention. The goals of this course are to enrich scientific culture, train for clear and concise oral presentations, improve grant-writing skills, and develop critical thinking, professional composure and discussion skills. The course will be divided into 3 broad topic areas. At the beginning of each block, faculty members will present a 1 hour didactic lecture and overview of the topic followed by questions and discussions by students. Each week’s session will be led by one or two students depending on the class size and include a didactic primary research paper including specific technical background needed for the paper, presenting the data in the paper, leading discussion on the data and conclusions drawn from the paper. Required reading (including reviews and 1-2 primary papers) related to each week’s class will be assigned for all participants in preparation for in class discussion focused on the contribution and impact of the presented paper to the field. Students will be guided in choosing the appropriate depth of background and topic area and in giving formal presentations and constructive criticism of scientific data. Additionally each student will write a specific aim for a grant using data reviewed in one of his or her presentations as “preliminary data”.
Taught by: Sandra Ryem, Ben Stanger, and Costas Koumenis
Course usually offered in spring term
Prerequisites: First year CAMB core courses must be completed. Course is for 2nd year graduate students and beyond.
Corequisites: CB students get first priority followed by other CAMB students.
Activity: Seminar
1 Course Unit
CAMB 702 Current Biochemical Topics
Participation in the "Dr. George W. Raiziss Biochemical Rounds", a weekly seminar program sponsored by the Department of Biochemistry and Biophysics. Program deals with a wide range of modern biochemical and biophysical topics presented by established investigators selected from our faculty, and by leading scientists from other institutions.
Taught by: Black, B. & Shorter, J.
Course usually offered in spring term
Also Offered As: BMB 650
Prerequisites: Course is limited to BGS graduate students and undergrads from the Vagelos Scholars Program.
Activity: Seminar
1 Course Unit

CAMB 703 The ECM, adhesion receptor signaling, and translational biomechanics
This course is geared towards first and second year graduate students in BGS/CAMB and SEAS/BE with an interest in the interface of extracellular matrix (ECM) cell biology and biomechanics. Students will learn about the ECM and adhesion receptors and their impact on the cytoskeleton and signaling, as well as fundamental concepts in biomechanics and engineered materials. We will discuss how these topics can inform the study of cell biology, physiology and disease. An additional objective of the course is to give students experience in leading critical discussions and writing manuscript reviews. Invited outside speakers will complement the strengths of the Penn faculty.
Taught by: R. Mauck, R. Wells.
Course offered spring; even-numbered years
Also Offered As: BE 640
Prerequisite: BIOM 600
Activity: Lecture
1 Course Unit

CAMB 704 Stress Responses in Metabolism and Cancer
The course meets once a week for student presentations and lectures. The first four weeks encompass lectures on state-of-the-art metabolic labeling, metabolomic, and other related methodologies. Subsequently, both "historical" and more recent papers in the field of cancer metabolism are reviewed with individual faculty experts in each chosen area. The overall goal of the course is to give students a better understanding of the abrogation of normal cellular metabolism and stress signaling during cancer, and how these interplay with each other to create/retain a malignant state.
Taught by: C. Simon, Z. Arany, and Z. Schug
Course usually offered in fall term
Prerequisite: Must have taken first year CAMB courses
Activity: Lecture
1 Course Unit
Notes: Permission to enroll is required from course directors. Preference is given to second year CAMB students in the Cancer Biology and Cell Biology, Physiology and Metabolism programs.

CAMB 705 Advanced Topics in Bacterial-Host Interactions
This course will delve into specific topics in general area of bacterial pathogenesis and bacteria-host interactions. We will be exploring key historical and current papers on topics related to bacterial invasion of and replication within host cells, bacterial interference with host cell signaling pathways, bacterial interactions with host mucosal tissues, and the role of bacterial colonization in shaping and instructing host immune responses. Each week, a student will lead the class in the discussion of published papers on a specific topic. The format of each class will be a 10-15 minute introduction of the key background and underlying questions to be presented by the student, followed by an in-depth analysis by all members of the class of one to two articles. Students will be graded based on their introductory presentation and active participation in the paper discussions.
Taught by: Igor Brodsky and Sunny Shin
Course usually offered in spring term
Prerequisites: Strong background in cell biology, immunology and/or bacteriology fulfilled by 1st year CAMB (previous BGS) courses. Course is limited to 2nd - 3rd year graduate students or advanced undergraduates with course directors permission.
Activity: Seminar
1 Course Unit

CAMB 706 MVP Core
The MVP Core class, to be held in the Fall and Spring for first year CAMB-MVP students, will provide CAMB-MVP with key fundamental knowledge of Microbiology, Virology, and Parasitology. The course will be organized into three sections after 2 overview lectures as described in the syllabus.
Taught by: M. Betts and P. Bates
Two terms. student may enter either term.
Activity: Lecture
1 Course Unit
Notes: Required for all CAMB-MVP students. Non MVP students must obtain instructor permission to take this course.

CAMB 707 Cell & Gene Therapy
Also Offered As: REG 621
Prerequisites: At least one course in immunology.
Activity: Lecture
1 Course Unit

CAMB 708 HIV Virology/Pathogenesis/Cure Seminar/Journal Club
This will be a year-long class, held every other week, that is paper-based utilizing the current literature in HIV virology, pathogenesis and cure research. The class will have a journal club format with attendance and participation open to the full Penn student & postdoc community (teach-your-peers). Enrolled students will be responsible for approximately 4-5 presentations over the duration of the course, as well as for bi-weekly paper selection in conjunction with the instructors and coordinating the presentations by other participants.
Taught by: Ronald Collman and Katharine Bar
Two terms. student may enter either term.
Prerequisites: Strong background in cell biology, immunology or virology fulfilled by 1st yr CAMB Courses
Corequisites: Course is limited to graduate students. Instructor permission required for non-CAMB graduate students.
Activity: Seminar
1 Course Unit
CAMB 709 Quantitative Imaging and Analysis for Biologists (QIAB)
Students are making fundamental advances by capturing stunning, high-resolution digital images. Accurate and careful quantitative analysis of these images can reveal important mechanistic insights into the underlying biology. This course will provide an introduction to the fundamentals of image analysis, including object identification & tracking, feature extraction & quantitation; co-localization; live cell & tissue imaging; single molecule dynamics. The goal is to provide students with the background and confidence required to pursue more advanced quantitative imaging methods as the need arises in their research. Grading: Students will be judged on active participation in class, and a final presentation describing a "publication-quality" figure they have prepared from their own image data applying at least two of the analysis methods covered in class. Offered: Fall semester
Taught by: S. DiNardo, A. Stout
Prerequisites: Open to BGS or Biology graduate student past their qualifying exam. Enrollment capped at <20, with priority given to those with a demonstrated need.
Activity: Lecture
0.5 Course Units

CAMB 752 Genomics
Recent advances in molecular biology, computer science, and engineering have opened up new possibilities for studying the biology of organisms. Biologists now have access to the complete genomic sequence and set of cellular instructions encoded in the DNA of specific organisms, including homo sapiens, dozens of bacterial species, the yeast Saccharomyces cerevisiae, the nematode C. elegans, and the fruit fly Drosophila melanogaster. The goals of the course include the following: 1) introduce the basic principles involved in sequencing genomes, 2) familiarize the students with new instrumentation, informative tools, and laboratory automation technologies related to genomics; 3) teach the students how to access the information and biological materials that are being developed in genomics, and 4) examine how these new tools and resources are being applied to basic and translational research. This will be accomplished through in depth discussion of classic and recent papers.
Taught by: S. Diskin
Course usually offered in spring term
Also Offered As: GCB 752
Prerequisites: GCB 531/534 Intro to Genomics or equivalent, or permission from instructor
Activity: Seminar
1 Course Unit

CAMB 995 Dissertation
Activity: Dissertation
1 Course Unit

Chemical & Biomolecular Engineering (CBE)

CBE 099 Undergraduate Research and Independent Study
An opportunity for the student to work closely with a professor in a project to develop skills and technique in research and development. To register for this course, the student writes a one-page proposal that is approved by the professor supervising the research and submitted to the undergraduate curriculum chairman during the first week of the term. One-term course offered either term
Activity: Independent Study
1 Course Unit
Notes: A maximum of 2 c.u. of CBE 099 may be applied toward the B.S.E degree requirements

CBE 150 Introduction to Biotechnology
The goal of this course is to teach you the fundamentals of biotechnology and introduce you to concepts in Chemical Engineering along the way. Concepts in Biotechnology that will be covered include, DNA, RNA, the Central Dogma, proteins, recombinant technology, RNA silencing, electrophoresis, chromatography, synthetic biology, pull down assays, PCR, hybridization, array technology, DNA machines, DNA sequencing, and forensics. Concepts in Chemical Engineering that will be covered include the mass balance, scaling laws and the Buckingham-Pi theorem, kinetics of enzyme reactions, thermodynamics of molecular binding, the Langmuir isotherm, separations via chromatography.
Course usually offered in fall term
Prerequisite: Reserved for Freshmen only
Activity: Lecture
1 Course Unit

CBE 160 Introduction to Chemical Engineering
Students will learn to read and understand a process flow sheet. There is a focus on drawing a process flow sheet, and formulating and solving the material balances for the chemical processes involving chemical reactions (some with recycle streams, some with purge streams, and some with bypass streams). Additionally, students will understand the limits of the ideal gas law, and have a working knowledge of the cubic equations of state and the concept of a compressibility factor. The class will study the basic concepts of gas-liquid phase equilibrium and apply Raoult's Law to solve phase equilibrium problems. A final objective is to design flow sheets and solve material balances for simple chemical processes using ASPEN (chemical engineering simulation program).
Course usually offered in spring term
Activity: Lecture
1 Course Unit

CBE 230 Material and Energy Balances of Chemical Processes
This course introduces the principles of material and energy balances and their applications to the analysis of single- and multiple-phase processes used in the chemical, pharmaceutical, and environmental industries. The course focuses on the conceptual understanding of properties of pure fluids, equations of state, and heat effects accompanying phase changes and chemical reactions, and problem-solving skills needed to solve a wide range of realistic, process-related problems.
Course usually offered in fall term
Prerequisite: CBE 160
Activity: Lecture
1 Course Unit
CBE 230 Thermodynamics of Fluids
Students will understand, evaluate, and apply different equations of state relating pressure, temperature, and volume for both ideal and non-ideal systems. The course will focus on calculating and applying residual properties and departure functions for thermodynamic analysis of non-ideal gases. Students will apply and describe simple models of vapor-liquid equilibrium in multi-component systems (e.g. Raoult’s Law, modified Raoult’s Law, Henry’s Law). Additionally, the class will analyze and describe properties of non-ideal mixtures and their component species. We will also model and predict reaction equilibria (including non-ideal fluid systems), as well as solve problems related to complex phase equilibria of multi-component systems (find equilibrium compositions for non-ideal phases).
Taught by: Holleran
Course usually offered in spring term
Prerequisite: CBE 230
Activity: Lecture
1 Course Unit

CBE 296 Study Abroad
Activity: Lecture
1 Course Unit

CBE 297 Study Abroad
One-term course offered either term
Activity: Lecture
1 Course Unit

CBE 350 Fluid Mechanics
This course is designed for students to understand the fundamental characteristics of fluids. We will develop, starting from first principles, the basic equations for fluid statics, and use them to assess buoyancy forces and determine the pressure variations in fluids with rigid body rotation. Students will understand in detail the basic types of fluid flow line patterns (eg. streamlines and streamtubes) and the different types of interchangeable energy forms (eg. kinetic, potential, and pressure). It is also important to develop, starting from first principles, the formulations for inviscid and viscous flow problems. These include the discussion of a control system and system boundaries, the detailed construction of conservations equations of mass, energy, and momentum for Newtonian fluids, the derivation of the Navier-Stokes equations, and the determination of appropriate initial and boundary conditions. A final objective of the course is to solve various fluid mechanics problems using control systems, dimensional analysis, and developed equations. Such problems include, but are not limited to, the terminal velocity of a falling sphere, Stokes flow, the relation between the friction factor and the Reynolds number, and flow profiles in numerous geometries.
Taught by: Holleran
Course usually offered in fall term
Prerequisite: CBE 230
Activity: Lecture
1 Course Unit

CBE 351 Heat and Mass Transport
Course usually offered in spring term
Prerequisite: CBE 350
Activity: Lecture
1 Course Unit

CBE 353 Advanced Chemical Engineering Science
Course usually offered in fall term
Prerequisite: CBE 231
Activity: Lecture
1 Course Unit

CBE 371 Separation Processes
The design of industrial methods for separating mixtures. Distillation; liquid-liquid extraction; membranes; absorption. Computer simulations of the processes.
Course usually offered in spring term
Prerequisite: CBE 231
Activity: Lecture
1 Course Unit

CBE 375 Engineering and the Environment
The course will introduce emerging environmental issues, relevant engineering solutions, and problem-solving techniques to students. The case study approach will be used to assist students to develop and apply the fundamental engineering skills and scientific insights needed to recognize a variety of environmental problems that have profound impacts on all aspects of modern society.
Course usually offered in spring term
Prerequisite: Sophomore Standing
Activity: Lecture
1 Course Unit

CBE 400 Introduction to Product and Process Design
Introduction to product design, process synthesis, steady-state and batch process simulation, synthesis of separation trains, second-law analysis, heat integration, heat-exchanger design, equipment sizing, and capital cost estimation.
Course usually offered in fall term
Prerequisites: CBE 351, 371
Corequisite: CBE 451
Activity: Lecture
1 Course Unit

CBE 410 Chemical Engineering Laboratory
Experimental studies in heat and mass transfer, separations and chemical reactors to verify theoretical concepts and learn laboratory techniques. Methods for analyzing and presenting data. Report preparation and the presentation of an oral technical report.
Course usually offered in fall term
Prerequisites: CBE 351, 371
Activity: Laboratory
1 Course Unit
CBE 430 Polymers and Biomaterials
Polymer is one of the most widely used materials in our daily life, from the rubber tires to clothes, from photoresists in chip manufacturing to flexible electronics and smart sensors, from Scotch tapes to artificial tissues. This course teaches entry-level knowledge in polymer synthesis, characterization, thermodynamics, and structure-property relationship. Emphasis will be on understanding both chemical and physical aspects of polymers, polymer chain size and molecular interactions that drive the microscopic and macroscopic structures and the resulting physical properties. We will discuss how to apply polymer designs to advance nanotechnology, electronics, energy and biotechnology. Case studies include thermodynamics of block copolymer thin films and their applications in nanolithography, shape memory polymers, hydrogels, and elastomeric deformation and applications.
Course usually offered in spring term
Also Offered As: CBE 510, MSE 430
Prerequisites: MSE 260 or equivalent course in Thermodynamics or Physical Chemistry (such as BE 223, CBE 231, CHEM 221, MEAM 203)
Activity: Lecture
1 Course Unit

CBE 451 Chemical Reactor Design
Course usually offered in fall term
Prerequisites: CBE 231 and CBE 351
Activity: Lecture
1 Course Unit

CBE 459 Product and Process Design Projects
Design of chemical, biochemical, and materials products and processes based on recent advances in chemical and bioengineering technology.
Design group weekly meetings with faculty advisor and industrial consultants. Comprehensive design report and formal oral presentation. Heat exchanger design and profitability analysis.
Course usually offered in spring term
Prerequisite: CBE 231 and CBE 351
Activity: Lecture
1 Course Unit

CBE 460 Chemical Process Control
Course usually offered in spring term
Prerequisite: CBE 230
Activity: Lecture
1 Course Unit

CBE 479 Biotechnology and Biochemical Engineering
An overview of biotechnology from a chemical engineering perspective: DNA, enzymes, proteins, molecular genetics, genetic engineering, cell growth kinetics, bioreactors, transport processes, protein recovery and protein separations. Group projects include a MATLAB kinetics project and a biotechnology company profile. Applications to current practices in biopharmaceuticals, biofuels, and bioremediation are discussed.
Course usually offered in fall term
Prerequisites: Junior/Senior Standing in Engineering and CBE 150 or Permission of the Instructor.
Activity: Lecture
1 Course Unit

CBE 480 Laboratory in Biotechnology and Genetic Engineering
The laboratory methods covered include molecular cloning techniques, cell transformation, DNA gel electrophoresis, ImageJ, PCR, DNA sequencing, SDS-PAGE, mammalian cell culture and enzyme assays. Culture techniques for bacteria, yeast and mammalian cells are taught and practiced. The students write several individual lab reports and keep a weekly lab notebook during the semester. A group presentation and report on a proposal for a new lab experiment is the final assignment for the lab.
Course usually offered in spring term
Prerequisites: CBE 479 or Permission of the Instructor.
Activity: Laboratory
1 Course Unit

CBE 508 Probability and Statistics for Biotechnology
The course covers topics in probability theories and statistical techniques, with emphases placed on the practical problems relevant to the subject areas of biotechnology. The course provides a rigorous introduction to such topics as elements of probability, random variables and probability functions, random samples, parameter estimations, hypothesis testing, regression, analysis of variance, lifetime testing, and nonparametric tests.
Course usually offered summer term only
Activity: Lecture
1 Course Unit

CBE 510 Polymer Engineering
Polymer is one of the most widely used materials in our daily life, from the rubber tires to clothes, from photoresists in chip manufacturing to flexible electronics and smart sensors, from Scotch tapes to artificial tissues. This course teaches entry-level knowledge in polymer synthesis, characterization, thermodynamics, and structure-property relationship. Emphasis will be on understanding both chemical and physical aspects of polymers, polymer chain size and molecular interactions that drive the microscopic and macroscopic structures and the resulting physical properties. We will discuss how to apply polymer designs to advance nanotechnology, electronics, energy and biotechnology. Case studies include thermodynamics of block copolymer thin films and their applications in nanolithography, shape memory polymers, hydrogels, and elastomeric deformation and applications.
Course usually offered in spring term
Also Offered As: CBE 430, MSE 430
Prerequisites: MSE 260 or equivalent course in Thermodynamics or Physical Chemistry (such as BE 223, CBE 231, CHEM 221, MEAM 203)
Activity: Lecture
1 Course Unit
CBE 511 Physical Chemistry of Polymers and Amphiphiles
This course deals with static and dynamic properties of two important classes of soft materials: polymers and amphiphiles. Examples of these materials include DNA, proteins, diblock copolymers, surfactants and phospholipids. The fundamental theories of these materials are critical of understanding polymer processing, nanotechnology, biomembranes and biophysics. Special emphasis will be placed on understanding the chain conformation of polymer chains, thermodynamics of polymer chains, thermodynamics of polymer solutions and melts, dynamics of polymer and statistical thermodynamic principles of self-assembly.
Course usually offered in fall term
Activity: Lecture
1 Course Unit

CBE 520 Modeling, Simulations, and Optimization of Chemical Processes
Course not offered every year
Activity: Lecture
1 Course Unit

CBE 522 Polymer Rheology and Processing
This course focuses on applications of rheology to polymer process technologies. It includes a general review of rheological concepts, including viscoelasticity and the influence of shear rate, temperature and pressure on polymer flow properties. The course covers the elementary processing steps common in various types of polymer manufacturing operations including handling of particulate solids, melting, pressurizing and pumping, mixing and devolatilization. Specific polymer processing operations including extrusion, injection molding, compression molding, fiber spinning and wire coating are covered. Emerging polymer processing applications in microelectronics, biomedical devices and recycling are also discussed.
One-term course offered either term
Prerequisites: MEAM 302 and 333 or CBE 350 and 351 or equivalent
Activity: Lecture
1 Course Unit

CBE 525 Molecular Modeling and Simulations
Students will explore current topics in thermodynamics through molecular simulations and molecular modeling. The requisite statistical mechanics will be conveyed as well as the essential simulation techniques (molecular dynamics, Monte Carlo, etc.). Various approaches for calculating experimentally measurable properties will be presented and used in student projects.
Course usually offered in fall term
Prerequisite: CBE 231 or 618 or equivalent background in physical chemistry
Activity: Lecture
1 Course Unit

CBE 535 Interfacial Phenomena.
This course provides an overview of fundamental concepts in colloid and interface science. Topics include the thermodynamics of interfaces, interfacial interactions (e.g. van der Waals' interactions, electrostatics, steric interactions), adsorption, the hydrodynamics and stability of interfacial systems, self assembly, etc. Connections to self-assembly and directed assembly of nanomaterials and emerging topics are explored.
Pre-requisites: undergraduate thermodynamics, some familiarity with concepts of transport phenomena (including fluid flow and mass transfer) and differential equations
One-term course offered either term
Activity: Lecture
1 Course Unit

CBE 540 Biomolecular and Cellular Engineering
This course will introduce concepts and methods for the quantitative understanding of molecular and cellular phenomena. Topics include molecular recognition, receptor-ligand binding, viral infection, signal transduction, cell adhesion, motility, and cytoskeletal dynamics. The course requires mathematics at the level of differential equations, and some knowledge of Matlab programming. A basic knowledge of cell biology is suggested, although not required.
One-term course offered either term
Also Offered As: BE 540
Activity: Lecture
1 Course Unit

CBE 541 Engineering and Biological Principles in Cancer
This course provides an integrative framework and provides a quantitative foundation for understanding molecular and cellular mechanisms in cancer. The topics are divided into three classes: (1) the biological basis of cancer; (2) cancer systems biology; and (3) multiscale cancer modeling. Emphasis is placed on quantitative models and paradigms and on integrating bioengineering principles with cancer biology.
Course usually offered in spring term
Also Offered As: BE 541
Prerequisite: Senior standing or permission of the instructor
Activity: Lecture
1 Course Unit

CBE 543 Sust Dev/Water Res Sys
The evaluation of technical, social and economic constraints on the design of water supply and sanitation projects. The focus on sustainable design emphasizes how technical solutions fit within the appropriate social context. Case studies are used to demonstrate these principles across a range of examples from developed and developing countries including detailed studies from rural communities with limited resources.
Course usually offered in spring term
Activity: Lecture
1 Course Unit
CBE 544 Computational Science of Energy and Chemical Transformations
Our theoretical and computational capabilities have reached a point where we can do predictions of materials on the computer. This course will introduce students to fundamental concepts and techniques of atomic scale computational modeling. The material will cover electronic structure theory and chemical kinetics. Several well-chosen applications in energy and chemical transformations including study and prediction of properties of chemical systems (heterogeneous, molecular, and biological catalysts) and physical properties of materials will be considered. This course will have modules that will include hands-on computer lab experience and teach the student how to perform electronic structure calculations of energetics which form the basis for the development of a kinetic model for a particular problem, which will be part of a project at the end of the course.

One-term course offered either term
Prerequisites: Thermodynamics, Kinetics, Physical Chemistry, Quantum Mechanics. Undergraduates should consult and be given permission by the instructor.
Activity: Lecture
1 Course Unit

CBE 545 Electrochemical Energy Conversion and Storage.
Fuel cells, electrolysis cells, and batteries are all electrochemical devices for the interconversion between chemical and electrical energy. These devices have inherently high efficiencies and are playing increasingly important roles in both large and small scale electrical power generation, transportation (e.g. hybrid and electric vehicles), and energy storage (e.g. production of H2 via electrolysis). This course will cover the basic electrochemistry and materials science that is needed in order to understand the operation of these devices, their principles of operation, and how they are used in modern applications.

One-term course offered either term
Prerequisites: Introductory chemistry and an undergraduate course in thermodynamics (e.g. CBE 231, MEAM 203)
Activity: Lecture
1 Course Unit

CBE 546 Fundamentals of Industrial Catalytic Processes
A survey of heterogeneous catalysis as applied to some of the most important industrial processes. The tools used to synthesize and characterize practical catalysts will be discussed, along with the industrial processes that use them.
Course usually offered in spring term
Activity: Lecture
1 Course Unit

CBE 552 Cellular Bioengineering
Application of chemical engineering principles to analysis of eukaryotic cell biological phenomena, emphasizing receptor-mediated cell function. Topics include receptor/ligand binding kinetics and trafficking dynamics, growth factor regulation of cell proliferation, cell adhesion, cell migration and chemotaxis, and consequences of these in physiological situations such as the immune and inflammatory responses, angiogenesis, and wound healing.
Course usually offered in spring term
Also Offered As: BE 552
Activity: Lecture
1 Course Unit

CBE 554 Engineering Biotechnology
Advanced study of re DNA techniques; bioreactor design for bacteria, mammalian and insect culture; separation methods; chromatography; drug and cell delivery systems; gene therapy; and diagnostics.
Course usually offered in spring term
Also Offered As: BE 554
Activity: Lecture
1 Course Unit

CBE 555 Nanoscale Systems Biology
Nano-science and engineering approaches to systems in biology are of growing importance. They extend from novel methods, especially microscopies that invite innovation to mathematical and/or computational modeling which incorporates the physics and chemistry of small scale biology. Proteins and DNA, for example, are highly specialized polymers that interact, catalyze, stretch and bend, move, and/or store information. Membranes are also used extensively by cells to isolate, adhere, deform, and regulate reactions. In this course, students will become familiar with cell & molecular biology and nanobiotechnology through an emphasis on nano-methods, membranes, molecular machines, and ‘polymers’ - from the quantitative perspectives of thermodynamics, statistical physics, and mechanics. We specifically elaborate ideas of energetics, fluctuations and noise, force, kinetics, diffusion, etc. on the nano- thru micro- scale, drawing from very recent examples in the literature. Laboratory experiments will provide hands-on exposure to microscopies in a biological context (e.g. fluorescence down to nano-scale, AFM), physical methods (eg. micromanipulation, tracking virus-scale particles or quantum dots), and numerical problems in applied biophysics, chemistry, and engineering. A key goal of the course is to familiarize students with the concepts and technology (plus their limitations) as being employed in current research problems in nanoscale systems biology, extending to nanobiotechnology.
Taught by: Diacher
Course usually offered in fall term
Also Offered As: BE 555, MEAM 555
Prerequisites: Background in Biology, Physics, Chemistry or Engineering with coursework in Thermodynamics or permission of the instructor.
Activity: Lecture
1 Course Unit

CBE 557 Stem Cells, Proteomics and Drug Delivery - Soft Matter Fundamentals
Lectures on modern topics and methods in cell and molecular biology and biomedicine from the perspective of soft matter science and engineering. Discussions and homeworks will cover soft matter related tools and concepts used to 1) isolate, grow, and physically characterize stem cells, 2) quantify biomolecular profiles, 3) deliver drugs to these cells and other sites (such as tumors with cancer stem cells) will be discussed. Skills in analytical and professional presentations, papers and laboratory work will be developed.
Course usually offered in spring term
Prerequisites: Background in Biology, Physics, Chemistry or Engineering
Activity: Lecture
1 Course Unit
CBE 559 Multiscale Modeling of Biological Systems
This course provides theoretical, conceptual, and hands-on modeling experience on three different length and time scales - (1) electronic structure (A, ps); (2) molecular mechanics (100A, ns); and (3) deterministic and stochastic approaches for microscale systems (um, sec). Students will gain hands-on experience, i.e., running codes on real applications together with the following theoretical formalisms: molecular dynamics, Monte Carlo, free energy methods, deterministic and stochastic modeling.
Course not offered every year
Also Offered As: BE 559
Prerequisites: Undergraduate courses in numeral analysis and statistical mechanics.
Activity: Lecture
1 Course Unit

CBE 562 Drug Discovery and Development
Intro to Drug Discovery; Overview of Pharmaceutical Industry and Drug Development Costs, Timelines; High Throughput Screening (HTS); Assay Design and Sensitivity Solid Phase Synthesis and Combinatorial Chemistry; Enzyme Kinetics; Fluorescence, Linearity, Inner-filter effect, quenching; Time dynamics of a Michaelis-Menton Reaction; Competitive Inhibitor; FLINT, FRET, TRF, FP, SPA, alpha-screen; Enzyme HTS (protease); Cell based screening; Fura-2 ratio, loading signaling; GFPcalmodulin-gfp integrated calcium response; Estrogen/ERE-Luc HTS; Problems with cell based screening (toxicity, permeability, nonspecificity); Instrumentation, Robotics/Automation; Z-factor, SAR, Positioning Scanning; Microarray HTS; IC50, % Conversion in HTS and IC50, Assay Optimization.
Course usually offered in fall term
Also Offered As: BE 562
Activity: Lecture
1 Course Unit

CBE 563 Dev & Manuf of Biopharm.
New drug development and regulatory compliance related to small molecules and biologics, overview of biopharma industry, regulation and development process for new chemical entities and biologies, formulation of pharmaceutical dosage forms, current Good Manufacturing Practices, chemistry manufacture and controls, overview of Common Technical Document (CTD), managing post-approval changes - formulatin, process, packaging, and analytical.
One-term course offered either term
Activity: Lecture
1 Course Unit

CBE 564 Drug Delivery
The topics include drug transport, distribution and interactions in the body, specific challenges for biotherapeutics, pharmacokinetics, drug delivery systems and nanocarriers, gene delivery systems, targeted drug delivery, and translational aspects of new drug delivery systems. Faculty from engineering and medicine will give lectures related to their research interests. The students read current journal articles on drug delivery systems. The major group assignment for the course is a written and oral group proposal on a new drug delivery system.
One-term course offered either term
Also Offered As: PHRM 564
Activity: Lecture
1 Course Unit

CBE 580 Masters Biotech Lab.
The laboratory methods covered include molecular cloning techniques, cell transformation, DNA gel electrophoresis, ImageJ, PCR, DNA sequencing, SDS-PAGE, mammalian cell culture, and enzyme assays. Culture techniques for bacteria, yeast and animal cells are taught and practiced. The students write several individual lab reports and keep a lab notebook during the semester. A group presentation and report on a proposal for a new lab experiment is the final assignment for the lab.
One-term course offered either term
Activity: Lecture
1 Course Unit
Notes: Reserved for students in the Master of Biotechnology Program. Not open to SEAS undergraduates.

CBE 582 From Cells to Tissue: Engineering Structure and Function
The goal of this course is to introduce students to engineering concepts in understanding and manipulating the behavior of biological cells. We will try to understand the interplay between cells, extracellular microenvironment, and intracellular signaling pathways in regulating cellular and multicellular structure and function. In particular, we will explore the use of modern experimental approaches to characterize and manipulate cells for bioengineering applications, and the concepts in scaling cellular engineering functional tissues. In this context, we will focus on several topics, including signal transduction and the molecular regulation of cell function, cellular microenvironment, cell adhesion and mechanics, stem cells, multicellularity, and experimental models of tissue development.
Course usually offered in spring term
Also Offered As: BE 557
Activity: Lecture
1 Course Unit

CBE 597 Master's Thesis Research
One-term course offered either term
Activity: Masters Thesis
1 Course Unit

CBE 599 Master's Indep Study
One-term course offered either term
Activity: Independent Study
1 Course Unit

CBE 602 Statistical Mechanics of Liquids
The course will focus on advanced concepts and methods in statistical mechanics with a particular emphasis on the liquid state, e.g. aqueous solutions, capillarity, polymers, colloids, glasses, amphiphilic self-assembly, etc. Principles of both equilibrium and non-equilibrium statistical mechanics will be discussed and connections to experimentally measurable quantities will be made wherever possible.
One-term course offered either term
Prerequisites: Graduate level course in statistical mechanics (e.g. CBE 618, MSE 575, BE 619, BMB 604, PHYS 581, CHEM 521). An advanced statistical mechanics course (e.g., PHYS 611, CHEM 522) is recommended, but not required.
Activity: Lecture
1 Course Unit
CBE 617 Control of Nonlinear Systems
PID control of nonlinear systems; steady-state, periodic and chaotic attractors. Multiple-input, multiple-output systems; decoupling methods and decentralized control structures. Digital control; z-transforms, implicit model control, impact of uncertainties. Constrained optimization; quadratic dynamic matrix control. Nonlinear predictive control. Transformations for input/output linearized controllers. Course usually offered in fall term
Also Offered As: ESE 617, MEAM 613
Activity: Lecture
1 Course Unit

CBE 618 Advanced Molecular Thermodynamics
This course begins with a brief review of classical thermodynamics, including the development of Maxwell relationships and stability analysis. The remainder of the course develops the fundamental framework of statistical mechanics, then reviews various related topics including ideal and interacting gases, Einstein and Debye models of crystals, lattice models of liquids, and the basis of distribution function theory. Course usually offered in fall term
Also Offered As: BE 662, MEAM 662
Activity: Lecture
1 Course Unit

CBE 621 Advanced Chemical Kinetics and Reactor Design
Activity: Lecture
1 Course Unit

CBE 640 Transport Processes I
This course provides a unified introduction to momentum, energy (heat), and mass transport processes. The basic mechanisms and constitutive laws for the various transport processes will be delineated, and the conservation equations will be derived and applied to internal and external flows. Examples from mechanical, chemical, and biological systems will be used to illustrate fundamental concepts and mathematical methods. Course usually offered in fall term
Activity: Lecture
1 Course Unit

CBE 641 Transport Processes II (Nanoscale Transport)
A continuation of CBE 640, with additional emphasis on heat and mass transport. This course aims to teach transport concepts and methods useful in many current CBE laboratory settings. The emphasis will be on microscopic dynamics and transport in both hard and soft systems (e.g. colloids and polymers), of relevance to a variety of biological and biomolecular systems. Wherever possible, will make connections between classical, macroscopic transport, and what is happening microscopically. Will make use of a comination of analytic and algorithmic/numerical methods to facilitate understanding of the material. Physical topics will include stochastic, "single-molecule", non-ideal, hard sphere and frustrated systems, phase transitions, non-equilibrium statistical mechanics and optics. Concepts will include properties of stochastic functions (Gaussian statistics, correlation functions and power spectra), Fourier methods, Convolution, the Central Limit theorem, anomalous diffusion, percolation, and the Fluctuation/Dissipation theorem. Computational methods will concentrate on Monte Carlo simulations of "toy" models. Course usually offered in spring term
Activity: Lecture
1 Course Unit

CBE 700 Special Topics
Lectures on current research problems or applications in chemical engineering. Recent topics have included heat transfer, polymer science, statistical mechanics, and heterogeneous catalysis. Course not offered every year
Activity: Lecture
1 Course Unit

CBE 899 Independent Study
One-term course offered either term
Activity: Independent Study
1 Course Unit

CBE 990 Masters Thesis
One-term course offered either term
Activity: Masters Thesis
1 Course Unit

CBE 995 Dissertation
One-term course offered either term
Activity: Dissertation
1 Course Unit

CBE 999 Thesis/Dissertation Research
For students working on an advanced research program leading to the completion of master's thesis or Ph.D. dissertation requirements. One-term course offered either term
Activity: Independent Study
1 Course Unit

Chemistry (CHEM)

CHEM 010 Academic Based Community Service-Chemistry Outreach
Course usually offered in fall term
Activity: Lecture
1 Course Unit
CHEM 012 Environmental Chemistry
The course aims to teach chemical content and principles in the context of significant environmental issues. Topics to be covered include: composition of the atmosphere; protecting the ozone layer; chemistry of global warming; traditional hydrocarbon fuels and energy utilization; water supply, its contaminants, and waste water treatment; acid rain; nuclear energy; and new energy sources. Students will develop critical thinking ability, competence to better assess risks and benefits, and skills that will lead them to be able to make informed decisions about technology-based matters.
For BA Students: Physical World Sector
One-term course offered either term
Activity: Lecture
1 Course Unit
Notes: The course requires math literacy at the high school algebra level (2 years) and a willingness to learn Excel. Students must also have taken one year of high school chemistry.

CHEM 022 Structural Biology
This course will explain in non-mathematical terms how essentially all biological properties are determined by the microscopic chemical properties of proteins. It will also explain how research results, especially those of structural biology, are presented to its various audiences.
For BA Students: Natural Science and Math Sector
One-term course offered either term
Activity: Seminar
0.5 Course Units
Notes: Freshman Seminar

CHEM 025 Freshman Seminar: From Alchemy to Nanoscience
The imperative to transform matter, find its roots in alchemy and the search for the Philosopher's Stone, which was thought to contain the secret of turning base metals into gold and also the secret of immortality. We will examine the evolution of the way in which people have thought about matter and its transformations; from the manufacturing of explosives to dyestuffs to pharmaceuticals and perfumes. We will do some simple experiments that demonstrate some of these principles. We will follow the development of the chemical sciences from the works of early alchemists to Renaissance (Newton and Boyle) scientists and modern thinkers (Priestly, Lavoisier, Dalton, Mendeleev and others). This class, which is designed for non-science as well as potential science majors, will involve discussions on readings, as well as field trips to some Philadelphia locations that are notable in the history of chemistry.
Taught by: Jeffrey Winkler
Course usually offered in fall term
Activity: Seminar
1 Course Unit

CHEM 053 General Chemistry Laboratory I
A general laboratory course covering aspects of qualitative and quantitative analysis, determination of chemical and physical properties, and chemical synthesis.
One-term course offered either term
Activity: Laboratory
0.5 Course Units
Notes: Lab fee $150.

CHEM 054 General Chemistry Laboratory II
Continuation of CHEM 053.
One-term course offered either term
Activity: Laboratory
0.5 Course Units
Notes: Lab fee $150.

CHEM 101 General Chemistry I
Basic concepts and principles of chemistry and their applications in chemistry and closely-related fields. The first term emphasizes the understanding of chemical reactions through atomic and molecular structure. This is a university level course, treating the material in sufficient depth so that students can solve chemical problems and can understand the principles involved in their solution. It includes an introduction to condensed matter. This course is suitable for majors or non-majors and is recommended to satisfy either major or preprofessional requirements for general chemistry. This course is presented for students with high school chemistry and calculus.
For BA Students: Physical World Sector
One-term course offered either term
Activity: Lecture
1 Course Unit

CHEM 102 General Chemistry II
Continuation of Chemistry 101. The second term stresses the thermodynamic approach to chemical reactions, electrochemical processes, and reaction rates and mechanisms. It includes special topics in chemistry.
For BA Students: Physical World Sector
One-term course offered either term
Prerequisite: CHEM 101
Activity: Lecture
1 Course Unit

CHEM 114 Honors Chemistry I: Experimental Perspectives
This course will focus on introducing students to the following topics: the nature of the chemical bond (forces, potentials, and quantum mechanics), covalent and non-covalent interactions, properties of gasses, and interactions of molecules with light. In addition to covering these topics, students will also be introduced to both common and stat-of-the art experimental techniques. We will discuss how these techniques can be used to study and characterize different properties of molecules.
For BA Students: Physical World Sector
Course usually offered in fall term
Prerequisites: AP Chemistry in high school.
Corequisites: MATH 114 or higher.
Activity: Lecture
1 Course Unit
Notes: Freshman only

CHEM 115 Honors Chemistry I: Theoretical Perspectives
An advanced course for students who have had AP Chemistry in high school. Included in the course coverage are: quantum mechanics of atoms, molecules and crystalline solids; statistical mechanics of gases, liquids, and solids; and coordination chemistry.
For BA Students: Physical World Sector
Course usually offered in fall term
Prerequisites: AP Chemistry in high school.
Corequisites: MATH 114 or higher.
Activity: Lecture
1 Course Unit
Notes: Freshman only.
CHEM 116 Honors Chemistry II
An advanced course for students who have had very strong background in Chemistry in High School (AP, IB, or equivalent). Advanced material from the general chemistry curriculum will be covered in the context topics selected from current research areas. A continuation of CHEM 114/115, CHEM 116 will focus on topics in biochemistry and biophysical chemistry relating to thermodynamics, equilibrium, kinetics, and electrochemistry.
For BA Students: Physical World Sector
Course usually offered in spring term
Prerequisites: Advanced High School Chemistry (AP or equivalent).
Activity: Lecture
1 Course Unit

CHEM 221 Physical Chemistry I
Introductory quantum mechanics, atomic and molecular structure, chemical bonding, and microscopic understanding of physical and chemical properties of molecules.
Course usually offered in fall term
Prerequisites: CHEM 102, MATH 114, PHYS 150
Activity: Lecture
1 Course Unit

CHEM 222 Physical Chemistry II
Continuation of CHEM 221. Principles and applications of thermodynamics, and a molecular-based understanding of macroscopic properties.
Course usually offered in spring term
Prerequisites: CHEM 221, PHYS 151
Activity: Lecture
1 Course Unit

CHEM 223 Experimental Physical Chemistry I
Important methods, skills, and apparatus used for the acquisition and interpretation of quantitative information about chemical systems will be discussed in principle and used in the laboratory.
Course usually offered in spring term
Prerequisite: CHEM 221
Activity: Laboratory
1 Course Unit

CHEM 241 Principles of Organic Chemistry
Fundamental course in organic chemistry based upon the modern concepts of structure and mechanism of reactions.
One-term course offered either term
Prerequisite: CHEM 102
Activity: Lecture
1 Course Unit

CHEM 242 Principles of Organic Chemistry II
Continuation of CHEM 241.
One-term course offered either term
Prerequisite: CHEM 241
Activity: Lecture
1 Course Unit

CHEM 243 Organic Chemistry II: Principles of Organic Chemistry with applications in Chemical Biology
This course is functionally equivalent to Chem 242 as the second term of introductory Organic Chemistry, placing the content in the context of biology and medicine. Topics include: 1) alkyl compounds, ethers, epoxides and sulfides in lipids; 2) carboxylic acids and amines in amino acids; 3) aromatic compounds and heterocycles in nucleic acids; and 4) ketones and aldehydes in carbohydrates. The synthesis and mechanism of action of pharmaceuticals that feature these functional groups will also be discussed. Additionally, Chem 243 makes use of 3D structure tutorials, recitation sections and visits from biomedical scientists who make use of chemistry in their work.
Taught by: Dr. David Chenoweth & Dr. E. James Petersson
Course usually offered in spring term
Prerequisite: CHEM 241
Activity: Lecture
1 Course Unit

CHEM 245 Experimental Organic Chemistry
A basic laboratory course in which both the theoretical and practical aspects of a variety of organic reactions and multistep syntheses are emphasized. Modern chromatographic, instrumental, and spectroscopic techniques are applied to experimental organic chemistry. Course should be taken concurrently with CHEM 242 (or 243) or in the semester immediately following. PLEASE NOTE THE FOLLOWING: For the Summer and LPS offering of CHEM 245, it is a 2-semester course. Part 1 is taken in the first term for 0.0 CU and then Part 2 is taken in the second term immediately following the first for 1.0 CU.
One-term course offered either term
Prerequisite: CHEM 241
Corequisite: CHEM 242 or 243
Activity: Laboratory
1 Course Unit
Notes: Lab fee $300.

CHEM 246 Advanced Synthesis and Spectroscopy Laboratory
Advanced laboratory work on the synthesis, structure, and properties of organic and inorganic compounds. Infrared, ultraviolet, and nuclear magnetic resonance spectroscopy. Lectures cover the theoretical basis and applications of modern spectroscopic methods.
Course usually offered in fall term
Prerequisites: CHEM 242 and 245
Corequisite: CHEM 261 should be taken concurrently or previously completed successfully
Activity: Laboratory
1 Course Unit
Notes: Lab fee $300.

CHEM 251 Principles of Biological Chemistry
Fundamentals of biological chemistry, including the structure of biological macromolecules and their mechanism of action, intermediary metabolism, and the chemical basis of information transfer. Course can be taken concurrently with CHEM 242 or CHEM 243.
One-term course offered either term
Prerequisites: CHEM 102 and 241
Corequisites: CHEM 242 or 243 required.
Activity: Lecture
1 Course Unit
CHEM 261 Inorganic Chemistry I
An introductory survey of the bonding, structure, and reactions of important metal and nonmetal compounds.
Course usually offered in fall term
Corequisites: completion of CHEM 241 and 242.
Activity: Lecture
1 Course Unit

CHEM 299 Directed Study and Seminar
Independent project under the direction of a faculty member conducting chemistry research.
One-term course offered either term
Prerequisites: Permission of undergraduate chairman.
Activity: Independent Study
1 Course Unit

CHEM 399 Independent Research
Independent project under the direction of a faculty member conducting chemistry research.
One-term course offered either term
Prerequisites: Permission of undergraduate chairman; a B average in Chemistry, Mathematics, and Physics.
Activity: Independent Study
1 Course Unit

CHEM 441 Organic Reaction Mechanisms
Study of important types of reactions and functional groups, with emphasis on synthetic usefulness, mechanisms, and stereoelectronic principles.
Course usually offered in fall term
Prerequisite: CHEM 242
Activity: Lecture
1 Course Unit

CHEM 443 Modern Organic Synthesis
Introduction to advanced organic synthesis. Study of important synthetic reactions including: oxidations, reductions, and methods for the formation of carbon-carbon bonds, with an emphasis in chemoselectivity, stereoselectivity and asymmetric synthesis. Survey of modern methods for the synthesis of small, medium and large ring systems. Analysis of modern synthetic strategies, with illustrative examples from total synthesis of natural and unnatural products.
Course usually offered in fall term
Prerequisites: CHEM 241 and 242
Activity: Lecture
1 Course Unit

CHEM 451 Biological Chemistry I
Structure, dynamics, and function of biological macromolecules. Properties of macromolecular assemblies, membranes and their compartments. (Formerly, CHEM 450-I).
Course usually offered in fall term
Prerequisites: CHEM 242, 221 (may be concurrent), and 251 or permission of instructor
Activity: Lecture
1 Course Unit

CHEM 452 Biological Chemistry II
Physical and chemical description of macromolecular information transfer. Gene organization, replication, recombination, regulation and expression. (Formerly, CHEM 450-II)
Course usually offered in spring term
Prerequisites: CHEM 242, 221, and 251 or permission of instructor
Activity: Lecture
1 Course Unit

CHEM 462 Inorganic Chemistry II
A detailed treatment of the theory and application of modern physical methods for the elucidation of structure and mechanism in inorganic and organometallic chemistry. An introduction to symmetry and group theory is followed by the application of these concepts to vibrational and electronic spectroscopy of inorganic complexes. Magnetic resonance is discussed in detail, including topics such as EPR, fourier transform methods, dynamic systems, and 2-dimensional NMR.
One-term course offered either term
Prerequisites: CHEM 261 or its equivalent and permission of instructor
Activity: Lecture
1 Course Unit

CHEM 495 High Throughput Discovery: A Multidisciplinary Approach to Cancer.
The newly developed massively parallel technologies have enabled the simultaneous analysis of many pathways. There are several large scale international efforts to probe the genetics and drug sensitivity of cancer cell lines. However, there are some rare cancers that have not been analyzed in depth. One of these rare cancers is malignant peripheral nerve sheet tumors (MPNST). MPNST, although a rare cancer, are common in patients with neurofibromatosis type. In the course, students will take part in a high throughput discovery effort in two phases. Phase 1 is a training phase, which will consist of quantitative profiling the sensitivity of MPNST cell lines to a library of >120 common experimental cancer drugs. These will be conducted in the UPenn High Throughput Screening Core. (http://www.med.upenn.edu/cores/High-ThroughputScreeningCore.shtml). While we call this a training phase, the data from this will be subject to rigorous quality control for eventual publication and development of a public database for rare tumors. Phase 2 is an independent research project. Examples of projects include, but are not limited to: Combinatorial screens (synthetic lethal); siRNA screens; novel compound screens; determining mechanisms of cell death; developing tools for data analysis and database development. During phase 2, students will also modify compounds of interest using the Penn Chemistry: Upenn/Merck High Throughput Experimentation Laboratory (https://www.chem.upenn.edu/content/penn-chemistry-upennmerck-high-throughput-eperimentation-laboratory), and then retest them for activity to determine structure activity relationships. We will sponsor phase 2 projects relevant to neurofibromatosis. However, in phase two students can also research other areas if they develop sponsorships from professors. We expect the course to be a hypothesis engine that generates ideas for further research. Prerequisites include a strong foundation in biology and chemistry. Students will prepare an abstract proposal by week three on their phase 2 project, and a report, in scientific paper style, due on the last day of the semester.
Taught by: Dr’s Jeffrey Field, David Schultz, and Simon Berritt
Course usually offered in spring term
Also Offered As: PHRM 495
Activity: Laboratory
1 Course Unit

CHEM 521 Statistical Mechanics I
Principles of statistical mechanics with applications to systems of chemical interest.
Course usually offered in fall term
Prerequisite: CHEM 222
Activity: Lecture
1 Course Unit
CHEM 522 Statistical Mechanics II
A continuation of CHEM 521. The course will emphasize the statistical mechanical description of systems in condensed phases.
Course usually offered in spring term
Prerequisite: CHEM 521
Activity: Lecture
1 Course Unit

CHEM 523 Quantum Chemistry I
The principles of quantum theory and applications to atomic systems.
Course usually offered in fall term
Prerequisite: CHEM 222
Activity: Lecture
1 Course Unit

CHEM 524 Quantum Chemistry II
Approximate methods in quantum theory and applications to molecular systems.
Course usually offered in spring term
Prerequisite: CHEM 523
Activity: Lecture
1 Course Unit

CHEM 525 Molecular Spectroscopy
This course is broken into two sections: (1) optics, and (2) theory of spectroscopy including the discussion of techniques and examples.
In the first section you will be introduced to both linear and nonlinear optics, through thinking about how to design optical components in the laboratory setting. The second part of the course is a more traditional spectroscopy course, where different spectroscopies in the visible and infrared spectral region will be discussed. This part of the course will focus on understanding what we can learn from using spectroscopy and what sort of dynamical processes can be observed with different spectroscopic techniques. Topics to be covered include, but are not limited to: optics, time-dependent perturbation theory, lineshapes, density matrix, group theory, selection rules.
One-term course offered either term
Activity: Lecture
1 Course Unit

CHEM 526 Chemical Dynamics
Theoretical and experimental aspects of important rate processes in chemistry.
Course usually offered in spring term
Activity: Lecture
1 Course Unit

CHEM 527 Organic Chemistry II
Undergraduate organic chemistry is a prerequisite. Overview of the principles governing organic bonding, structure, and properties.
Quantum calculations as well as laboratory thermodynamic and kinetic measurements used in understanding organic chemical reactions will be surveyed. Mechanisms will be discussed but will not be covered in detail. As such, registration in CHEM 441 (Mechanisms) or the completion of it's equivalent is strongly recommended (see instructor).
Course usually offered in spring term
Activity: Lecture
1 Course Unit

CHEM 528 Bio-organic Chemistry
This course covers selected topics in bioinorganic chemistry; special emphasis is placed on dioxygen chemistry and electron transfer processes. Course topics include: (i) oxygen uptake and utilization; (ii) diatomic oxygen trans port; (iii) diatomic and monoatomic oxygen incorporation into substrates; (iv) metalloenzyme-catalyzed C-C bond formation; (v) the metalloligochemistry of DNA; (vi) metal-sulfide proteins; (vii) manganese-containing metalloproteins; (viii) Photosystem II: light-driven electron transfer and the biological water-splitting reaction; (ix) biological electron transfer; (x) electron transfer theory; (xi) mechanisms of energy storage and release; and (xii) long-distance electron transfer reactions.
One-term course offered either term
Also Offered As: BMB 557
Activity: Lecture
1 Course Unit

CHEM 529 Physical Organic Chemistry
CHEM 555 Macromolecular Crystallography: Methods and Applications
The course is broken up into three parts: (1) Principles of macromolecular X-ray crystallography (2) Workshop on macromolecular structure determination (3) Student presentations on X-ray crystal structures from the recent literature.
Course usually offered in fall term
Also Offered As: BMB 554
Activity: Lecture
1 Course Unit

CHEM 555 Macromolecular Crystallography: Methods and Applications
The course is broken up into three parts: (1) Principles of macromolecular X-ray crystallography (2) Workshop on macromolecular structure determination (3) Student presentations on X-ray crystal structures from the recent literature.
Course usually offered in fall term
Also Offered As: BMB 554
Activity: Lecture
1 Course Unit

CHEM 557 Mechanisms of Biological Catalysis
Reaction mechanisms in biological (enzymes, abzymes, ribozymes) and biomimetic systems with emphasis on principles of catalysis, role of coenzymes, kinetics, and allosteric control.
One-term course offered either term
Prerequisites: One year of organic chemistry and a biochemistry course, or permission of instructor
Activity: Lecture
1 Course Unit

CHEM 556 Organometallics
This course is focused on molecular species that contain metal-carbon bonds, and the role of these compounds in catalytic processes and organic synthesis. Aspects of the synthesis, structure and reactivity of important classes of organometallic compounds such as metallo alkyl, aryl, alkene, alkylidene and alkylidyne complexes are surveyed for the d and f block metals. Emphasis is placed on general patterns of reactivity and recurring themes for reaction mechanisms.
One-term course offered either term
Activity: Lecture
1 Course Unit

CHEM 557 Main Group Chemistry
This course encompasses a comprehensive survey of the chemistry and properties of the p-block elements of the periodic table. Topics include syntheses, structures and reactivities of important compounds. In addition, alternative bonding theories which have been used to explain the unique properties of these compounds are critically examined.
One-term course offered either term
Activity: Lecture
1 Course Unit

CHEM 558 Bio-inorganic Chemistry
This course covers selected topics in bioinorganic chemistry; special emphasis is placed on dioxygen chemistry and electron transfer processes. Course topics include: (i) oxygen uptake and utilization; (ii) diatomic oxygen trans port; (iii) diatomic and monoatomic oxygen incorporation into substrates; (iv) metalloenzyme-catalyzed C-C bond formation; (v) the metalloligochemistry of DNA; (vi) metal-sulfide proteins; (vii) manganese-containing metalloproteins; (viii) Photosystem II: light-driven electron transfer and the biological water-splitting reaction; (ix) biological electron transfer; (x) electron transfer theory; (xi) mechanisms of energy storage and release; and (xii) long-distance electron transfer reactions.
One-term course offered either term
Also Offered As: BMB 557
Activity: Lecture
1 Course Unit
**CHEM 600 Tutorial Studies**
Readings and discussion on various topics with various faculty members.
One-term course offered either term
Activity: Independent Study
1 Course Unit
Notes: Both terms. May be repeated for credit with permission of instructor

**CHEM 601 Adv Chemistry Sem**
This course examines the structure and organization of the chemical literature and introduces techniques of searching this literature, focusing on the logic and thought processes necessary for effective information retrieval. Each technique is illustrated using informational tools available at the University of Pennsylvania, and we take an “under the hood” look at the organization and functionality of each tool introduced.

Students should choose a course section based on their preferred area of chemistry research: organic, inorganic, biological, and physical chemistry; all four sections are taught at a level appropriate for graduate students and advanced undergraduates. Topics vary by section, but all students learn the basics of subject, author, structure, and reaction searching, and a unit on ethics in publication and scholarly communication completes the course.
One-term course offered either term
Activity: Lecture
0.5 Course Units

**CHEM 652 Proposal Writing for Biological and Physical Chemists**
Students will learn the key components in proposal writing and develop the skills needed to prepare a compelling and original graduate research proposal. The course involves significant writing, in-class discussions and presentations.
Course usually offered in fall term
Activity: Lecture
0.5 Course Units

**CHEM 653 Proposal Writing for Inorganic and Organic Chemists**
Students will learn the key components in proposal writing and develop the skills needed to prepare a compelling and original graduate research proposal. The course involves significant writing, in-class discussions and presentations.
Course usually offered in fall term
Activity: Lecture
0.5 Course Units

**CHEM 654 Tutorial Studies**
This course is designed to help students develop the skills necessary for conducting research in chemistry. The course includes discussions on various topics with various faculty members.
One-term course offered either term
Activity: Independent Study
1 Course Unit
Notes: Both terms. May be repeated for credit with permission of instructor

**CHEM 662 Proposal Writing for Biological and Physical Chemists**
Students will learn the key components in proposal writing and develop the skills needed to prepare a compelling and original graduate research proposal. The course involves significant writing, in-class discussions and presentations.
Course usually offered in fall term
Activity: Lecture
0.5 Course Units

**CHEM 663 Proposal Writing for Inorganic and Organic Chemists**
Students will learn the key components in proposal writing and develop the skills needed to prepare a compelling and original graduate research proposal. The course involves significant writing, in-class discussions and presentations.
Course usually offered in fall term
Activity: Lecture
0.5 Course Units

**CHEM 708 Modern Topics in Photochemistry**
This course, for graduate students, encompasses topics in fundamental and applied photochemistry and photophysics from the fields of organic and inorganic chemistry. Key topics and concepts will include basic electronic structure, interactions of light with matter/electronic transitions, UV-Vis absorption and emission spectroscopy, energy transfer, kinetics/dynamics, Jablonski diagrams, electron transfer, and chemical reactivity. These topics and concepts will be covered in the context of frontier applications including OLEDs, photoredox catalysis, energy conversion, solar fuels, and artificial photosynthesis, organic photosynthesis, molecular imaging, and optogenetic tools among others.
One-term course offered either term
Activity: Lecture
1 Course Unit

**CHEM 711 Mathematics for Chemistry**
This course examines the basic mathematics needed for physical chemistry, including (but not limited to) a brief review of linear algebra, Fourier transforms, delta functions, optimization, and the residue theorem. Depending on the year, selected other topics will also be included.
One-term course offered either term
Activity: Lecture
1 Course Unit

**CHEM 712 Dynamics of Polymers**
This course discussed the structure of polymers from a statistical physics point of view as well as dynamical response of polymeric systems such as mechanical response of polymer melts, polymer glass transition, properties of polymers in solutions, and properties of block copolymers and ionomers.
One-term course offered either term
Activity: Lecture
0.5 Course Units

**CHEM 741 Spectroscopy**
The course will provide a continuation of material covered in Chemistry 441 and Chemistry 541, as well as spectroscopy of organic compounds focused mainly on NMR. Topics will include advanced organic mechanisms, electronic structure calculations of organic molecules related to their structure, reactivity, and spectroscopic properties, and Organic Spectroscopic methods for the determination of structure using NMR.
One-term course offered either term
Prerequisites: CHEM 441 and CHEM 541
Activity: Lecture
1 Course Unit

**CHEM 742 Medicinal Chemistry and Drug Design**
This course focuses on concepts and strategies in medicinal chemistry, and how it is applied to modern drug discovery and development. Topics include the drug discovery process, drug targets (GRCRs, enzymes, channels etc.), physical chemistry of molecular interactions between drug and target, drug design, methods for hit and lead identification, lead optimization, chemical biology, natural products chemistry and combinatorial and diversity oriented synthesis. This course is geared to upper level undergraduate students in chemistry or biochemistry, and first year chemistry graduate students. A strong understanding of organic chemistry is required.
Taught by: DONNA HURYN
One-term course offered either term
Activity: Lecture
0.5 Course Units

**CHEM 743 Heterocyclic Chemistry**
The course deals with topics in Heterocyclic Chemistry. It covers nitrogen-containing monocyclic heterocycles, examining the most recent syntheses, the reactions and their mechanisms. The course will focus on recent variations and improvements of known heterocycles as well as their synthetic utility. Students will be expected to read critically a recent article on heterocyclic chemistry and do a presentation to the class.
Taught by: M. JOULLIE
One-term course offered either term
Activity: Lecture
0.5 Course Units
This class will discuss selected topics related to Bioinspired synthesis, methods, tactics and strategies. Target molecules, methods and strategies are designed by using biological systems as models.
Taught by: VIRGIL PERCEC
One-term course offered either term
Activity: Lecture
0.5 Course Units

CHEM 745 Total Synthesis
Taught by: AMOS B. SMITH III
One-term course offered either term
Activity: Lecture
0.5 Course Units

CHEM 751 Chemical Biology
This course focuses on current topics in Chemical Biology, particularly experiments in which 1) chemical synthesis enables one to probe or control biological systems, or 2) manipulation of biological systems facilitates novel chemical syntheses. The course is broadly divided into two sections, one dealing with the study of individual proteins and nucleic acids, and one dealing with complex cellular systems. As the goal of the course is to familiarize students with innovative recent experimental approaches and to stimulate them to conceive of their own new methodology, students will be responsible for delivering presentations on topics selected from the literature, designing experiments to address currently unsolved problems in Chemical Biology (in take-home examinations), and generating several novel research proposal ideas, one of which will be elaborated into a full proposal.
Taught by: EJ PETERSSON
One-term course offered either term
Also Offered As: BMB 751
Activity: Lecture
1 Course Unit

CHEM 761 Coordination Chemistry
Ligands have a remarkable ability to alter the properties of metal ions, and the study of this coordination chemistry underlies many modern advances in science, including energy harvesting and storage, chemical catalysis, and sustainability. This course explores the relationships between the identities of ligands and the physical manifestations that result from their binding to metal centers. Topics to be covered include: symmetry and chirality in molecular complexes, variations in coordination number, ligand field effects, recent advanced in bonding theory, and inorganic reaction mechanisms.
Taught by: NEIL TOMSON
One-term course offered either term
Activity: Lecture
0.5 Course Units

CHEM 762 X-ray I
An introduction to the theory and practice of structure determination by X-ray crystallography. Topics discussed include point group and space group symmetry, structure factor theory, data collection methods and a survey of solution methods. The course culminates with a series of real-world structure determinations worked through in-class using the XSeed program package.
Taught by: P.Carroll
One-term course offered either term
Activity: Lecture
0.5 Course Units

CHEM 763 X-ray II
Continuation of X-ray I course, CHEM 741
Taught by: P.Carroll
One-term course offered either term
Prerequisite: CHEM 762
Activity: Lecture
0.5 Course Units

CHEM 764 Materials Chemistry
Taught by: C.Murray
One-term course offered either term
Activity: Lecture
0.5 Course Units

CHEM 765 Chemistry of the f-Block Elements
The course encompasses the descriptive chemistry, and topics related to, the f-block including the rare earth metals and actinides. Coverage includes coordination chemistry and periodic trends, electronic structure and magnetism, and modern applications of f-block chemistry including lanthanide ions as spectroscopic probes, separations chemistry, materials chemistry and applications, organo-f-element chemistry, the chemistry of the actinides and transactinides, and reactivity/catalysis with f-block compounds.
Taught by: E.Schelter
One-term course offered either term
Activity: Lecture
0.5 Course Units

CHEM 999 Independent Study and Research
(1) Advanced study and research in various branches of chemistry. (2) Seminar in current chemical research. (3) Individual tutorial in advanced selected topics.
One-term course offered either term
Activity: Independent Study
1 Course Unit
Notes: May be taken for multiple course unit credit

Chinese Language (CHIN)

CHIN 001 First Year Spoken Chinese I
This course is designed for students who have little or no previous exposure to Chinese. The main objective of the course is to help students develop their listening and speaking skills. The emphasis is on correct pronunciation, accurate tones and mastery of basic grammatical structures. By the end of the second semester, students will be able to manage many situations that have immediate concern to them, such as relating one's personal life and experiences, expressing preferences and feelings, ordering meals, purchasing goods, asking for directions. Chinese characters will not be taught.
For BA Students: Language Course
Taught by: Dietrich
Course usually offered in fall term
Activity: Lecture
1 Course Unit
Notes: See LPS Course Guide. ** This course fulfills LPS language requirement only. It does not fulfill the language requirement for other colleges. only.
CHIN 002 First Year Spoken Chinese II
A continuation of CHIN001. This course is to help students develop their listening and speaking skills. The emphasis is on correct pronunciation, accurate tones and mastery of basic grammatical structures. By the end of the semester, students will be able to manage many situations that have immediate concern to them, such as relating one's personal life and experiences, expressing preferences and feelings, ordering meals, purchasing goods, asking for directions. To achieve this goal, the class is to be conducted in Chinese as much as possible. Chinese characters will also be introduced, but will not be the focus of the class.
For BA Students: Language Course
Taught by: Dietrich
Course usually offered in spring term
Prerequisites: CHIN001 or permission of the instructor.
Activity: Lecture
1 Course Unit
Notes: See LPS Course Guide. ** This course fulfills LPS language requirement only. It does not fulfill the language requirement for other colleges.

CHIN 003 Second Year Spoken Chinese I
This course is designed for students who have completed one year of college level Chinese classes or equivalent. The main objective of the course is to improve students' conversational ability in Chinese. By the end of the second semester, students will reach the survival level, namely, they can accomplish the basic day to day tasks encountered by visitors as well as the local people. These tasks include relating one's personal life and experiences, expressing preference, feeling and opinion, ordering a meal, purchasing goods, asking for directions, making travel plans, visiting a doctor, attending a social function and so forth. Short Chinese movies or television shows will be integrated into the course curriculum. Chinese character will not be taught.
For BA Students: Language Course
Taught by: Dietrich
Course usually offered in fall term
Prerequisites: CHIN002 or permission of the instructor.
Activity: Lecture
1 Course Unit
Notes: See LPS Course Guide. ** This course fulfills LPS language requirement only. It does not fulfill the language requirement for other colleges.

CHIN 004 2nd Year Spoken Chinese II
This course is the continuation of CHIN003. The primary goal of the course is to improve students' conversational ability in Chinese. By the end of the semester, students will reach the survival level, namely, they can accomplish the basic day to day tasks encountered by visitors as well as the local people. These tasks include relating one's personal life and experiences, expressing preference, feeling and opinion, ordering a meal, purchasing goods, asking directions, making travel plans, visiting a doctor, attending a social function and so forth. Short Chinese movies or television shows will be integrated into the course curriculum. Chinese character will not be taught.
Taught by: Dietrich
Course usually offered in spring term
Prerequisites: CHIN003 or permission of the instructor.
Activity: Lecture
1 Course Unit
Notes: See LPS Course Guide. ** This course fulfills LPS language requirement only. It does not fulfill the language requirement for other colleges.

CHIN 011 Beginning Modern Chinese I
Along with CHIN012, CHIN111 and CHIN112, this is the first course of a four-semester sequence. By completing all four semesters, students fulfill the College language requirement. The sequence starts each fall. Students cannot begin their study in the spring. This course is designed primarily for students who have little or no prior exposure to Chinese. The objective of the course is to help students build a solid foundation of the four basic skills—listening, speaking, reading, and writing in an interactive and communicative learning environment. The emphasis is on correct pronunciation, accurate tones and mastery of basic grammatical structures. By the end of the second semester, students will be able to manage many situations that have immediate concern to them, such as relating one's personal life and experiences, expressing preferences and feelings, ordering meals, purchasing goods and asking for directions.
This course is designed primarily for students who have little or no prior exposure to Chinese. The objective of the course is to help students build a solid foundation of the four basic skills—listening, speaking, reading, and writing in an interactive and communicative learning environment. The emphasis is on correct pronunciation, accurate tones and mastery of basic grammatical structures. By the end of the second semester, students will be able to manage many situations that have immediate concern to them, such as relating one's personal life and experiences, expressing preferences and feelings, ordering meals, purchasing goods and asking for directions.
For BA Students: Language Course
Taught by: Dietrich
Course usually offered in fall term
Activity: Lecture
1 Course Unit
Notes: See LPS Course Guide. ** This course fulfills LPS language requirement only. It does not fulfill the language requirement for other colleges.

CHIN 012 Beginning Modern Chinese II
This course is the continuation of CHIN011. The objective of the course is to help students build a solid foundation of the four basic skills—listening, speaking, reading, and writing in an interactive and communicative learning environment. The emphasis is on correct pronunciation, accurate tones and mastery of basic grammatical structures. By the end of the second semester, students will be able to manage many situations that have immediate concern to them, such as relating one's personal life and experiences, expressing preferences and feelings, ordering meals, purchasing goods and asking for directions.
For BA Students: Language Course
Taught by: Dietrich
Course usually offered in spring term
Prerequisites: CHIN011 or permission of the instructor.
Activity: Lecture
1 Course Unit
Notes: Along with CHIN012, CHIN111 and CHIN112, this is the second course in a four-semester sequence. By completing all four semesters, students fulfill the College language requirement.
CHIN 021 Intensive Beginning Modern Chinese I & II
This is a two-semester course covering the same material as CHIN011, CHIN012, CHIN111 and CHIN112. The main objective of the course is to help students build a solid foundation of the four basic skills—listening, speaking, reading, and writing Chinese. By the end of this course and CHIN022, students should achieve the following goals: 1) pronounce all the sounds in Mandarin Chinese accurately and comfortably with a good command of the 4 tones; 2) carry out basic conversations in daily activities; 3) recognize and reproduce approximately 600-650 characters; and 4) read edited simple stories and write short notes or letters. Grammatical and cultural related issues are discussed during lecture hours. Oral communication tasks are given every week.
For BA Students: Language Course
Course usually offered in fall term
Activity: Lecture
2 Course Units
Notes: Designed for students who have had limited prior exposure to some form of Chinese (Mandarin or other dialects), but inadequate to advance to the intermediate level.

CHIN 022 Intensive Beginning Modern Chinese III & IV
Designed for students who have had limited prior exposure to some form of Chinese (Mandarin or other dialects), but inadequate to advance to the intermediate level.
For BA Students: Last Language Course
Course usually offered in spring term
Prerequisites: CHIN021 or permission of the instructor.
Activity: Lecture
2 Course Units
Notes: Designed for students who have had limited prior exposure to some form of Chinese (Mandarin or other dialects), but inadequate to advance to the intermediate level.

CHIN 031 Beginning Reading and Writing in Chinese I (for Fluent Speakers)
The course is designed for students who can speak Chinese but cannot read and write in Chinese characters. The major purpose of this course is to help students develop the ability to use written Mandarin Chinese in linguistically and socially appropriate ways. The literacy goal is to master 350 to 1000 Chinese characters for the beginning phase (CHIN 031); to reach an intermediate-low level of ACTFL literacy proficiency. The key teaching approach is to holistically read a prodigious amount of materials. Students' reading abilities will be developed through reading short stories under instructions, and eventually through reading long stories and news independently.
For BA Students: Language Course
Taught by: Wu
Course usually offered in fall term
Prerequisites: Restricted to students who can speak Chinese but cannot read or write the language.
Activity: Lecture
1 Course Unit

CHIN 032 Beginning Reading and Writing in Chinese II (for Fluent Speakers)
CHIN 032 is designed for students who can speak Chinese and have reading ability of about 1000 Chinese characters. This Chinese reading and writing course is specifically designed for students at the ACTFL intermediate-low reading and writing level. The literacy goal is to master 1000 to 2000 Chinese words and reach the intermediate-mid proficiency level. Reading material covers topics that are meaningful to students not only to increase engagement and confidence in their Chinese reading skills, but also foster students' apprehension and understanding of the Chinese deep culture.
For BA Students: Last Language Course
Taught by: Wu
Course usually offered in spring term
Prerequisites: CHIN 031 or permission of the instructor.
Activity: Lecture
1 Course Unit

CHIN 041 Beginning Cantonese I
Beginning Cantonese is a preliminary course for spoken Cantonese. The course provides fundamental aspects of the dialect as experienced in daily life situations and will enable students to communicate in Cantonese for daily life needs, such as making phone calls, making purchases, getting around by various means of transportation, seeing a doctor, being a guest or a host at dinner, talking about the weather, talking about sports and entertainment, etc. The course will be completed in two semesters.
Course usually offered in fall term
Activity: Lecture
1 Course Unit
Notes: Offered through the Penn Language Center. This course does not fulfill the College of Arts Sciences’ language requirement.

CHIN 042 Beginning Cantonese II
Beginning Cantonese is a preliminary course for spoken Cantonese. The course provides fundamental aspects of the dialect as experienced in daily life situations and will enable students to communicate in Cantonese for daily life needs, such as making phone calls, making purchases, getting around by various means of transportation, seeing a doctor, being a guest or a host at dinner, talking about the weather, talking about sports and entertainment, etc. The course will be completed in two semesters.
Course usually offered in spring term
Prerequisites: CHIN041 or permission of the instructor.
Activity: Lecture
1 Course Unit
Notes: Offered through the Penn Language Center. This course does not count toward the language requirement in the College of Arts and Sciences.

CHIN 051 Beginning Taiwanese I
Beginning Taiwanese CHIN 051 is designed to help students learn enough daily use Taiwanese to enable students to handle the needs when one travels to Taiwan. At this beginning level, learners will learn to greet others, introduce yourself and handle basic social situations. You will also require the understanding of oral language typically heard in location such as grocery store, train station, and bus stop, restaurant and night market.
Taught by: Wu
Course usually offered in fall term
Activity: Lecture
1 Course Unit
Notes: Offered through the Penn Language Center
CHIN 052 Beginning Taiwanese II
Taught by: Wu
Course usually offered in spring term
Prerequisites: CHIN 051 or permission of the instructor.
Activity: Lecture
1 Course Unit
CHIN 081 Beginning Business Chinese I
The course is designed for students and working professionals who have no prior exposure to Chinese, and are interested in conducting business in China. The objective of this course is to build a solid foundation of basic Chinese in the business context, with a main focus on speaking and listening. Upon completion students are expected to be able to converse and interact with people in a variety of business settings.
Topics in the course units include meeting people, talking about family, introducing companies, making inquiries and appointments, visiting company, introducing products, initiating dining invitations and practicing dining etiquette.
Course not offered every year
Prerequisites: This course does not fulfill the language requirement in the College. First meeting mandatory.
Activity: Lecture
1 Course Unit
CHIN 082 Begin Business Chinese II
Course usually offered in spring term
Activity: Lecture
0 Course Units
CHIN 111 Beginning Chinese III (Non-Intensive)
Along with CHIN011, CHIN012 and CHIN112, this is the third course in a four-semester sequence. The objective of the course is to continue building a solid foundation of the four basic skills—listening, speaking, reading and writing. By the end of this course, students should achieve the following goals: 1) pronounce all the sounds in Mandarin accurately and comfortably with a good command of the four tones; 2) carry out simple dialogues of familiar topics; 3) recognize and reproduce approximately 450-500 characters; and 4) read short textbook stories and write simple notes. In order to develop students’ listening and speaking ability, oral communication tasks are given on each lesson.
For BA Students: Language Course
Course usually offered in fall term
Prerequisites: Completion of CHIN012 or the equivalent or permission of the instructor.
Activity: Lecture
1 Course Unit
CHIN 112 Beginning Chinese IV
Along with CHIN011, CHIN012 and CHIN111, this is the fourth course in a four-semester sequence. The objective of the course is to continue building a solid foundation of the four basic skills—listening, speaking, reading and writing. By the end of this course, students should achieve the following goals: 1) pronounce all the sounds in Mandarin accurately and comfortably with a good command of the four tones; 2) carry out simple dialogues of familiar topics; 3) recognize and reproduce approximately 600-650 characters; and 4) read short textbook stories and write simple notes. In order to develop students’ listening and speaking ability, oral communication tasks are given every other week.
For BA Students: Last Language Course
Course usually offered in spring term
Activity: Lecture
1 Course Unit
CHIN 141 Intermediate Cantonese I
Intermediate Cantonese is a course for students who are able to communicate in the dialect in basic survival situations. Through this course the students will acquire a better understanding of Cantonese and its related culture, and can confidently cope with a wide range of situations. Classes will be conducted through Cantonese textbooks, discussions of various topics, and composition and presentation of students’ own dialogues so that in time they may express more complex ideas and feelings. The course will be completed in two semesters.
Course usually offered in fall term
Prerequisites: CHIN042 or equivalent or permission of the instructor.
Activity: Lecture
1 Course Unit
Notes: Offered through the Penn Language Center.
CHIN 142 Intermediate Cantonese II
Intermediate Cantonese is a course for students who are able to communicate in the dialect in basic survival situations. Through this course the students will acquire a better understanding of Cantonese and its related culture, and can confidently cope with a wide range of situations. Classes will be conducted through Cantonese textbooks, discussions of various topics, and composition and presentation of students’ own dialogues so that in time they may express more complex ideas and feelings. The course will be completed in two semesters.
Course usually offered in spring term
Prerequisites: CHIN 141 or permission of instructor.
Activity: Lecture
1 Course Unit
Notes: Offered through the Penn Language Center.
CHIN 151 Intermediate Taiwanese I
A continuation of CHIN052, the spoken and written Taiwanese language. Taught by: Wu
Course usually offered in fall term
Prerequisites: CHIN052 or equivalent or permission of the instructor.
Activity: Lecture
1 Course Unit
Notes: Offered through Penn Language Center.
CHIN 152 Intermediate Taiwanese II
Course usually offered in spring term
Prerequisites: Completion of the second semester of CHIN 151 or permission of the instructor.
Activity: Lecture
1 Course Unit
Notes: Offered through the Penn Language Center.
CHIN 211 Intermediate Modern Chinese I
This is an intermediate language course. It aims to develop students’ overall linguistic skills in listening, speaking, reading, and writing Chinese. The specially designed textbook gives introduction to various topics on Chinese culture. Students can expect to gain knowledge about China while they are learning the language. By completion of the course, students are expected to be able to master 1200 most frequently used characters in common reading materials, and to communicate with Chinese on
Taught by: Lee
Course usually offered in fall term
Prerequisites: CHIN112 or permission of the instructor.
Activity: Lecture
1 Course Unit
CHIN 212 Intermediate Modern Chinese II
This course is the continuation of CHIN 211. It aims to further develop students' overall language skills. The textbook will introduce various topics related to Chinese culture, society, economy, people and their everyday life as well as China's development since Deng Xiaoping's reform and opening-up policies in 1978. In class, current issues in China will be integrated to provide a new perspective for discussion. The emphasis is not only to consolidate students' foundation, but also enhance their understanding and distinguish different levels of language. Over the semester, students will have many opportunities to express and share their opinions on various topics related to China via communicative activities, presentations, and written assignments.
Taught by: Lee
Course usually offered in spring term
Prerequisites: CHIN 211 or permission of the instructor.
Activity: Lecture
1 Course Unit

CHIN 231 Intermediate Reading and Writing Chinese I (for Fluent Speakers)
CHIN 231 is an intermediate reading and writing course designed for students at the ACTFL intermediate-mid reading and writing proficiency. The goal of this course is to reach the intermediate-high level of proficiency. This course concentrates on writing of multi-paragraph essays through the use of conventional rhetorical modes and standard grammatical structures. Students will be given ample time to think and to discuss (the crucial "brainstorming" phase) before writing. The course stresses content, culture and comparison and draws its content from assigned readings and evidence-based argument from texts and other stimuli such as Internet, newspapers and films.
Taught by: Wu
Course usually offered in fall term
Prerequisites: CHIN 032 or the equivalent or permission of the instructor.
Activity: Lecture
1 Course Unit
Notes: Restricted to fluent speakers who have only limited reading and writing abilities.

CHIN 232 Intermediate Reading and Writing Chinese II (for Fluent Speakers)
This is an intermediate language class presuming basic fluency in speaking and listening and focusing on reading and writing abilities. By the end of the semester students are expected to have mastered the 1200 most commonly used characters and to have the ability to read basic Chinese texts. Students will be prepared for Advanced Modern Chinese or the commercial track.
Taught by: Wu
Course usually offered in spring term
Prerequisites: CHIN 231 or permission of the instructor.
Activity: Lecture
1 Course Unit

CHIN 311 Advanced Modern Chinese I
Students learn to work on materials which were written or produced for native speakers, instead of the classroom materials that were written for the non-native speakers. The reading materials include a larger vocabulary with more idioms. Students will also learn how to understand and use certain oral expressions in conversation. They will learn ways to narrate, to describe, and to comment in native Chinese ways. Reading and audio materials are provided and discussed in the classes. Writing and oral presentations in Chinese are required in classroom under instruction. Students will be encouraged to practice oral communication with each other.
For BA Students: Advanced Language Course
Course usually offered in fall term
Prerequisites: CHIN 212 or permission of the instructor.
Activity: Lecture
1 Course Unit

CHIN 312 Advanced Modern Chinese II
This course continues Chinese 311, training speaking, listening, reading and writing skills so to reach the advanced-low or advanced-mid level of proficiency. Major topics of the course include Chinese food culture, Chinese architecture, Confucianism in modern China, "educated youth", democracy, and cross-Taiwan Strait relations.
For BA Students: Advanced Language Course
Taught by: Jiao
Course usually offered in spring term
Prerequisites: CHIN 311 or permission of the instructor.
Activity: Lecture
1 Course Unit

CHIN 331 Advanced Chinese Reading and Writing
Designed for students with advanced level Chinese language training but who need some further refinements on pronunciation, grammar, and vocabulary usage, this course stresses oral discussion, composition, and accuracy of language performance. By reading texts written by contemporary writers, students will also gain knowledge of China from an analytical and comparative perspective.
Taught by: Chiang
One-term course offered either term
Prerequisites: CHIN 312 or permission of the instructor.
Activity: Lecture
1 Course Unit

CHIN 361 Media Chinese I
This course will help students improve their language skills, and enlarge vocabulary through reading newspapers published in China in the target language. The students will learn formal and high-level vocabulary and enhance their grammatical accuracy. The class will be conducted in Chinese, and students will be encouraged to speak Chinese in class using the acquired vocabulary and grammatical patterns.
Taught by: Chiang
Course usually offered in fall term
Prerequisites: Completion of CHIN 232, 311, 331 or permission of the instructor.
Activity: Lecture
1 Course Unit

CHIN 362 Newspaper Chinese II
A continuation of CHIN 361.
Course usually offered in spring term
Prerequisites: CHIN 631 or permission of the instructor.
Activity: Lecture
1 Course Unit
CHIN 371 Advanced Spoken Mandarin I
This course is designed for students who have completed at least the intermediate level Chinese language course, or have studied the language for at least three years. The objective of this course is to consolidate the knowledge and skills students have acquired from their previous Mandarin Chinese classes and to enhance their oral expressive skills. By the end of the semester, students are expected to be able to carry on a conversation with a native Mandarin speaker on various common topics, including the current issues in China about its education, society, politics, culture, and history. Students will also learn how to gather information necessary for conducting oral presentations and speeches.

For BA Students: Advanced Language Course
Taught by: Lee
Course usually offered in fall term
Prerequisites: CHIN 212 or permission of the instructor.
Activity: Lecture
1 Course Unit

CHIN 372 Advanced Spoken Mandarin II
Following the format of Advanced Spoken Mandarin I with more discussions on current issues in both China and the US, including topics ranging from race, religion, gender issues to internet, cinema and pop cultures. The objective of this course is to consolidate the knowledge and skills students have acquired from their previous Mandarin Chinese classes and to enhance their oral expressive skills. By the end of the semester, students are expected to be able to carry on a conversation with a native Mandarin speaker on various common topics, and to gather information necessary for conducting oral presentations and speeches.

For BA Students: Advanced Language Course
Taught by: Lee
Course usually offered in spring term
Prerequisites: CHIN 212 or permission of the instructor.
Activity: Lecture
1 Course Unit

CHIN 381 Business Chinese I
This course is aimed to enhance students' language skills in a business context and to promote their understanding about business environment and culture in contemporary China. The text is developed from real business cases from real multinational companies that have successfully embarked on the Chinese market. The forms of classes include lectures, drills on vocabulary and sentence patterns, and discussions. Class will be conducted in Chinese. In addition to the course textbook, students will learn to read business news in Chinese selected from Wall Street Journal.

For BA Students: Advanced Language Course
Taught by: Wang
Course usually offered in fall term
Also Offered As: CHIN 581
Prerequisites: CHIN 232, 312 or permission of the instructor.
Activity: Lecture
1 Course Unit

CHIN 382 Business Chinese II
This course is the second half of a one-year course for business oriented subjects. This course will provide an overview of China's changing macro-environment, while real business cases let us look into individual Chinese companies and their development in the new millennium. By the end of the semester, students are expected to 1) enhance the cultural awareness of contemporary China and the Chinese business world; 2) gain vocabulary and fluency in Chinese to function more confidently and comfortably in real business settings; 3) access business news and information in Chinese; 4) give business presentation in Chinese.

For BA Students: Advanced Language Course
Taught by: Wang
Course usually offered in spring term
Also Offered As: CHIN 582
Prerequisites: CHIN 312, 361, 381 or permission from the instructor.
Activity: Lecture
1 Course Unit

CHIN 411 Readings in Modern Chinese: Literature
This course is designed for students who have completed three years of college level Mandarin classes or equivalent. This course may be used to fulfill language or elective requirement for Chinese major or minor. The objectives of the course are 1) to help students gain an in-depth, multi-faceted and critical understanding of Chinese people, Chinese society and Chinese culture; 2) to facilitate students' acquisition of formal or written language; and 3) to develop students' analytical and critical thinking skills. These objectives are achieved primarily through 1) close reading and discussion of original literary texts by 20th-century Chinese writers; and 2) regular writing exercises. Students will also view several Chinese films that are related to the topics of the reading text. The class is to be conducted exclusively in Chinese.

Taught by: Dietrich
Course usually offered in fall term
Prerequisites: CHIN 331, 361, 382 or permission of the instructor.
Activity: Lecture
1 Course Unit

CHIN 412 Readings Modern Chinese II: Literature
The main difference between this course and CHIN411 is the reading materials and topics. This course is designed for students who have completed a minimum of three years of college level Mandarin classes or equivalent. This course may be used to fulfill language or elective requirement for Chinese major or minor. The objectives of the course are 1) to help students gain an in-depth, multi-faceted and critical understanding of Chinese people, Chinese society and Chinese culture; 2) to facilitate students' acquisition of formal or written language; and 3) to develop students' analytical and critical thinking skills. These objectives are achieved primarily through 1) close reading and discussion of original literary texts by 20th-century Chinese writers; and 2) regular writing exercises. Students will also view several Chinese films that are related to the topics of the reading text. The class is to be conducted exclusively in Chinese.

Taught by: Dietrich
Course usually offered in spring term
Prerequisites: CHIN 331, 361, 382 or permission of the instructor.
Activity: Lecture
1 Course Unit
**CHIN 415 Readings Modern Chinese Documents**
The main purpose of this content-based course is to promote advance-level language proficiency in reading, writing, speaking and listening. Through the use of modern Chinese documents, the secondary purpose of this course is to facilitate your understanding of the changes of Chinese society in the 20th century. Topics will include the Constitution of China, China's legal system, speeches by Mao Zedong, Deng Xiaoping, Sun Yet-sen and Qiu Jin.

Taught by: Chiang

Course not offered every year
Prerequisites: CHIN 361, 381, 411 or permission of the instructor

Activity: Lecture
1 Course Unit

**CHIN 471 Advanced Spoken Mandarin III**
This course is designed for students who have completed at least the intermediate advanced level Chinese language course (CHIN-311 & CHIN-312) at University of Pennsylvania, or equivalent level. The objective of this course is to consolidate the knowledge and skills students have acquired from their previous Mandarin Chinese classes and to enhance their oral expressive skills. Students in this course are already able to carry on a conversation with a Mandarin speaker on various social topics, and this course is much more focused on Chinese pop culture from early 20th century till now.

For BA Students: Advanced Language Course

One-term course offered either term
Prerequisites: CHIN 312 or the equivalent, or permission of the instructor

Activity: Lecture
1 Course Unit

**CHIN 481 Advanced Business Chinese I**
This course provides students with the conceptual framework to understand issues China has been facing since its economic reform in 1978. Topics include WTO principles, the change of China's state-owned enterprises, China's economy in Mao's period, and the pros and cons of globalization. Students will be trained in reading financial articles, discussing international trades, conducting online research and giving business presentations. After the course, students will become more sophisticated in their understanding of China's economic development and in using Chinese business terminology at professional settings. The course assumes basic background in business and advanced level proficiency in Chinese language. The course is NOT open to freshman with no undergraduate business course.

For BA Students: Advanced Language Course

Taught by: Chiang

Course usually offered in fall term
Prerequisites: CHIN 312 or the equivalent, or permission of the instructor

Activity: Lecture
1 Course Unit

Notes: May be offered through Penn Language Center.

**CHIN 482 Advanced Business Chinese II**
This course is a continuation of Chin 481. Following the format of Chin 481, Advanced Business Chinese I, this course covers topics on Eastern and Western management styles, the global financial market, China's financial market reforms, and mergers and acquisitions in China. At the end of the semester, students will submit a business proposal for the final project.

For BA Students: Advanced Language Course

Taught by: Chiang

Course usually offered in spring term
Prerequisites: CHIN 481 or permission of the instructor

Activity: Lecture
1 Course Unit
CHIN 515 Topics in Chinese Literature
This course surveys the literary movements of the post-Cultural Revolution era (1978-present). The reading consists of fictional works representative of each literary movement. Students will write four short (1-2 pages, double space) “responding” papers and two longer critical essays (5-7 pages double spaced). Each student will also give one oral presentation to the class on an assigned story. This course is designed for students who have achieved native or near native level of reading and writing proficiency in Chinese. The class is conducted exclusively in Chinese.
Taught by: Dietrich
Course not offered every year
Prerequisites: CHIN 411, CHIN 412, CHIN 415, 481, 482 or permission of the instructor.
Activity: Lecture
1 Course Unit

CHIN 722 Adv Classical Chinese II
Also Offered As: EALC 722
Activity: Seminar
1 Course Unit

Cinema and Media Studies (CIMS)
CIMS 014 Freshman Seminar
One-term course offered either term
Also Offered As: COML 107, ITAL 100
Activity: Seminar
1 Course Unit

CIMS 016 Freshman Seminar in Cinema and Media Studies
This topic course explores aspects of Cinema and Media Studies intensively. Specific course topics vary from year to year. See the Cinema Studies website <cinemastudies.sas.upenn.edu/> for a description of the current offerings.
One-term course offered either term
Also Offered As: ARTH 100, ENGL 016, URBS 106
Activity: Seminar
1 Course Unit

CIMS 021 Medieval Lit & Culture
Course not offered every year
Also Offered As: COML 021, ENGL 021
Activity: Seminar
1 Course Unit

CIMS 061 Video I
This course provides students with the introductory skills and concepts related to producing short works that explore the language of the moving image. Students will learn the basics of cinematography and editing through a series of assignments designed to facilitate the use of the medium for artistic inquiry, cultural expression and narrative storytelling, through both individual and group projects.
One-term course offered either term
Also Offered As: FNAR 061, FNAR 661
Activity: Seminar
1 Course Unit

CIMS 062 Video II
Video II offers opportunities to further explore the role of cinematic narrative technique, non-narrative forms, digital video cinematography, editing, and screen aesthetics. Through a series of several video projects and a variety of technical exercises, students will refine their ability to articulate technically and conceptually complex creative projects in digital cinema. In addition, one presentation on a contemporary issue related to the application of cinematic storytelling and/or the cultural context of digital video is required.
Taught by: Reynolds/Novack
One-term course offered either term
Also Offered As: FNAR 062, FNAR 662
Prerequisite: CINE 061 / FNAR 061
Activity: Seminar
1 Course Unit

CIMS 063 Documentary Video
Documentary Video is an intensive production course involving the exploration of concepts, techniques, concerns, and aesthetics of the short form documentary. Building on camera, sound, and editing skills acquired in Video I, students will produce a portfolio of short videos and one longer project over the course of the semester using advanced level camera and sound equipment. One short presentation on a genre, technique, maker, or contemporary concern selected by the student is required.
Taught by: Reynolds
One-term course offered either term
Also Offered As: FNAR 063, FNAR 663
Prerequisite: CINE 061 / FNAR 061
Activity: Seminar
1 Course Unit

CIMS 065 Cinema Production
This course focuses on the practices and theory of producing narrative based cinema. Members of the course will become the film crew and produce a short digital film. Workshops on producing, directing, lighting, camera, sound and editing will build skills necessary for the hands-on production shoots. Visiting lecturers will critically discuss the individual roles of production in the context of the history of films.
Taught by: Mosley
One-term course offered either term
Also Offered As: FNAR 065, FNAR 665
Activity: Seminar
1 Course Unit

CIMS 074 Contemp American Lit
Course not offered every year
Also Offered As: ENGL 074
Activity: Lecture
1 Course Unit

CIMS 100 Study of An Author
For BA Students: Arts and Letters Sector
One-term course offered either term
Also Offered As: COML 117, ENGL 101, GSWS 101
Activity: Lecture
1 Course Unit
CIMS 112 Study of a Theme
This topic course explores multiple and different aspects of Cinema Studies. Specific course topics vary from year to year. See the Cinema Studies website at cinemastudies.sas.upenn.edu/courses for a description of the current offerings.
For BA Students: Arts and Letters Sector
One-term course offered either term
Also Offered As: COML 245, ENGL 102, GSWS 102, PSYS 102
Activity: Lecture
1 Course Unit

CIMS 113 Religion & Cinema India
Course not offered every year
Also Offered As: RELS 118, SAST 112
Activity: Lecture
1 Course Unit

CIMS 116 Screenwriting Workshop
This is a workshop-style course for those who have thought they had a terrific idea for a movie but didn’t know where to begin. The class will focus on learning the basic tenets of classical dramatic structure and how this (ideally) will serve as the backbone for the screenplay of the aforementioned terrific idea. Each student should, by the end of the semester, have at least thirty pages of a screenplay completed. Classic and not-so-classic screenplays will be required reading for every class, and students will also become acquainted with how the business of selling and producing one’s screenplay actually happens. Students will be admitted on the basis of an application by email briefly describing their interest in the course to the instructor.
Taught by: Kathy DeMarco Van Cleve
One-term course offered either term
Also Offered As: ENGL 116
Activity: Seminar
1 Course Unit

CIMS 125 Adultery Novel
The object of this course is to analyze narratives of adultery from Shakespeare to the present and to develop a vocabulary for thinking critically about the literary conventions and social values that inform them. Many of the themes (of desire, transgression, suspicion, discovery) at the heart of these stories also lie at the core of many modern narratives. Is there anything special, we will ask, about the case of adultery—once called “a crime which contains within itself all others”? What might these stories teach us about the way we read in general? By supplementing classic literary accounts by Shakespeare, Pushkin, Flaubert, Chekhov, and Proust with films and with critical analyses, we will analyze the possibilities and limitations of the different genres and forms under discussion, including novels, films, short stories, and theatre. What can these forms show us (or not show us) about desire, gender, family and social obligation? Through supplementary readings and class discussions, we will apply a range of critical approaches to place these narratives of adultery in a social and literary context, including formal analyses of narrative and style, feminist criticism, Marxist and sociological analyses of the family, and psychoanalytic understandings of desire and family life.
For BA Students: Arts and Letters Sector
One-term course offered either term
Also Offered As: COML 127, GSWS 125, RUSS 125
Activity: Seminar
1 Course Unit
Notes: All readings and discussions in English.

CIMS 131 Intro Light, Set, Costume
One-term course offered either term
Also Offered As: THAR 130
Activity: Seminar
1 Course Unit

CIMS 160 British Cinema
Francois Truffaut once famously suggested that there was a certain incompatibility between the terms cinema and Britain; Satyajit Ray declared, I do not think the British are temperamentally equipped to make the best use of the movie camera; and throughout the history of film criticism, British cinema has been condemned for its theatrical style, lack of emotion, imitation of Hollywood and/or European cinema, and failure to achieve a national character. Yet in spite of this history of dismissal, British cinema has a long and complex history that we will begin to explore through film screenings, critical reading, and visits to archives and museums. Topics covered will include: Early Cinema of Attractions; British cinema’s relation to other countries; war propaganda and the British documentary film; cinematic adaptations of British literature; British film theory; British experimental film/moving images in the art gallery; British cinema and identity. Requirements: attendance at screenings/discussions/trips; final paper; film journal.
Taught by: Beckman
Course not offered every year
Also Offered As: ENGL 061
Activity: Lecture
1 Course Unit
Notes: Penn-in-London

CIMS 164 Russian Film 1900-1945
This course presents the Russian contribution to world cinema before WWII - nationalization of the film industry in post revolutionary Russia, the creation of institutions of higher education in filmmaking, film theory, experimentation with the cinematic language, and the social and political reflex of cinema. Major themes and issues involve: the invention of montage, Kuleshov effect, the means of visual propaganda and the cinematic component to the communist cultural revolutions, party ideology and practices of social-engineering, cinematic response to the emergence of the totalitarian state. Great filmmaker and theorist in discussion include Vertov, Kuleshov, Eisenstein, Pudovkin, Medvedkin and others.
Taught by: Todorov
Course not offered every year
Also Offered As: EEUR 164, RUSS 164
Activity: Lecture
1 Course Unit

CIMS 165 Russian and East European Film After WWII
This course examines the Russian and East European contribution to world cinema after WWII - Stalinist aesthetics and desalinization, WWII in film, the installation of totalitarianism in Eastern Europe and the Cold War in film, the fall of the Berlin Wall, the collapse of the Soviet Union and the post-soviet condition, cinematic representations of Yugoslavia’s violent breakup; the new Romanian waive. Major filmmakers in discussion include Kalatozov, Tarkovsky, Wajda, Polanski, Forman, Mentzel, Sabo, Kusturitsa, Konchalovsky, Mikhailov and others.
Taught by: Todorov
Course not offered every year
Also Offered As: EEUR 165, RUSS 165
Activity: Lecture
1 Course Unit
CIMS 166 Arab-Israeli Conflict Through Literature and Film
This course will explore the origins, the history and, most importantly, the literary and cinematic art of the struggle that has endured for a century over the region that some call the Holy Land, some call Eretz Israel and others call Palestine. We will also consider religious motivations and interpretations that have inspired many involved in this conflict as well as the political consequences of world wars that contributed so greatly to the reconfiguration of the Middle East after the fall of the Ottoman Empire, and after the revelations of the Holocaust in Western Europe. While we will rely on a textbook for historical grounding, the most significant material we will use to learn this history will be films, novels, and short stories. Can the arts lead us to a different understanding of the lives lived through what seems like unending crisis?
Taught by: Troutt-Powell
One-term course offered either term
Also Offered As: HIST 166, NECL 137
Activity: Recitation
1 Course Unit

CIMS 167 Hollywood & Amer History
One-term course offered either term
Also Offered As: HIST 165
Activity: Lecture
1 Course Unit

CIMS 201 Topics in Film History
This topic course explores aspects of Film History intensively. Specific course topics vary from year to year. See the Cinema Studies website at <http://cinemastudies.sas.upenn.edu/> for a description of the current offerings.
Course not offered every year
Also Offered As: ARTH 391, COML 201, ENGL 291
Activity: Seminar
1 Course Unit

CIMS 202 Topics in Film Studies
This topic course explores aspects of Film Practice intensively. Specific course topics vary from year to year. See the Cinema Studies website at <http://cinemastudies.sas.upenn.edu/> for a description of the current offerings.
Course not offered every year
Also Offered As: ARTH 289, COML 292, ENGL 292, SAST 212
Activity: Seminar
1 Course Unit

CIMS 203 Film, Form, and Context
Movies as a form of audio-visual communication: their formal language, their relationship to other means of communication (music, stories, theater, pictures), their place in the media industry, their role in culture.
Taught by: Messaris
One-term course offered either term
Also Offered As: COMM 240
Activity: Lecture
1 Course Unit

CIMS 204 Visual Communication
Examination of the structure and effects of visual media (film, television, advertising, and other kinds of pictures).
Taught by: Messaris
One-term course offered either term
Also Offered As: COMM 262
Activity: Lecture
1 Course Unit

CIMS 206 Italian History on Screen
How has our image of Italy arrived to us? Where does the story begin and who has recounted, rewritten, and rearranged it over the centuries? In this course, we will study Italy’s rich and complex past and present. We will carefully read literary and historical texts and thoughtfully watch films in order to attain an understanding of Italy that is as varied and multifacted as the country itself. Group work, discussions and readings will allow us to examine the problems and trends in the political, cultural and social history from ancient Rome to today. We will focus on: the Roman Empire, Middle Ages, Renaissance, Unification, Turn of the Century, Fascist era, World War II, post-war and contemporary Italy.
For BA Students: Arts and Letters Sector
Taught by: Veneziano
One-term course offered either term
Also Offered As: COML 206, ITAL 204
Activity: Seminar
1 Course Unit

CIMS 210 Topics in Narrative Cinema
This topic course explores aspects of Film Narrative intensively. Specific course topics vary from year to year. See the Cinema Studies website at <http://cinemastudies.sas.upenn.edu/> for a description of the current offerings.
Taught by: Met
Course not offered every year
Also Offered As: AFRC 231, AFST 231, FREN 231
Activity: Seminar
1 Course Unit

CIMS 213 Contemp Italy Thru Film
Course not offered every year
Also Offered As: ITAL 213
Activity: Seminar
1 Course Unit

CIMS 220 20th Century Chinese Literature & Film
This course serves as a thematic introduction to modern Chinese literature and cinema in mainland China, Taiwan, Hong Kong, and transnational Chinese communities in the twentieth century. By discussing a wide range of key literary and filmic texts, this class looks into major issues and discourses in China’s century of modernization: enlightenment and revolution, politics and aesthetics, sentimental education and nationalism, historical trauma and violence, gender and sexuality, social hygiene and body politics, diaspora and displacement, youth sub-culture and urban imagination.
For BA Students: Arts and Letters Sector
Taught by: Wang
Course usually offered in spring term
Also Offered As: EALC 125
Activity: Lecture
1 Course Unit

CIMS 225 Topics Theatre & Cinema
This topic course explores aspects of Film and Theater intensively. Specific course topics vary from year to year. See the Cinema Studies website at <http://cinemastudies.sas.upenn.edu/> for a description of the current offerings.
Course not offered every year
Also Offered As: THAR 273, THAR 275
Activity: Seminar
1 Course Unit
CIMS 232 Topics in Brazilian Culture
Taught by: Flannery
Course not offered every year
Also Offered As: LALS 240, PRTG 240
Activity: Seminar
1 Course Unit

CIMS 244 Metropolis: Cult of City
For BA Students: Arts and Letters Sector
Course not offered every year
Also Offered As: COML 254, GRMN 244
Activity: Lecture
1 Course Unit

CIMS 245 French Cinema
This topic course explores aspects of French Cinema. Specific course topics vary from year to year. See the Cinema Studies website at <http://cinemastudies.sas.upenn.edu/> for a description of the current offerings.
Taught by: Met
Course usually offered in fall term
Also Offered As: FREN 230
Activity: Lecture
1 Course Unit

CIMS 250 German Cinema
This topic course explores aspects of German Cinema. Specific course topics vary from year to year. See the Cinema Studies website at <http://cinemastudies.sas.upenn.edu/> for a description of the current offerings.
Taught by: Richter, MacLeod
Course not offered every year
Also Offered As: RUSS 250
Activity: Seminar
1 Course Unit

CIMS 257 Fascist Cinemas
For BA Students: Arts and Letters Sector
Course not offered every year
Also Offered As: COML 269, GRMN 257, ITAL 257
Activity: Lecture
1 Course Unit

CIMS 258 German Cinema
For BA Students: Arts and Letters Sector
Course not offered every year
Also Offered As: COML 270, GRMN 258
Activity: Lecture
1 Course Unit

CIMS 259 Topics German Cinema
Course not offered every year
Also Offered As: COML 261, GRMN 259
Activity: Lecture
1 Course Unit

CIMS 263 Mixed Media Animation
This animation course fuses hands-on studio drawing, modeling and cinematic processes with digital tools. Real world techniques such as stop-motion, clay animation, hand-drawn and multi-plane animation will be practiced in the studio. Other techniques, such as keyframe animation, editing and blue-screen composition compositing will be practiced in the digital labs. Both production teams and individuals will create short mixed-media animations in form, material and time.
Taught by: Mosley
Course not offered every year
Also Offered As: ARTH 301, ENGL 263
Activity: Seminar
1 Course Unit

CIMS 266 Topics Law & Literature
Course not offered every year
Also Offered As: ENGL 266
Activity: Seminar
1 Course Unit

CIMS 271 American Musical Theatre
Course not offered every year
Also Offered As: ENGL 274, THAR 271
Activity: Seminar
1 Course Unit

CIMS 272 Asian-American Literature and Film
This topic course explores aspects of Asian-American Literature and Cinema intensively. Specific course topics vary from year to year. See the Cinema Studies website at <http://cinemastudies.sas.upenn.edu/> for a description of the current offerings.
Course not offered every year
Also Offered As: ASAM 202, ENGL 272
Activity: Seminar
1 Course Unit

CIMS 279 Jewish Film & Lit
Also Offered As: COML 265, ENGL 279, GRMN 261, JWST 261
Activity: Lecture
1 Course Unit

CIMS 282 Native American Rel/Lit
Course not offered every year
Also Offered As: ANTH 282, ENGL 282, RELS 208
Activity: Seminar
1 Course Unit

CIMS 295 Topics in Cultural Studies
This topic course explores aspects of Film Cultural Studies intensively. Specific course topics vary from year to year. See the Cinema Studies website at <http://cinemastudies.sas.upenn.edu/> for a description of the current offerings.
Taught by: Decherney
Course not offered every year
Also Offered As: AFRC 296, ARTH 293, COML 295, ENGL 295
Activity: Seminar
1 Course Unit

CIMS 297 Tpcs Theories Gender/Sex
Course not offered every year
Also Offered As: COML 297, ENGL 296, GSWS 297
Activity: Seminar
1 Course Unit
CIMS 300 Topics in Italian History, Literature, and Culture
This topic course explores aspects of Film in others arts intensively. Specific course topics vary from year to year. See the Cinema Studies website at <http://cinemastudies.sas.upenn.edu/> for a description of the current offerings.
Course not offered every year
Also Offered As: COML 300, ITAL 300
Activity: Seminar
1 Course Unit

CIMS 301 French Identity
One-term course offered either term
Also Offered As: FREN 301, GSWS 301
Activity: Seminar
1 Course Unit

CIMS 340 Italian Cinema
This topic course explores multiple and different aspects of Italian Cinema. Specific course topics vary from year to year. See the Cinema Studies website at <http://cinemastudies.sas.upenn.edu/> for a description of the current offerings.
Course not offered every year
Also Offered As: COML 280, ITAL 322
Activity: Seminar
1 Course Unit

CIMS 350 Topics in Spanish Culture and Film
This topic course explores aspects of Spanish Culture and Film. Specific course topics vary from year to year. See the Cinema Studies website at <http://cinemastudies.sas.upenn.edu/> for a description of the current offerings.
Course not offered every year
Also Offered As: AFRC 349, ARTH 301, COML 351, ENGL 295
Activity: Seminar
1 Course Unit

CIMS 359 Seminar in Modern Hebrew Literature and Film
This topic course explores aspects of Modern Hebrew Literature and Film. Specific course topics vary from semester to semester. See the Cinema Studies website at <http://cinemastudies.sas.upenn.edu/> for a description of the current offerings.
Taught by: Gold
Course usually offered in spring term
Also Offered As: COLL 227, COML 359, HEBR 359, HEBR 659, JWST 359
Activity: Seminar
1 Course Unit

CIMS 382 Horror Cinema
The purpose of this course is to provide an introduction to the history and main themes of the supernatural/horror film from a comparative perspective. Films considered will include: the German expressionists masterworks of the silent era, the Universal classics of the 30's and the low-budget horror films produced by Val Lewton in the 40's for RKO in the US, the 1950's color films of sex and violence by Hammer studios in England, Italian Gothic horror or giallo (Mario Brava) and French lyrical macabre (Georges Franju) in the 60's, and on to contemporary gore. In an effort to better understand how the horror film makes us confront our worst fears and our most secret desires alike, we will look at the genre's main iconic figures (Frankenstein, Dracula, Dr. Jekyll and Mr. Hyde, etc.) as well as issues of ethics, gender, sexuality, violence, spectatorship through a variety of critical lenses (psychoanalysis, socio-historial and cultural context, aesthetics,...).
Taught by: Met
One-term course offered either term
Also Offered As: AFRC 400
Activity: Seminar
1 Course Unit

CIMS 370 Blacks in American Film and Television
An examination and analysis of the changing images and achievements of African Americans in motion pictures and television. The first half of the course focuses on African-American film images from the early years of D.W. Griffith's "renegade bucks" in The Birth of a Nation (1915); to the comic servants played by Steppin Fetchit, Hattie McDaniel, and others during the Depression era; to the post-World War II New Negro heroes and heroines of Pinky (1949) and The Defiant Ones (1958); to the rise of the new movement of African American directors such as Spike Lee (Do the Right Thing), Julie Dash (Daughters of the Dust), Charles Burnett, (To Sleep With Anger) and John Singleton (Boyz N the Hood). The second half explores television images from the early sitcoms "Amos 'n Andy" and "Beulah" to the "Cosby Show," "Fresh Prince of Bel Aïr" and "Martin." Foremost this course will examine Black stereotypes in American films and television--and the manner in which those stereotypes have reflected national attitudes and outlooks during various historical periods. This course will also explore the unique "personal statements" and the sometimes controversial "star personas" of such screen artists as Sidney Poitier, Dorothy Dandridge, Paul Robeson, Richard Pryor, Oscar Micheaux, Spike Lee, Bill Cosby, Eddie Murphy, and Whoopi Goldberg. The in-class screenings and discussions will include such films as Show Boat (1936), the independently produced "race movies" of the 1930s and 1940s, Cabin in the Sky (1943), The Defiant Ones (1958), Imitation of Life (the 1959 remake), Super Fly (1972), and She's Gotta Have It (1986) and such television series as "I Spy," "Julia," "Good Times," "The Jeffersons," "Roots," "A Different World," "I'll Fly Away," "LA Law," and "Hangin' With Mr. Cooper."
Taught by: Bogle
One-term course offered either term
Also Offered As: AFRC 400
Activity: Seminar
1 Course Unit

CIMS 384 Spanish Lit/Film
Course not offered every year
Also Offered As: SPAN 384
Activity: Seminar
1 Course Unit
CIMS 386 Paris in Film
Course not offered every year
Also Offered As: FREN 386
Activity: Lecture
1 Course Unit

CIMS 387 Holocaust Ital Lit & Film
Course not offered every year
Also Offered As: COML 384, ITAL 384
Activity: Seminar
1 Course Unit

CIMS 392 Topics in Cinema Studies
This topic course explores aspects of Cinema Studies intensively. Specific course topics vary from year to year. See the Cinema Studies website at <http://cinemastudies.sas.upenn.edu/> for a description of the current offerings.
Taught by: Corrigan
Course not offered every year
Also Offered As: AFRC 392, ARTH 389, COML 391, ENGL 392, SLAV 392
Activity: Seminar
1 Course Unit

CIMS 395 Topics in African Lit
Course not offered every year
Activity: Seminar
1 Course Unit

CIMS 416 Screenwriting
One-term course offered either term
Also Offered As: ENGL 416
Activity: Online Course
1 Course Unit

CIMS 504 Out of Hollywood: Literature to Film
Taught by: Shawcross
Course usually offered in spring term
Also Offered As: COMM 562
Activity: Lecture
1 Course Unit

CIMS 530 Black Cinemas
Course not offered every year
Also Offered As: AFRC 526, ARTH 504, COML 529, ENGL 570
Activity: Seminar
1 Course Unit

CIMS 539 Penn-In-Kenya
Course usually offered summer term only
Activity: Seminar
1 Course Unit

CIMS 550 Topics in German Cinema
This graduate topic course explores aspects of German Cinema intensively. Specific course topics vary from year to year. See the Cinema Studies website at <http://cinemastudies.sas.upenn.edu/> for a description of the current offerings.
Course offered spring; odd-numbered years
Also Offered As: COML 552, GRMN 550
Activity: Seminar
1 Course Unit

CIMS 572 Topics in African Lit
Course not offered every year
Also Offered As: AFRC 572, COML 575, ENGL 592
Activity: Seminar
1 Course Unit

CIMS 592 20th Century Lit & Theory
Course not offered every year
Also Offered As: COML 581, COML 592, ENGL 592
Activity: Seminar
1 Course Unit

CIMS 595 Copyright and Culture
This graduate topic course explores aspects of copyright in Cinema Studies. Specific course topics vary from year to year. See the Cinema Studies website at <http://cinemastudies.sas.upenn.edu/> for a description of the current offerings.
Taught by: Decherney
Course not offered every year
Also Offered As: ENGL 595
Activity: Seminar
1 Course Unit

CIMS 596 Topics in Contemp Art
One-term course offered either term
Also Offered As: ARTH 596, ENGL 596
Activity: Seminar
1 Course Unit

CIMS 599 Independent Study
One-term course offered either term
Activity: Independent Study
1 Course Unit

CIMS 611 Topics in Cinema Studies
Course not offered every year
Also Offered As: FREN 611
Activity: Seminar
1 Course Unit
CIMS 619 The Politics and Practices of Representation
This course engages with the following question from both theoretical and practical perspectives: Who says what about whom, under what circumstances, in which medium, with what effects? We will spend the first two thirds of the semester investigating different approaches to this question, looking at insider accounts, processes of othering, realism and other narrative conventions, the ethics of consent, "objective" and "biased" shooting techniques, the politics of editing, the role of the intended audience in the production of a work, and so on. We will simultaneously cover the technical aspects of production that will enable you to produce digital video projects: shooting (Canon GL1s), lighting, sound, editing (Final Cut Pro on Mac), graphics, music, and so on. During the final third of the semester all students will produce short (5-10 minute) documentary and/or experimental digital videos.
Taught by: Sender
Activity: Seminar
1 Course Unit

CIMS 680 French Cinema
This graduate topic course explores aspects of French Cinema intensively. Specific course topics vary from year to year. See the Cinema Studies website at <http://cinemastudies.sas.upenn.edu/> for a description of the current offerings.
Taught by: Met
Course not offered every year
Also Offered As: FREN 680
Activity: Seminar
1 Course Unit

CIMS 694 Mexican Cinema
This seminar will address the specificity and uniqueness of Spanish America's cultural production, that is, those elements that make the Spanish American case differ from the paradigmatic postcolonial situation, and which make recent developments in postcolonial studies not fully applicable to it. We will explore these issues in the context of the literary production of the twentieth century in Spanish America from roughly the twenties to the present, that is, the epoch encompassing the larger metropolitan cultural phenomena of Modernism and Postmodernism.
Course not offered every year
Also Offered As: LALS 694, SPAN 694
Activity: Seminar
1 Course Unit

CIMS 793 Topics in Cinema and Media
Topic varies.
Course not offered every year
Also Offered As: ARTH 793, ENGL 797, GSWS 793
Activity: Seminar
1 Course Unit

CIMS 796 Topics in Contemp Art
Course not offered every year
Also Offered As: ARTH 796, ENGL 778
Activity: Seminar
1 Course Unit

CIMS 842 The Filmic
This interdisciplinary graduate course takes "film" as its object of study, theorizing it as a medium/mode of representation. We draw on film theory, psychoanalysis, literary analysis, cognitive theory, communication studies, and visual anthropology to discuss several key issues related to the state of film/filmmaking in an age of "digital" media. We interrogate contentious notions of authority, reflexivity, and objectivity. We analyze film's claim to "realistic" (iconic and indexical) representation. We interrogate how "film" and "video" get imagined in all their visual particularity, sometimes conflated into a single visual form and at other moments distinguished as a function of the difference between photochemical and electro-magnetic processes. We also highlight the kinds of techniques filmmakers use to thematize these same issues "on screen." Students will be responsible for watching one film each week (along with the the course readings), and part of the final project involves helping to produce a group documentary/ethnographic "film" that engages the course's central concerns.
Taught by: Jackson
One-term course offered either term
Also Offered As: ANTH 842, COMM 842
Activity: Seminar
1 Course Unit

CIMS 846 Ordinary People and the Media: The Demotic Turn
This course will explore the proposition that we are witnessing a 'demotic turn' in media culture: the development of a broader, possibly even a new, field of relations between media and culture in which the participation of ordinary people has become a more fundamental component than ever before. Rather than necessarily signifying the rise of a democratic politics or a process of media democratization, the politics of that participation are contingent and instantiated rather than determined in advance. The course will explore how this politics of participation actually plays out in a range of contemporary media 'hot spots' - reality television, user-generated content online, debates about the future of journalism in an online environment heavily populated by bloggers and citizen journalists, the connection between the commodification of celebrity and the construction of social identities, utopian and dystopian readings of the potential of new media, and populist formations of talk radio.
Also Offered As: COMM 846
Activity: Seminar
1 Course Unit

CIMS 899 Independent Study
Course not offered every year
Activity: Independent Study
1 Course Unit
City and Regional Planning (CPLN)

CPLN 300 The Making of Modern Paris
Paris, Ville-Lumiere, has long been renowned for its urbanity, architecture, and city design. This class will trace the people, ideas, and projects that contributed to this reputation, through an exploration of the city's built environment as expressed in literature and urban planning projects of the 19th and 20th centuries. Literary readings, including texts by Hugo, Baudelaire, Zola, and Breton, will be studied in conjunction with historical writings and projects ranging from works by Napoleon III and Haussmann to Mitterand and Sarkozy. The course includes a field trip to France's capital city during Penn's Spring Break. Co-taught by Professors Eugenie Birch (Department of City and Regional Planning) and Andrea Goulet (Department of Romance Languages). Student travel expenses will be subsidized by the Mellon Foundation-sponsored Humanities + Urbanism + Design Project.
Taught by: Birch
Course usually offered in spring term
Activity: Seminar
1 Course Unit

CPLN 500 Introduction to City Planning: Past, Present and Future
Orientation to the profession, tracing the evolution of city and regional planning from its late nineteenth century roots to its twentieth century expression. Field trips included.
Taught by: Vitiello or Ammon
Course usually offered in fall term
Also Offered As: URBS 440
Activity: Lecture
1 Course Unit

CPLN 501 Quantitative Planning Analysis Methods
Introduction of methods in analyzing demographic conditions, land use and housing trends, employment and business changes, community and neighborhood development. Focus on using spreadsheet models and data analysis for local and neighborhood planning.
Taught by: Guerra
Two terms. student may enter either term.
Activity: Lecture
1 Course Unit

CPLN 502 Urban Redevelopment and Infrastructure Finance
Introduces students to the economic principles and vocabularies that city and regional planners rely on (those of welfare and public sector economics, land economics, and the economics of housing and neighborhoods), and familiarizes them with local government taxation, budgeting and borrowing practice.
Taught by: Angelides
Course usually offered in spring term
Activity: Lecture
1 Course Unit

CPLN 503 Modeling Geographical Objects
This course offers a broad and practical introduction to the acquisition, storage, retrieval, maintenance, use, and presentation of digital cartographic data with vector-oriented (i.e. drawing-based) geographic information systems (GIS) for a variety of environmental science, planning, and management applications. Previous experience in GIS is not required.
Taught by: Tomlin or Hillier
Course usually offered in fall term
Also Offered As: MUSA 503
Activity: Lecture
1 Course Unit

CPLN 504 Site Planning
This course introduces students to the practice of site planning. Skills and methods examined in the course include observation of the physical and community environment; physical and environmental site inventorying and analysis; analysis of alternative site programming and uses; site design processes and strategy; and the creation of site plans and development standards. Methods of community participation and collaboration with other disciplines will be explored. The spring version of this course differs from the fall version in its orientation toward urban designers and/or those with prior design backgrounds and skills.
Taught by: Page
Course usually offered in spring term
Activity: Lecture
1 Course Unit

CPLN 505 Planning by Numbers
This class emphasizes the theory, practice, and use of statistics as applied to planning and policy problems and data. Starting with a review of basic descriptive statistics and measures of association, this course will introduce students to the regression techniques, including multiple regression analysis and logistical and probabilistic models for categorical data; data mining techniques, measures of spatial autocorrelation, and time-series modeling; and causal inference techniques, including structural equation modeling (SEM). A basic familiarity with descriptive and inferential statistics at the upper-division undergraduate level is expected at the beginning of the class. This course uses the popular, free, and open source statistical software R. Meets methods breadth requirement.
Taught by: Ryerson
Course usually offered in spring term
Activity: Lecture
1 Course Unit

CPLN 506 Negotiation and Conflict Resolution
This course is designed to introduce graduate students to the theory and practice of negotiation, conflict resolution and community engagement. We will start by looking at basic approaches to interpersonal negotiation and then move to considering contemporary approaches to understanding and addressing public disputes using negotiation, facilitation and public involvement. Design professionals - architects, construction managers, planners and others - face a variety of kinds of problems and challenges in their work. Some problems and challenges, whether simple or complex, are amenable to technical solutions based solely on the expertise of planners, managers, architects and others. There are, however, other problems and challenges that require adaptive work, primarily because technical expertise alone is insufficient to address the problems or challenges being faced. In this course, we’ll focus on perspectives and methods for working through those later sorts of problems and challenges. Meets methods breadth requirement.
Taught by: Sokoloff
Course usually offered in spring term
Activity: Lecture
1 Course Unit
CPLN 507 Urban Design Research Methods
This seminar focuses on professional and research techniques in the practice of urban design. Seminar topics in the first half will examine research methods associated with measuring, analyzing and guiding design in urban contexts, including: environmental behavior & psychology, cognition, mapping, morphology, design regulation and policy. The second half of the course includes professional techniques in: communication, self-representation, design roles, processes, and ethics.
Taught by: AI
Course usually offered in fall term
Activity: Lecture
1 Course Unit

CPLN 508 Urban Research Methods
This new course will introduce students to the practice of conducting original social, policy, and planning research in an urban context, and through a series of applied exercises, cover the following topics: research conceptualization and design, logic models, survey and ethnographic research, urban policy analysis and evaluation.
Activity: Lecture
1 Course Unit

CPLN 509 Law of Planning and Urban Development
The central focus will be on selected aspects of the field of the law of planning and development, a field that embraces a range of legal doctrines that are particularly relevant to cities and suburbs. We will study the principles that govern the regulation of land use and management of urban growth (through land use controls and other techniques for regulating new development) and, to a limited extent, environmental planning laws.
Taught by: Keene
Course usually offered in spring term
Activity: Lecture
1 Course Unit

CPLN 510 Urban and Planning Theory
Exploration of the representational tasks related to planning cities and regions. Review of the construction, management and reconciliation of contesting images.
Taught by: Landis
Course usually offered in fall term
Activity: Lecture
1 Course Unit

CPLN 520 Introduction to Community and Economic Development
Introduction to the theories and practices of urban economic and community development with a focus on improving opportunity and quality of life in low-income communities. Provides foundation for advanced courses in real estate and economic development finance, housing policy, downtown and neighborhood revitalization, workforce development and metropolitan regional development.
Course usually offered in spring term
Activity: Lecture
1 Course Unit

CPLN 528 Research Seminar 21st Century Urbanism
Course usually offered in spring term
Also Offered As: URBS 428
Activity: Seminar
1 Course Unit

CPLN 530 Introduction to Land Use Planning
Exploration of the methods and tools for managing land use and shaping the built environment. Presents how to create a successful Comprehensive Plan, Zoning Ordinance, Subdivision Regulations, Capital Improvements Program, and design guidelines. Also, presents functional area, regional, and state-level plans.
Taught by: Daniels
Course usually offered in fall term
Activity: Lecture
1 Course Unit

CPLN 531 Introduction to Environmental Planning & Policy
Overview of federal programs for protecting air quality, water quality, and endangered species along with managing climate change, solid waste, toxics, energy, transportation, and remediating brownfields in an overall sustainability framework. State-level, local government, and NGO efforts to protect the environment are also explored as are green infrastructure and green cities.
Taught by: Daniels
Course usually offered in fall term
Activity: Lecture
1 Course Unit

CPLN 535 Topics in Energy Policy
This research seminar focuses on changing energy policy topics that provide students with a deep examination of an aspect of energy technology, markets, or regulation and an opportunity for research on an emerging issue related to the topic. The seminar meets weekly to discuss the relevant literature and workshop student research projects.
Taught by: Staff.
Also Offered As: ENMG 503
Activity: Seminar
1 Course Unit

CPLN 540 Introduction to Property Development
This course is designed to acquaint students with the fundamental skills and techniques of real estate property development. It is designed as a first course for anyone interested in how to be a developer, and as a foundation for further courses in urban development and real estate.
Course usually offered in fall term
Activity: Lecture
1 Course Unit

CPLN 550 Introduction to Transportation Planning
Survey of the technological and design aspects of urban transportation systems and land use patterns. Covers facilities operations, congestion, environmental concerns and policy debates revolving around mobility issues at the federal, state, and metropolitan levels.
Taught by: Guerra
Course usually offered in fall term
Activity: Lecture
1 Course Unit

CPLN 556 Introduction to Graphics for Urban Design
This course introduces students to visual literacy and the use of a variety of software packages. Through a series of assignments and in class discussions participants develop a visual vocabulary and skills to function in and between AutoCAD, Adobe Creative Suite, and 3D modeling software.
Taught by: Fogelson
Course usually offered in spring term
Activity: Seminar
1 Course Unit
CPLN 571 Sensing the City
This course will teach students how to design, implement, and utilize environmental and built environment sensor and web-based data acquisition systems; how to use those systems to build and populate analytical databases; and how to analyze the resulting data to identify spatial and temporal patterns.
Taught by: Lassiter
Activity: Lecture
1 Course Unit

CPLN 590 Spatial Analysis for Urban and Environmental Planning
This course builds on prior knowledge of GIS and basic statistics to help students to develop GIS and spatial analysis applications for use in urban and environmental planning and management. Each weekly session will focus on a particular analytical approach (e.g., buffering, geo-processing, map algebra, network analysis) as applied to a particular urban or environmental planning tasks (e.g., identification of development opportunities, prioritizing conservation lands, urban growth modeling, housing price modeling). The format of the class includes weekly lectures/in-class demos; and weekly homework assignments. The course will make extensive use of ArcGIS and associate Extensions, especially Spatial Analyst, Network Analyst, and Business Analyst. One-year student versions of ArcGIS and ArcGIS extensions will be available free of charge at the City Planning Office. ArcGIS runs best on Windows machines; those with Macs will need to install a Windows emulator.
Taught by: Steif
Course usually offered in fall term
Also Offered As: MUSA 507
Prerequisite: MUSA 501 or CPLN 503 or equivalent
Activity: Lecture
1 Course Unit

CPLN 600 Planning Workshop
Application of planning skills (including community inventorying and reconnaissance, goal articulation; alternatives creation and analysis, and plan development and implementation) to community plan creation. Students work in groups of seven to eight students each. Juried presentation required.
Taught by: Landis
Course usually offered in spring term
Activity: Studio
2 Course Units

CPLN 620 Techniques of Urban Economic Development
This course is about how planners act to catalyze and support economic well-being in cities and regions. Students in the course examine the effectiveness of alternative strategies and approaches to economic development and practice a variety of specific economic development policy and finance techniques. The semester is divided into three modules. In part one, students build knowledge about how theories of growth, specialization, agglomeration and innovation inform (and fail to inform) economic development strategies. In part two, they develop a working understanding of economic development finance, completing exercises on tax increment finance, tax-credit financed development and “double bottom line” lending and equity investment. In part three, they review best practices in the formulation and negotiation of location incentives and subsidies, examine “growth with equity” policies, and explore the technical and political details of economic impact analysis.
Course usually offered in spring term
Activity: Lecture
1 Course Unit

CPLN 621 Metropolitan Food System
This course introduces students to the planning and development of metropolitan food systems. Major topics include regional planning and policy; sustainable agriculture; food access and distribution; and markets. The class includes a mix of lectures, discussion, and field trips; and students will work on real-world projects in Philadelphia. Ultimately, the course aims to develop students’ broad knowledge of food systems planning in the global North and South, with an emphasis on community and economic development strategies for sustainable food systems and food security.
Taught by: Vitiello
Course usually offered in spring term
Activity: Lecture
1 Course Unit

CPLN 622 Community Development and Public Health
This course will focus on the intersection of city planning and public health by looking closely at the role of the built environment in health. We will cover such topics as food access, physical activity, walkability, bike-ability, air quality, water quality, community engagement, outdoor media and health communication. We will learn how to conduct Health Impact Assessments (HIA) - screening, scoping, assessments, recommendations, reporting, and monitoring - and to use various environmental audit tools to measure the built environment. Our final projects will involve working with local government and nonprofit agencies to conduct applied health research projects.
Taught by: Hillier
Course usually offered in spring term
Also Offered As: PUBH 515
Activity: Lecture
1 Course Unit

CPLN 624 Race, Poverty and Place
In recent years, long-disinvested cities have become the site of renewed investment, population growth, and economic development in a phenomenon often described as gentrification. Nonetheless, socioeconomic inequality between races, ethnicities, genders, and places within the larger metropolitan area continue to persist, suggesting that a rising tide does not raise all boats. Planners must grapple with these issues of inequality and inequity, particularly the implementation of plans and policies that may in theory provide benefits to all, but in practice continue to accumulate benefits for a select few. This course examines the construction of race, the making of a place, and the persistence of poverty in racialized places in the city. This course will engage in a critical discussion of the aforementioned themes, such that the normative notions of race, capitalism, urbanism, gender, power, and space are upended to privilege more marginalized perspectives of these processes.
Taught by: Drake-Rodriguez
Course usually offered in spring term
Activity: Seminar
1 Course Unit
**CPLN 625 Housing & Community Development Policy**
This course offers an exploration of how legislative action, government policymaking, and citizen advocacy influence plans for the investment of public capital in distressed urban neighborhoods. Course topics this semester will include an evaluation of the results of City of Philadelphia development policies under the administration of former Mayor Michael A. Nutter, as well as consideration of plans being undertaken by the administration of Mayor James F. Kenney, who took office in January. The course will also include an assessment of a large-scale property acquisition and development strategy being implemented by the Philadelphia Housing Authority in North Philadelphia and a review of recent and current reinvestment proposals for Camden's waterfront and downtown-area neighborhoods.

Taught by: Kromer
Also Offered As: GAFL 569, URBS 451
Activity: Lecture
1 Course Unit

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**CPLN 630 Innovations in Growth Management**
The US population is expected to grow by more than 85 million from now to 2050. This course evaluates the tools and techniques for managing growth in America, especially to control sprawl in metropolitan regions. The course analyzes the forms and functions of the central cities, suburbs, edge cities, ex-urbs, and megaregions. Federal, state, and local programs that influence metro change are evaluated. Regional planning approaches are analyzed in case studies.

Course usually offered in spring term
Prerequisite: CPLN 530 or CPLN 531
Activity: Lecture
1 Course Unit

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**CPLN 631 Planning for Land Conservation**
Land preservation is one of the most powerful, yet least understood planning tools for managing growth and protecting the environment. This course provides an introduction to the tools and methods for preserving private lands by government agencies and private non-profit organizations (e.g., land trusts). Topics include purchase and donation of development rights (also known as conservation easements), transfer of development rights, land acquisition, limited development, and the preservation of urban greenways, trails, and parks. Preservation examples analyzed: open space and scenic areas, farmland, forestland, battlefields, and natural areas.

Taught by: Daniels
Course usually offered in spring term
Activity: Lecture
1 Course Unit

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**CPLN 632 Modeling Geographic Space**
The major objective of this course is to explore the nature and use of image-based (as opposed to drawing-based) geographic information systems (GIS) for the analysis and synthesis of spatial patterns and processes. This course is open to all. Previous experience in GIS is not required.

Taught by: Tomlin
Course usually offered in spring term
Also Offered As: LARP 741
Activity: Lecture
1 Course Unit

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**CPLN 633 Ecological Principles for Planners**
This course will provide an overview of ecology and the environmental sciences, focusing on issues important to practicing land use and environmental planners. It will combine both lectures and on-site practical experience. The latter will entail analyses of basic environmental factors, including soils, water and biodiversity. Topics to be covered will include species taxonomy and biodiversity, population and community ecology, ecosystem energetics, soil structure and function, nutrient movement, hydrology, plant ecology and physiology, and animal ecology.

Taught by: Hewitt
Course usually offered in spring term
Activity: Lecture
1 Course Unit

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**CPLN 635 Water Policy**
Aging infrastructure, urbanization, climate change, and limited public funds are contributing to urban water management crises in cities around the globe. This course examines the systems and policies that comprise urban water. We begin with the infrastructures that underlie drinking water, wastewater, and stormwater services. Then, we review innovative management technologies and strategies, focusing on case studies of infrastructure shifts in Philadelphia and Melbourne. Finally, we undertake a global investigation of water management challenges and opportunities.

Course usually offered in spring term
Activity: Lecture
1 Course Unit

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**CPLN 641 Progressive Development**
Using a lecture/guest lecture/case study approach, this course will teach students how to plan, develop, and finance a variety of progressive real estate development forms including affordable housing; infill, mixed-use and brownfield development transit-oriented development; green and LEED-certified office and housing development; historic preservation projects; public-private partnerships; and suburban retrofit and master-planned-community development. In each case, we will consider site acquisition, entitlement, market and marketing conditions, financing options, ownership and deal structures, ongoing operation and asset management issues; and connections to the community. Sessions will include lectures as well as case study presentations by guest developers and students.

Taught by: Landis
Course usually offered in spring term
Prerequisite: CPLN 540 or REAL 821
Activity: Lecture
1 Course Unit

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**CPLN 642 Downtown Development**
The course will provide an overview of the changing role of downtowns and commercial centers, how and why they have evolved, diversified and been redeveloped and who are the various public and private actors that are helping them reposition themselves in a new regional and global context. There will be a strong focus on implementation, on how things get done, on the role of business improvement districts, not-for-profit development corporations and local government in the United States, Canada and a few international cities.

Taught by: Levy
Course usually offered in fall term
Activity: Lecture
1 Course Unit
CPLN 643 Design and Development
This newly reconstituted course will introduce designers and planners to practical methods of design and development for major real estate product types. Topics will include product archetypes, site selection and obtaining entitlements, basic site planning, programming, and conceptual and basic design principles. Project types will include, among others; infill and suburban office parks, all retail forms, campus and institutional projects. Two-person teams of developers and architects will present and discuss actual development projects.
Taught by: Sehnert
Course usually offered in spring term
Also Offered As: ARCH 762
Activity: Lecture
1 Course Unit

CPLN 644 Neighborhood Change & Equitable Development
The government intervenes in housing markets in different ways and for different reasons. This course is designed to explore why the federal and local government in the U.S. intervene in housing markets and what forms these interventions take. Specifically, students will learn about: the mechanisms that drive both the supply and demand for housing; how U.S. housing policy has changed over time; factors that affect the production, distribution, and location of housing; the social and economic impact of housing on households and neighborhoods; the equity implications of housing policies. This course will place particular emphasis on low-income rental housing. By the end of this class students will have a firm understanding of U.S. housing policy and be able to engage in a meaningful debate about future challenges and opportunities in the U.S. housing market and the implications of different policy interventions. Ultimately, this course will provide students the conceptual tools necessary to evaluate, formulate, and implement housing policy.
Taught by: Chapple
Course usually offered in fall term
Activity: Seminar
1 Course Unit

CPLN 650 Transportation Planning Methods
This course introduces students to the development and uses of the 4-step urban transportation model (trip generation-trip distribution-mode choice-traffic assignment) for community and metropolitan mobility planning. Using the VISUM transportation desktop planning package, students will learn how to build and test their own models, apply them to real projects, and critique the results.
Taught by: Ryerson
Course usually offered in spring term
Also Offered As: ESE 548
Prerequisites: CPLN 505 or other planning statistics course.
Activity: Lecture
1 Course Unit

CPLN 651 Public Infrastructure & Finance
This class is designed to help you develop the analytical skills necessary to understand and tackle common infrastructure problems in cities around the world, by emphasizing simple but key calculations that will help you focus on the key issues in each system, such as estimating system costs, capacity, and congestion. The first half of the class will focus on planning and engineering issues for systems for water, energy, telecommunications and large-scale transportation infrastructure such as ports and airports, but the overall emphasis will be on developing skills and tools applicable to any system. The second half of the class will focus on financing mechanisms, such as the size and structure of government investment, authority financing mechanisms, user fees, and public-private partnerships.
Taught by: Angelides
Course usually offered in fall term
Activity: Lecture
1 Course Unit

CPLN 652 National Infrastructure Investment Seminar
This fall 2017 research seminar and the accompanying spring 2018 studio will develop and propose a multi-modal transportation infrastructure investment and financing strategy for the United States. During the fall 2017 seminar, students will research key issues associated with infrastructure planning, finance and project delivery, and the history of infrastructure planning in the United States; as well as take a comparative look at infrastructure planning in other OECD countries.
Taught by: Yaro
Course usually offered in spring term
Activity: Seminar
1 Course Unit

CPLN 654 Urban Transit Systems and Technology
This is a graduate-level planning class exploring transit planning practice. The goals of this class are to develop, organize and understand transit related planning issues, and conduct research. The class will emphasize the practice of transit planning, methods, problem definition and problem solving, the collection and manipulation of data to take the greatest advantage of available local and regional resources. Local and regional studies and projects will be used to illustrate the actual work done by transit practitioners to the greatest extent possible. There will also be emphasis on how a transit planner in many different roles will approach their respective jobs.
Taught by: Guerra
Course usually offered in spring term
Activity: Lecture
1 Course Unit
CPLN 655 Multimodal Transport
The purpose of this course is to explore contemporary multimodal transportation systems, policy, planning, and practice through a series of comparative international case studies. Topics include innovative parking management in San Francisco, congestion charging in London, Metro investments in Mexico City, informal transportation in Indonesia, Bus Rapid Transit in Bogota, and bicycle infrastructure investments in Copenhagen. The course will also include one or more site visits to innovative multimodal transportation projects in the Philadelphia or New York City regions. By analyzing contemporary planning challenges and best practices, students will develop a better understanding of how the transportation system works and how to design and employ specific multimodal interventions and policies effectively.
Taught by: Guerra
Course usually offered in spring term
Activity: Lecture
1 Course Unit

CPLN 660 Fundamentals of Urban Design
This course is a requirement for students enrolled in Certificate in Urban Design and for Master of City Planning students enrolled in the Urban Design concentration. How should urban designers give shape to the city? What urban design methods could they apply? This course helps students acquire the principles that can inform urban design practice. It has three major pedagogical objectives. First, it helps students understand the contemporary city through a series urban design tools. Second, it covers both historical and modern urban design principles. Finally, it includes all the scales in which urban designers operate, ranging from the fundamentals of social interaction in public space, to the sustainability of the region. This course is open to other interested PennDesign students if there is space and with permission of the instructor.
Taught by: AI
Course usually offered in spring term
Also Offered As: LARP 660
Activity: Studio
2 Course Units

CPLN 661 Site Planning
Introduction to the fundamentals of site planning. Includes student presentations of location-specific projects.
Course usually offered in spring term
Activity: Lecture
1 Course Unit

CPLN 670 Geospatial Software Design
The purpose of this course is to equip students with a selected set of advanced tools and techniques for the development and customization of geospatial data-processing capabilities. It is open to any student with experience equivalent to that of an entry-level class on GIS.
Taught by: Tomlin
Course usually offered in fall term
Also Offered As: LARP 743
Activity: Seminar
1 Course Unit

CPLN 671 Big Urban Data Analysis
This course, co-listed with MUSA 501, will introduce graduate planning students to the use of large, spatially-explicit datasets for addressing urban planning and management problems. Among the topics to be included: (1) Real-time data acquisition using web-based and sensing technologies; (2) Data cleaning and organization using the R programming language; (3) Data visualization and exploratory analysis in R; (4) Predictive and causal modeling techniques using large datasets in R; (5) Use of statistical data reduction and machine learning techniques with big data; (6) Heuristic visualization of analytical and modeling results.
Taught by: Bruslovskiy
Course usually offered in fall term
Also Offered As: MUSA 500
Activity: Lecture
1 Course Unit

CPLN 673 Contemporary Urbanism
This course will expose students to a wide array of case studies in Planning, Urban Design, and Landscape Architecture. They include: notions of sustainable development, the interplay between open space and built form, the rehabilitation of existing areas as historic districts, commercial corridors, and the improvement of squatter settlements. Also, it will focus on city expansions and new towns, housing, mixed-use developments, and areas of new centrality. The program will address as well territorial planning, the improvement of open space systems, and site specific interventions of parks, plazas, streetscapes, and gardens.
Cases will provide the proper ground for analysis and interpretation of issues related to the design and implementation of "good" landscape and urban form. Class discussions will be complemented with short design exercises. We will also enjoy the presence of outstanding visiting lecturers, who will share with us cutting-edge information, derived from their professional practice and research. Registration limited to students in the MLA 602 level; students in the Certificate in Urban Design program and a limited number of MLA students needing to fulfill the Theory III requirement; other PennDesign graduate students must seek permission of the instructor.
Taught by: Gouverneur
Course usually offered in spring term
Also Offered As: LARP 781
Activity: Lecture
1 Course Unit

CPLN 675 Land Use and Environmental Modeling
Planners at every scale and of every type are increasingly using spatial data and models to analyze existing patterns, identify and parameterize key trends and urban processes, visualize alternative futures, and evaluate development impacts. This course will introduce students to various GIS-based land use and environmental planning models, including, among others: TR55 for analyzing parcel-level stormwater runoff; BASINS for analyzing watershed-level stream volumes, runoff, and water quality; HAZUS for analyzing the potential damage impacts of floods, earthquakes, and hurricanes; UPlan and CUFCURBA for developing detailed urban growth projections; CommunityViz for analyzing, simulating, and visualizing the impacts of proposed development projects; and other packages as available. A basic familiarity with ArcGIS is required.
Taught by: Landis
Course usually offered in spring term
Prerequisites: Some knowledge of GIS and statistics.
Activity: Laboratory
1 Course Unit
CPLN 676 The Immigrant City
Immigration is among the most important yet controversial forces shaping cities, regions, and neighborhoods. The diversity of immigrant and receiving communities means that the dynamics and impacts of migration are varied and complex. This course examines the development of immigrant and receiving communities in the United States. It surveys public policy and community and economic development practices related to migration at the local, regional, national, and trans-national scale. Class readings, discussions, and visits to Philadelphia's immigrant neighborhoods explore themes including labor markets, housing experiences, political mobilization, civil society, cultural preservation, and the built environment. The first half of the course surveys migration and community formation among a broad range of ethnic groups in different parts of the city and suburbs, mainly through history, sociology, and geography; the second half focuses on specific policy and community and economic development initiatives. Ultimately, the class aims to provide students with 1) a broad knowledge of immigration and its impacts on cities and regions; 2) an in-depth understanding of urban policies and institutions working on immigration in U.S. cities; and 3) familiarity with community and economic development strategies for migrant and receiving communities.
Taught by: Vitiello
Course usually offered in spring term
Also Offered As: SOCI 270, URBS 270
Activity: Seminar
1 Course Unit

CPLN 678 Elements of a Sustainable Development Policy
This course has several objectives. The central focus will be on developing a comprehensive understanding of the principles of sustainable development, a broad, deep, and in fact, revolutionary new way of shaping the operations of society. It was first defined in the 1987 Report of the United Nations' World Commission in Environment and Development (the Brundtland Report) as: "... development that meets the needs to the present without compromising the ability of future generations to meet their own needs." The course will combine lectures on general concepts and ways of viewing sustainable development with individuals and team presentations on a wide variety of sustainable development programs. Students will examine the efforts of universities, companies, local governments, state governments, and national governments to being to moderate man's impact of the natural environment and to make societies more economically viable and just - and therefore, more sustainable - in the long run. Students will learn how sustainable development strategies involve the full range of human activities, such as energy production and use, creation of urban communities, transportation, food systems, building construction and operation, waste disposal, control of environmental pollution, water use and treatment, and social inclusion, migration, and global poverty.
Taught by: Keene
Course usually offered in spring term
Also Offered As: URBS 478
Activity: Seminar
1 Course Unit

CPLN 679 Policy and Design
This seminar provides an advanced introduction to policy development and is intended to engage students in policy-making. Policy outcomes often have formal and/or scalar qualities. Yet policy developers often treat these as unintended consequences. And designers typically operate within the constraints created by such consequences. But could design thinking improve policy outcomes? Our test bed for this examination will be the relationship between energy and urban form, which presents a critical policy challenge for young professionals from many fields. The seminar will survey current research and policy options emerging from local, regional, state, and federal governments and discuss their implications for design outcomes at the scale of buildings, neighborhoods, and regions? None of these implications have been fully explored by policy makers at any level of government. This seminar will explore each in turn, allowing students to develop a deep understanding of the policy content on this important issue as well as of the policy process in general. Students will develop projects ranging from an analysis of policy to a presentation of the design implications of existing/proposed/alternative energy policies. The intent is for the seminar to make an active contribution.
Taught by: Hughes
Course usually offered in spring term
Also Offered As: ARCH 756
Activity: Seminar
1 Course Unit

CPLN 680 Advanced Topics in GIS
The primary objective of this course is to equip students with a selected set of sophisticated and specialized tools for the practical use of geographic information systems in a variety of application settings. Participants will have the opportunity to focus on particular topics in each of four major areas including: data acquisition - e.g. remote sensing, LiDAR imagery, global positioning systems, mobile GIS, applied geocoding, geodatabases, ArcSketch, and/or CAD interaction; communication - e.g. web mapping, animation, and/or professional cartographic techniques; problem solving - e.g. cartographic pattern recognition, geospatial allocation, agent-based modeling, geostatistics, network analysis, and/or spatio-temporal simulation; and tool building - e.g. Python scripting, GoogleMap mashups, and/or open source GIS. The course is conducted in a seminar format with weekly sessions devoted to lectures, demonstrations, and discussions conducted by the instructor, students, and invited guests. Offered in the spring annually.
Taught by: Tomlin
Course usually offered in fall term
Also Offered As: LARP 745, MUSA 800
Activity: Seminar
1 Course Unit

CPLN 682 Humanities, Urban, Design
Course usually offered in spring term
Also Offered As: ARTH 581
Activity: Seminar
1 Course Unit
CPLN 685 Environmental Readings
In this seminar, we will explore this green thread and analyze its influence on how we shape our environments through design and planning. The course has three parts. Throughout, the influence of literature on design and planning theory will be explored. The first part will focus on three most important theorists in environmental planning and landscape architecture: Frederick Law Olmstead Sr., Charles Eliot and Ian McHarg. The second part of the course will critically explore current theories in environmental planning and landscape architecture. The topics include: frameworks for cultural landscape studies, the future of the vernacular, ecological design and planning, sustainable and regenerative design, the languages of landscapes, and evolving views of landscape aesthetics and ethics. In the third part of the course, students will build on the readings to develop their own theory for ecological planning or, alternatively, landscape architecture. While literacy and critical inquiry are addressed throughout the course, critical thinking is especially important for this final section.
Taught by: Steiner
Course usually offered in fall term
Also Offered As: LARP 780
Activity: Seminar
1 Course Unit

CPLN 690 Java and Javascript Programming for Planning Applications
This course will introduce city planning, MUSA and design graduate students to Java and Javascript. Students will learn the logic and syntax of the Java programming language for use in simple web applications (Weeks 1 to 7); as well as how to program database and map-oriented web and desktop applications using Javascript (Weeks 8 to 14). The "hands-on" uses of Java and Javascript in urban planning applications will be emphasized. Students will hone their programming and applications development skills through a series of bi-weekly assignments.
Taught by: Faculty
Course usually offered in fall term
Also Offered As: MUSA 610
Activity: Laboratory
1 Course Unit

CPLN 701 Planning Studio
Intensive study of a selected planning topic. Teams of students work with clients to develop alternative scenarios and produce plan and implementation strategies. Multiple presentations required.
Taught by: Yaro
Course usually offered in spring term
Activity: Studio
2 Course Units

CPLN 702 Planning Studio
Intensive study of a selected planning topic. Teams of students work with clients to develop alternative scenarios and produce plan and implementation strategies. Multiple presentations required.
Taught by: Al
Course usually offered in spring term
Activity: Studio
2 Course Units

CPLN 703 Planning Studio
Intensive study of a selected planning topic. Teams of students work with clients to develop alternative scenarios and produce plan and implementation strategies. Multiple presentations required.
Course usually offered in spring term
Activity: Studio
2 Course Units

CPLN 704 Planning Studio
Course usually offered in spring term
Activity: Studio
2 Course Units

CPLN 705 Planning Studio
Taught by: Landis
Course usually offered in spring term
Activity: Studio
2 Course Units

CPLN 707 Planning Studio
Course usually offered in spring term
Activity: Studio
2 Course Units

CPLN 708 Planning Studio
Taught by: Landis
Course usually offered in spring term
Activity: Studio
2 Course Units

CPLN 720 Community and Economic Development Practicum
This practicum involves a weekly mixture of lecture and seminar course-time with applied problem solving for real-world clients. It will be a second-year course focused on organizational development, business planning, and other strategic planning techniques that complement the physical planning focus on PennPlanning Workshop and Studio. Required of students in the CED concentration.
Taught by: Vitiello
One-term course offered either term
Activity: Lecture
1 Course Unit

CPLN 730 Sustainable Cities
Sustainability as a concept has been around for almost thirty years, but only recently has become a major factor in planning practice. This seminar course will explore the following sustainability topics and practices:(i) Goals and organization of urban sustainability initiatives;(ii)Transportation, water and air quality, solid waste reduction; (iii)Climate change and energy efficiency initiatives; and (iv) Green building policies. We will thoroughly examine case studies drawn from sustainability planning initiatives from major American cities, with selected international comparisons.
Taught by: Hughes
Course usually offered in spring term
Activity: Lecture
1 Course Unit
CPLN 750 Advance Transportation Seminar, Air Transportation Systems Planning
Air transportation is a fascinating multi-disciplinary area of transportation bringing together business, planning, engineering, and policy. In this course, we explore the air transportation system from multiple perspectives through a series of lessons and case studies. Topics will include airport and intercity multimodal environmental planning, network design and reliability, air traffic management and recovery from irregular operations, airline operations, economics, and fuel, air transportation sustainability, and land use issues related to air transportation systems. This course will introduce concepts in economics and behavioral modeling, operations research, statistics, environmental planning, and human factors that are used in aviation and are applicable to other transportation systems. The course will emphasize learning through lessons, guest lecturers, case studies of airport development, and an individual group and research project.
Taught by: Ryerson
Course usually offered in spring term
Also Offered As: ESE 550
Prerequisite: CPLN 550 or equivalent
Activity: Seminar
1 Course Unit

CPLN 760 Public Realm Studio
This intensive foundation studio focuses on the physical planning and design skills necessary in shaping the public realm. Students will undertake a series of targeted exercises that introduce them to project conceptualization, context analysis, programming, site planning, technical issues, and detailed design of public space in cities. Focusing on issues pertinent to local municipalities, students will work collaboratively and individually over the semester on design elements that cover a range of scales. Intellectual objectives within the studio include: the links between theory and practice, the development of principles to guide design, understanding associations between design and stakeholder-user interests, and exploring larger issues of sustainability and participation in design practice. Emphasis on the pragmatics of problem solving and implementation will be balanced with essential skills in visioning, critical thinking and design leadership.
Taught by: Al
Course usually offered in fall term
Activity: Studio
2 Course Units

CPLN 767 Theory and Principles of Urban Design
An introduction to the theoretical basis for beliefs and practices in city and environmental design, including the relation of the built environment to the natural environment, the organization of groups of buildings, the use and meaning of public places, and the relation of technology to land use and community.
Taught by: Barnett
Course usually offered in fall term
Activity: Lecture
1 Course Unit

CPLN 791 CPLN Summer Institute: Spreadsheet Review
Excel for Planners: use of Excel to develop simple planning indicators (e.g., location quotients), simple planning models (e.g., fiscal impact models), and database operations. Course enrollment is by permit only. Please contact Roslynne Carter (CPLN Dept.) at at roslynne@design.upenn.edu.
Taught by: Faculty
Course usually offered summer term only
Activity: Lecture
0 Course Units

CPLN 792 CPLN Summer Institute: Statistics
Basic Statistics for Planners: review of descriptive and basic inferential statistics, including z-scores, confidence intervals, t-tests, and chi-squared. Course enrollment is by permit only. Please contact Roslynne Carter (CPLN Dept.) at at roslynne@design.upenn.edu.
Taught by: Faculty
Course usually offered summer term only
Activity: Lecture
0 Course Units

CPLN 793 CPLN Summer Institute: Computer Methods and Graphics
Introduction to Presentation and Report Graphics for Planners: including one day each on Photoshop, Illustrator, Sketchup, and InDesign Course enrollment is by permit only. Please contact Roslynne Carter (CPLN Dept.) at at roslynne@design.upenn.edu.
Taught by: Faculty
Course usually offered summer term only
Activity: Lecture
0 Course Units

CPLN 794 CPLN Summer Institute: Microeconomics Review
Micro-econ Review: review of principles of supply and demand, elasticities, equilibrium prices and quantities. Course enrollment is by permit only. Please contact Roslynne Carter (CPLN Dept.) at at roslynne@design.upenn.edu.
Taught by: Faculty
Course usually offered summer term only
Activity: Lecture
0 Course Units

CPLN 795 CPLN Summer: Intro To GIS
The summer GIS Bootcamp prepares students for the intermediate GIS classes that begin in the fall semester. It begins with a discussion of GIS in planning and the social sciences and then moves on to topics related to spatial data, geocoding, projection, vector and raster-based geoprocessing, 3D visualization and more. Each class includes a brief lecture and a walk through involving actual planning related data. Course enrollment is by permit only. Please contact Roslynne Carter (CPLN Dept.) at at roslynne@design.upenn.edu.
Taught by: Faculty
Course usually offered summer term only
Activity: Lecture
0 Course Units

CPLN 796 Professional Project
Course usually offered in spring term
Activity: Independent Study
1 Course Unit
Notes: Capstone project, supervised by a faculty member.
CPLN 799 CPLN Summer Institute: Introduction to the R Statistical System
This one-week short course will introduce students to the basics of the R statistical programming language, including importing and setting up data, using the R interface to conduct descriptive data analysis, and basic model-building procedures. 
Course usually offered summer term only 
Activity: Lecture 
0 Course Units 

CPLN 800 Doctoral Seminar
Open to PhD students, this scholar-oriented seminar explores how academic researchers from different disciplines define researchable questions, craft research designs, and contribute to knowledge through an examination of important and/or recently published books and monographs with an urban focus. Required of all first- and second-year CPLN doctoral students and those doctoral students enrolled in the Urban Studies Graduate Certificate Program, enrollment is limited to 15 students. Other doctoral students may enroll on a space available basis. Course requirements include completion of a major research paper on a topic selected in consultation with the instructor. 
Taught by: Birch 
One-term course offered either term 
Also Offered As: HIST 608, URBS 608 
Activity: Seminar 
1 Course Unit 

CPLN 999 Independent Study and Research
One-term course offered either term 
Activity: Independent Study 
1 Course Unit 

Notes: Ph.D. candidates. Independent study and research under faculty supervision. 

Classical Studies (CLST)

CLST 005 Freshman Seminar: Plato's Republic
In classical Athens the question of how a government should work was an urgent one. They invented democracy, adopted it successfully for decades, and then it faced challenges, from oligarchs and others. At this time of tumult, the philosopher Plato set out to explore the question of the best form of government by framing it as a question of justice. Which mode of governing is the one that delivers justice? But to understand this question, a person first needs to understand what justice itself is. Coming up with an answer to this is a thorny and difficult prospect. By focusing on Plato's Republic, this course aims to explore how best to govern a society, what kinds of qualities one should expect in a leader, and how these questions are connected to very basic understandings about human nature, society, and the world in general. 
Taught by: Struck 
Also Offered As: PHIL 010 
Activity: Seminar 
1 Course Unit 
Notes: Freshman Only 

CLST 006 Freshman Seminar: Inescapable Classics
The legacy of Greco-Roman traditions in Western culture is everywhere apparent. Whether in the realm of political or legal systems, philosophical and scientific discourse, mythological dreamscapes, psychology, literary genre or aesthetic theory, the contribution of Greek and Roman culture is routinely invoked sometimes to admire, other times to lament. It forms a highly complex narrative of reception and influence, shaped by historical contingencies, individual talents and temperaments, and continually shifting conceptions of what these contributions actually were. This seminar will trace the evolution of the Classical tradition, in all its varied and inconsistent manifestations, primarily through the visual arts. It will be a museum-based course, organized around four important Philadelphia museums or collections: (1) The Penn Museum (for ancient artifacts), (2) Penn's manuscript collection within van Pelt Special Collections (where we will examine original manuscripts of the Medieval and Renaissance periods that transmit Classical culture), (3) The Philadelphia Museum of Art, and (4) The Pennsylvania Academy of the Fine Arts, both of which house many examples of painting and sculpture deeply informed by the Classical tradition. 
Taught by: Rosen 
Course not offered every year 
Activity: Seminar 
1 Course Unit 
Notes: Freshman Only 

CLST 007 Afterlives of the Afterlife
Taught by: Foley 
Course usually offered in spring term 
Activity: Lecture 
1 Course Unit 
Notes: Freshman Seminar 

CLST 026 Ancient Greece
The Greeks enjoy a special place in the construction of western culture and identity, and yet many of us have only the vaguest notion of what their culture was like. A few Greek myths at bedtime when we are kids, maybe a Greek tragedy like Sophokles’ Oedipus when we are at school: these are often the only contact we have with the world of the ancient Mediterranean. The story of the Greeks, however, deserves a wider audience, because so much of what we esteem in our own culture derives from them: democracy, epic poetry, lyric poetry, tragedy, history writing, philosophy, aesthetic taste, all of these and many other features of cultural life enter the West from Greece. The oracle of Apollo at Delphi had inscribed over the temple, “Know Thyself.” For us, that also means knowing the Greeks. We will cover the period from the Late Bronze Age, c. 1500 BC, down to the time of Alexander the Great, concentrating on the two hundred year interval from 600-400 BC. 
For BA Students: History and Tradition Sector 
Taught by: McInerney 
Course usually offered in fall term 
Also Offered As: ANCH 026, HIST 026 
Activity: Lecture 
1 Course Unit
CLST 027 Ancient Rome
The Roman Empire was one of the few great world states—one that unified a large area around the Mediterranean Sea—an area never subsequently united as part of a single state. Whereas the great achievements of the Greeks were in the realm of ideas and concepts (democracy, philosophy, art, literature, drama) those of the Romans tended to be in the pragmatic spheres of ruling and controlling subject peoples and integrating them under the aegis of an imperial state. Conquest, warfare, administration, and law making were the great successes of the Roman state. We will look at this process from its inception and trace the formation of Rome’s Mediterranean empire over the last three centuries BC; we shall then consider the social, economic and political consequences of this great achievement, especially the great political transition from the Republic (rule by the Senate) to the Principate (rule by emperors). We shall also consider limitations to Roman power and various types of challenges, military, cultural, and religious, to the hegemony of the Roman state. Finally, we shall try to understand the process of the development of a distinctive Roman culture from the emergence new forms of literature, like satire, to the gladiatorial arena as typical elements that contributed to a Roman social order.
For BA Students: History and Tradition Sector
Taught by: Grey
Course offered spring; odd-numbered years
Also Offered As: ANCH 027, HIST 027
Activity: Lecture
1 Course Unit

CLST 029 ROME & AMERICA
This course explores a range of social structures and contexts, cultural understandings and intellectual practices where the influence of Roman exemplars is discernible in both historical and present-day America. It presents students with Roman and American materials placed in explicit or implicit dialog with one another: e.g., descriptions and discussions of political processes and structures; attitudes towards games, public entertainments, and communal cohesion; rhetorics and vocabularies of public space. Among other tasks and projects, students will stage a ‘reimagination’ of the Constitutional (Philadelphia) Convention of 1787, which resulted in the United States Constitution. They will also emulate ancient moralists and satirists, who attacked Rome’s ‘Bread and Circuses’ culture, by focusing their attention upon comparable practices in modern America.
Taught by: Grey
Course not offered every year
Activity: Seminar
1 Course Unit
Notes: Freshman Seminar

CLST 030 Poetry of Vergil
This seminar will explore the poetry of Publius Vergilius Maro, better known as Vergil (or Virgil), whom many regard as the greatest of all Roman poets and who is comparable in importance to poets such as Homer, Dante, and Milton. We will read all of Vergil’s works in translation along with a selection of the most important commentary on those works from antiquity to the present day. In addition, we will study the impact of Vergil’s poetry on other poets (and vice versa).
Taught by: Farrell
Course not offered every year
Activity: Seminar
1 Course Unit
Notes: Freshman Seminar

CLST 100 Greek & Roman Mythology
Myths are traditional stories that have endured many years. Some of them have to do with events of great importance, such as the founding of a nation. Others tell the stories of great heroes and heroines and their exploits and courage in the face of adversity. Still others are simple tales about otherwise unremarkable people who get into trouble or do some great deed. What are we to make of all these tales, and why do people seem to like to hear them? This course will focus on the myths of ancient Greece and Rome, as well as a few contemporary American ones, as a way of exploring the nature of myth and the function it plays for individuals, societies, and nations. We will also pay some attention to the way the Greeks and Romans themselves understood their own myths. Are myths subtle codes that contain some universal truth? Are they a window on the deep recesses of a particular culture? Are they entertaining stories that people like to tell over and over? Are they a set of blinders that all of us wear, though we do not realize it? Investigate these questions through a variety of topics creation of the universe between gods and mortals, religion and family, sex, love, madness, and death.
For BA Students: Arts and Letters Sector
Taught by: Struck
Course usually offered in spring term
Also Offered As: COML 108
Activity Lecture
1 Course Unit

CLST 102 Classical Traditions
A broad consideration of the ways in which writers and artists from the early modern era to the present day have responded to the classical tradition, borrowing from, imitating, questioning, and challenging their classical predecessors. Through modern reworkings of ancient epic, tragedy, biography, and lyric by authors ranging from Shakespeare and Racine to contemporary poets, painters, and filmmakers, we will ask what the terms "classical" and "tradition" might mean and will track the continuities and differences between antiquity and the modern world. Should we see ancient Greek and Roman culture as an inheritance, a valuable source of wealth bequeathed to the modern age? Or is there something wrong with that picture? How do ancient texts have to be adapted and transformed if they are to speak to modern conditions and concerns? This is an introductory-level course open to anyone who cares about the relationship between the present and the past.
For BA Students: Arts and Letters Sector
Course not offered every year
Also Offered As: ENGL 029
Activity Lecture
1 Course Unit

CLST 103 History of Ancient Philosophy
An introduction to the major philosophical thinkers and schools of ancient Greece and Rome (The Presocratics, Plato, Aristotle, Stoics, Epicureans, and Sceptics). Topics to be covered include: nature of the universe, the relation between knowledge and reality, and the nature of morality and the good life. We will also examine some of the ways in which non-philosophical writers (e.g., Homer, Hesiod, Aristophanes, and Thucydides) treat the issues discussed by the philosophers.
For BA Students: History and Tradition Sector
Taught by: Meyer
Course usually offered in fall term
Also Offered As: PHIL 003
Activity Lecture
1 Course Unit
CLST 107 Ancient Drama
This course will introduce students to some of the greatest works of dramatic literature in the western canon. We will consider the social, political, religious and artistic functions of drama in ancient Greece and Rome, and discuss both differences and similarities between ancient drama and modern art forms. The course will also pursue some broader goals: to improve students skills as readers and scholarly critics of literature, both ancient and modern; to observe the implications of form for meaning, in considering, especially, the differences between dramatic and non-dramatic kinds of cultural production; to help students understand the relationship of ancient Greek and Roman culture to the modern world; and to encourage thought about some big issues, in life as well as in literature: death, heroism, society, action and meaning.
For BA Students: Arts and Letters Sector
One-term course offered either term
Activity: Seminar
1 Course Unit

CLST 111 Introduction to Mediterranean Archaeology
The cultures of Greece and Rome, what we call classical antiquity, span over a thousand years of multicultural achievement in the Mediterranean. This course tells the story of what it was like to live in the complex societies of ancient Greece and Rome. This story is told principally using the art, architecture, pottery and coins produced by these societies. We will examine both the bold and sexy, and the small and humble, from the Parthenon to wooden huts, from the Aphrodite of Knidos to the bones of a fisherman named Peter.
For BA Students: History and Tradition Sector
Taught by: Bowes
Course usually offered in fall term
Also Offered As: ANTH 111, ARTH 227
Activity: Lecture
1 Course Unit

CLST 112 Homer & Troy
The Iliad and the Odyssey have won great admiration from hearers and readers for close to three millennia. They have also provoked many questions about the poet or poets, the date of works, the nature of their composition and transmission, and the historical reality, if any, of the war and the society they evoke. In an attempt to answer some of these questions, we will undertake a literary and archaeological and historical study of Troy and Greece from the 13th century B.C., the earliest time conjectured for the Trojan War, down to the 7th century B.C., the latest possible date for composition. In addition to studying the two Homeric epics, we will do comparative reading in other early Greek literature and the Hebrew Bible.
Taught by: DeVries
Course not offered every year
Activity: Seminar
1 Course Unit

CLST 123 Great Discoveries in Archaeology
Archaeology is a young and exciting scientific discipline created around 150 years ago as a way to discover and interpret the material remains of our human past. Many archaeological sites are world-famous: Pompeii, Troy, the pyramids of Egypt, the Parthenon of Athens, the Taj Mahal, and the temple complex at Angkor Wat, to name a few. In this course, we will examine many important archaeological sites in the “Old World” of the Mediterranean, Near East, and Asia. Using a thematic and comparative approach, we will delve deeper to explore the societies that produced these wonders, and examine cultural similarities and differences across the Old World. This course is a non-technical introduction for students interested in archaeology, history, art history, anthropology, or related subjects.
Taught by: Tartaron
Activity: Lecture
1 Course Unit

CLST 127 The Material Past in a Digital World
The material remains of the human past -objects and spaces- provide tangible evidence of past people’s lives. Today’s information technologies improve our ability to document, study, and present these materials. But what does it mean to deal with material evidence in a virtual context? In this class, students will learn basic digital methods for studying the past while working with objects, including those in the collections of the Penn Museum. This class will teach relational database design and 3D object modeling. As we learn about acquiring and managing data, we will gain valuable experience in the evaluation and use of digital tools. The digital humanities are a platform both for learning the basic digital literacy students need to succeed in today’s world and for discussing the human consequences of these new technologies and data. We will discuss information technology’s impact on the study and presentation of the past, including topics such as public participation in archaeological projects, educational technologies in museum galleries, and the issues raised by digitizing and disseminating historic texts and objects. Finally, we will touch on technology’s role in the preservation of the past in today’s turbulent world. No prior technical experience is required, but we hope students will share an enthusiasm for the past.
Taught by: Peter Cobb
Also Offered As: ANTH 127, ARTH 127, HIST 127, NELC 187
Activity: Lecture
1 Course Unit

CLST 140 Scandalous Arts in Ancient and Modern Communities
What do the ancient Greek comedian Aristophanes, the Roman satirist Juvenal, have in common with Snoop Dogg and Eminem? Many things, in fact, but perhaps the most fundamental is that they are all united by a stance that constantly threatens to offend prevailing social norms, whether through obscenity, violence or misogyny. This course will examine our conceptions of art (including literary, visual and musical media) that are deemed by certain communities to transgress the boundaries of taste and convention. It juxtaposes modern notions of artistic transgression, and the criteria used to evaluate such material, with the production of and discourse about transgressive art in classical antiquity. Students will consider, among other things, why communities feel compelled to repudiate some forms of art, while others enter into classics.”
For BA Students: Humanities and Social Science Sector
Taught by: Rosen
Also Offered As: COML 141
Activity: Lecture
1 Course Unit
Notes: Previously listed as CLST 240.
CLST 143 Great Books of Greece and Rome
The literature of ancient Greece and Rome has been foundational for the national literatures of Europe and the Americas, and in the modern period it remains one of the most influential and widely read world literatures. This course introduces many of the most representative works that define the Greek and Roman canon from Homer to Augustine, along with the most characteristic and influential works that compose it. The primary texts will be discussed and compared with the ideas of modern literary criticism and their critical reception. The course will explore the development of Western literary thought from Greek tragedy to modernist and postmodernist fiction. Taught by: Wilker
Course usually offered in fall term
Also Offered As: ANCH 146
Activity: Lecture
1 Course Unit
Notes: For BA Students: Arts and Letters Sector

CLST 146 Ancient Mediterranean Empires
What constituted an empire in antiquity and how was imperialism legitimized? Which measures were used to maintain and organize imperial power? How did foreign rule affect the daily life of people all over the Mediterranean? In this course we will discuss and compare ancient empires from Achaemenid Persia to Alexander the Great and the Hellenistic kingdoms of his successors to the emergence of Rome as one of the most successful and influential empires in world history. Topics that will be discussed include ancient ideas and concepts of imperial rule, patterns of political, economic and cultural power and their interrelations as well as imperial crises and local resistance.
Taught by: Wilker
Course usually offered in fall term
Also Offered As: ANCH 146
Activity: Lecture
1 Course Unit

CLST 148 Food and Fire: Archaeology in the Laboratory
This course will let students explore the essential heritage of human technology through archaeology. People have been transforming their environment from the first use of fire for cooking. Since then, humans have adapted to the world they created using the resources around them. We use artifacts to understand how the archaeological record can be used to trace breakthroughs such as breaking stone and bone, baking bread, weaving cloth and firing pottery and metals. The seminar will meet in the Penn Museum’s new Center for the Analysis of Archaeological Materials. Students will become familiar with the Museum’s collections and the scientific methods used to study different materials. Class sessions will include discussions, guest presentations, museum field trips, and hands-on experience in the laboratory.
For BA Students: Humanities and Social Science S
Taught by: Katherine Moore
Also Offered As: ANTH 148, NELC 183
Activity: Lecture
1 Course Unit

CLST 185 Ancient Political Thought
The way in which the Greeks understood and expressed their political institutions, activities and challenges has deeply impressed our own conception of politics. This course will trace the history of this ancient heritage from its inception to today, first through a close analysis of key texts from Thucydides, Plato, Aristotle, and Polybius, and then by considering several important moments in the reception of the Greek political tradition, from the Renaissance and American Revolution to the crisis of modernity and the Neo-Conservative Movement. We evaluate the relationship between distant and recent past as well as the influence of both on our own day.
For BA Students: History and Tradition Sector
Course not offered every year
Also Offered As: PSCI 180
Activity: Recitation
1 Course Unit

CLST 191 World Literature: Classics of the World I
This course will introduce students to a wide array of literary works from across the world. It operates on the assumption that cultures have never been isolated from each other and that literature has always been in motion across national boundaries; it has been translated, adapted, and circulated. We will explore the genres, forms, and thematic preoccupations of major works that strive to imagine a wider world, while also studying the critical debates around the concept of world literature, from its origins with Goethe’s essay on Weltliteratur to contemporary arguments about cosmopolitanism and globalization.
Taught by: Premoli/Irele
One-term course offered either term
Also Offered As: COML 191, ENGL 277
Activity: Seminar
1 Course Unit

CLST 202 Cleopatra
Cleopatra VII (70/69 30 BCE) is one of the most famous women in world history. She has been remembered, admired, and reproached as a power-hungry Hellenistic queen, as the last pharaoh of Egypt, as a self-confident female ruler, and as the vicious seductress of Julius Caesar and Mark Antony. Her supposedly extravagant lifestyle, her political schemes, but also her integrity in choosing suicide over submission have inspired poets, artists, and historians from her own time to our modern world. In this seminar, we will take a closer look at some of the common perceptions and stereotypes that have shaped the image of Cleopatra for more than 2000 years. The main focus, however, will be on the historical queen, her biography, and the political and cultural contexts of her life. We will use ancient literary texts, papyri, inscriptions, coins, and archaeological evidence to analyze Cleopatras rise to power, how she presented herself to her subjects and how she was perceived by others, as well as her role in the tumultuous events that led to the end of the Hellenistic period and the rise of imperial Rome under the rule of Augustus.
Taught by: Wilker
Course not offered every year
Also Offered As: ANCH 202
Activity: Seminar
1 Course Unit
CLST 211 Ancient Moral Philosophy
A survey of the ethical theories debated by philosophers in Classical Greece and Rome. Plato, Aristotle, Stoics, Epicureans and Pyrrhonist Sceptics offer competing answers to the fundamental question raised by Socrates: How are we to live? That is, what is the best life for a human being? These philosophers generally agree that virtue is an important part of the best human life, but disagree about whether it is the greatest good (Epicurus, for example claims that pleasure is the highest good), or whether there are any other goods (for example, health, wealth, family). Much attention is paid in their theories to accounts of the virtues of character, and to the place of wisdom in the best sort of human life.
For BA Students: Society Sector
Taught by: Meyer
Course usually offered in spring term
Also Offered As: PHIL 211
Activity: Seminar
1 Course Unit

CLST 217 Periclean Athens
This class is devoted to the culture and history of Athens in the 5th century BC, the golden age of Greek culture. We will examine such topics as the growth of democracy, Athenian religion and the architectural embellishment of the Acropolis and the Agora. We will look at the development of Athenian drama and explore the relationship between Athenian democracy and naval power.
Course not offered every year
Also Offered As: ANCH 217
Activity: Seminar
1 Course Unit

CLST 218 Augustan Cultural Revolution
The principate of Augustus is one of history’s most decisive turning points, in that it brought about the transformation of the Roman Republic into an Empire. This political revolution depended on a cultural one, and Augustus used literary and artistic production not just as media of communication for the dissemination of favorable propaganda, but as a means of refashioning Roman culture. The result was that fundamental changes were made to seem natural and inevitable even as almost every aspect of political, social, and cultural life were decisively transformed. This course examines the phenomenon by considering closely the history and the literary and artistic production of the period.
Taught by: Farrell, Rose
Course not offered every year
Also Offered As: ANCH 218
Activity: Lecture
1 Course Unit

CLST 220 Greek Art and Artifact
This course surveys Greek art and artifacts from Sicily to the Black Sea from the 10th BCE up to the 2nd centuries BCE reaching the Age of Alexander and the Hellenistic Kingdoms. Our objects range from public sculpture and painting on and around grand buildings and gardens, to domestic luxury arts like jewelry, cups and vases, mosaic floors, and the humbler objects of worship and every-day life. Greek addressed heroic epic, religious and political themes, engaged viewers’ emotions, and served mundane as well as monumental aims. Current themes include Greek ways of looking at art and space, and ideas of invention and progress; the roll of monuments, makers and patrons in Greek society; and connections with the other cultures that inspired and made use of Greek artists and styles. To understand ancient viewers’ encounters, you will meet the spaces of sanctuary and tomb, house and city, garden and private collection; your readings will sample ancient peoples’ art writing. Diverse approaches introduce art historical aims and methods, and their relationships to archaeology, anthropology and other disciplines — also to modern kinds of museums, not least our own University Museum of Archaeology. No prerequisites. This course fulfills the ‘global requirement’. Of interest to students of classical, middle-eastern, visual and religious studies, anthropology, history, communications and the GSD programs.
Taught by: Kuttner
Course usually offered in fall term
Also Offered As: AAMW 625, ARTH 225, ARTH 625, CLST 620
Activity: Lecture
1 Course Unit

CLST 221 Hellenistic and Roman Art and Artifact
An intensive introduction to the art and architecture of Rome and her empire from Republican and later Hellenistic to Constantinian times. Variable emphasis on topics ranging from major genres, styles, and programs of commemorative and decorative art, historical narrative, and political iconography to building types and functions and the specific Etrusco-Roman notion of space, land division, and city planning.
Taught by: Kuttner
Course usually offered in spring term
Also Offered As: AAMW 626, ARTH 226, ARTH 626
Activity: Lecture
1 Course Unit
CLST 223 Ages of Homer: An Archaeological Introduction to the Greek Bronze and Iron Ages
This illustrated lecture course surveys the prehistory and early history of the Greek world through texts and material remains, with the aim of bringing to life the society, economy, and politics of this ancient era. Among the topics are the rise and fall of the great Bronze Age civilizations of the Aegean area, the Minoans of Crete and the Mycenaean of the Greek mainland; the cataclysmic volcanic eruption on the island of Thera and its long-term consequences; the possibly historical Trojan War; the Homeric world of the Dark Age that followed the collapse of the Mycenaean palaces; and the Greek renaissance of the eighth century B.C. including the adoption of the alphabet, the great colonizing movement, and the Panhellenic sanctuaries that laid the foundation for the Classical world to come. Ages of Homer is part of a sequence of introductory courses on the archaeology of the Greco-Roman world, which also includes Introduction to Greek Archaeology (CLST 275) and Introduction to Roman Archaeology (CLST 274). There are no prerequisites, and these courses need not be taken in a particular order.
Taught by: Tartaron
Course not offered every year
Activity: Lecture
1 Course Unit

CLST 225 Technologies of the Mind in the Greek and Roman World
This course surveys the array of techniques available in Greece and Rome for the development of a person’s intellectual and spiritual life. These included technical disciplines such as the art of rhetoric, philosophical doctrine, and ritual practice, as well as more informal or creative exercises such as the imitation of historical examples, memory-development, management of the household, dream-interpretation, and the art of love. The course will look in general at the concept of an art or skill (“techne,” “ars”) and methods of instruction (manuals, didactic poetry, regimens, etc.), and will explore specific case studies (such as Socrates, Cicero, Ovid, Quintilian, and Apuleius).
Taught by: James Ker
Course not offered every year
Activity: Lecture
1 Course Unit

CLST 227 Age of Caesar
A course on Roman culture and society in a period of tumultuous political change, the lifetime of Julius Caesar (100-44BCE). Focuses on the interplay between shifting political and military realities and developments in social organization and literary production at Rome and in the wider Mediterranean world. The reception of Caesar in later ages will also be considered. Readings (all in translation) will include Catullus, Cicero, Lucretius, Plutarch, Sallust, Suetonius, and, of course, Caesar himself.
Taught by: Damon
Course not offered every year
Activity: Seminar
1 Course Unit

CLST 251 Greek and Roman Universe
This course covers the history of Greek and Roman exploration and mapping of the earth and the cosmos from the Bronze Age to Late Antiquity, together with advances in timekeeping and the measurement of time. Readings include poetic, historical, and scientific texts.
Taught by: Farrell
Course not offered every year
Activity: Seminar
1 Course Unit

CLST 257 Religion and the Polis
The Penn-in-Athens program, directed by Classics Professor Jeremy McInerney, runs May through June. During this exciting four-week program, students examine ancient religion and practice. Class is first taught online and then on site in Athens and other parts of Greece.
Taught by: McInerney
Course not offered every year
Also Offered As: ANCH 257
Activity: Seminar
1 Course Unit
Notes: This course is taught exclusively in English

CLST 267 Ancient Novel
The ancient Greek and Roman novels include some of the most enjoyable and interesting literary works from antiquity. Ignored by ancient critics, they were until fairly recently dismissed by classical scholars as mere popular entertainment. But these narratives had an enormous influence on the later development of the novel, and their sophistication and playfulness, they often seem peculiarly modern—or even postmodern. They are also an important source for any understanding of ancient culture or society. In this course, we will discuss the social, religious and philosophical contexts for the ancient novel, and we will think about the relationship of the novel to other ancient genres, such as history and epic. Texts to be read will include Lucian’s parodic science fiction story about a journey to the moon; Longus’ touching pastoral romance about young love and sexual awakening; Heliodorus’ gripping and exotic thriller about pirates and long-lost children; Apuleius’ Golden Ass, which contains the story of Cupid and Psyche; and Petronius’ Satyricon, a hilarious evocation of an orgiastic Roman banquet.
Taught by: Wilson
Course not offered every year
Activity: Lecture
1 Course Unit

CLST 268 LIVING WORLD IN ARCHAEOLOGICAL SCIENCE
By focusing on the scientific analysis of archaeological remains, this course will explore life and death in the past. It takes place in the new Center for the Analysis of Archaeological Materials (CAAM) and is team taught in three modules: human skeletal analysis, analysis of animal remains, and analysis of plant remains. Each module will combine laboratory and classroom exercises to give students hands-on experience with archaeological materials. We will examine how organic materials provide key information about past environments, human behavior, and cultural change through discussions of topics such as health and disease, inequality, and food.
Taught by: Kassabaum, Monge, Moore
Also Offered As: ANTH 267, ANTH 567
Activity: Lecture
1 Course Unit
CLST 271 Greek & Roman Medicine
The history of Western medicine is remarkably recent; until the nineteenth century prevailing theories of the body and mind, and many therapeutic methods to combat disease, were largely informed by an elaborate system developed centuries earlier in ancient Greece, at a period when the lines between philosophy, medicine, and what we might consider magic, were much less clearly defined than they are today. This course will examine the ways in which the Greeks, and then the Romans, conceptualized the body, disease, and healing, and will compare these to medical culture of our time. We will consider sources from Hippocrates, Plato, and Aristotle to Galen and Soranus, and will juxtapose these writings with modern discourse about similar topics. We will also pay some attention to ancient pharmacology and religious healing, and will visit the Penn Museum to see their collection of ancient medical instruments. All readings will be in English and no previous background in Classical Studies is required. This course will be especially appealing (and useful) to Pre-med and Nursing students, and to students interested in the History of Science, Ancient Philosophy, and Classics.
Taught by: Bowes
Course not offered every year
Also Offered As: HSOC 271
Activity: Seminar
1 Course Unit
Notes: Fulfills History Tradition Distribution Requirement

CLST 274 Introduction to Roman Archaeology
This course provides and introduction to the art and archaeology of the ancient Roman world. From Britain to Africa, from monuments like the Colosseum to the burned remains of ancient meals, we'll consider the full spectrum of Roman material culture, exploring at the same time how archaeologists reconstruct the past. This course will make frequent use of the collections of the Penn Museum.
Taught by: Bowes
Course not offered every year
Also Offered As: ARTH 231
Activity: Lecture
1 Course Unit

CLST 275 Introduction to Greek Archaeology
An introduction to the art and archaeology of ancient Greece from the Archaic through Hellenistic periods. Topics to be considered include the formation of the Greek polis, the rising and falling fortunes of Athens and the other Greek city-states in the Classical period, and the world of Alexander the Great. Emphasis is placed on the consideration of the archaeological evidence, e.g., sculpture, painting, pottery, architecture, and other material culture. This course is part of a sequence of introductory courses (with Ages of Homer and Introduction to Roman Archaeology) on the archaeology of the Greco-Roman world. There are no prerequisites, and these courses need not be taken in a particular order.
Course not offered every year
Also Offered As: AAMW 401
Activity: Lecture
1 Course Unit

CLST 300 Problems in Greek and Roman History
The neat, comforting narratives that we construct of the histories of ancient Greece and Rome cover up a collection of controversies and debates that continue to rage in contemporary scholarship. Can we use the Homeric epics as sources of early Greek history? Who was responsible for the Peloponnesian War? How can we best explain Rome's acquisition of empire? How new was the political revolution of Augustus? What were the main reasons for the rise of Christianity? In this course, we explore these and other controversies, focusing on both modern scholarship and the ancient sources. All texts will be discussed in translation. No prior knowledge of Ancient History is required, although it would be useful to have taken ANCH 026 and/or ANCH 027.
Taught by: Cam Grey
Course not offered every year
Also Offered As: ANCH 301
Activity: Seminar
1 Course Unit

CLST 302 Odyssey & Its Afterlife
As an epic account of wandering, survival, and homecoming, Homer's Odyssey has been a constant source of themes and images with which to define and redefine the nature of heroism, the sources of identity, and the challenge of finding a place in the world. This course will begin with a close reading of the Odyssey in translation, with particular attention to Odysseus as a post-Trojan War hero; to the roles of women, especially Odysseus' faithful and brilliant wife Penelope; and to the uses of poetry and story-telling in creating individual and cultural identities. We will then consider how later authors have drawn on these perspectives to construct their own visions, reading works, or parts of works, by such authors as Virgil, Dante, Tennyson, James Joyce, Constantine Cavafy, Derek Walcott, and Margaret Atwood. Each student will choose a work inspired by the Odyssey (from possibilities spanning many periods, cultural traditions, and media) on which to give a presentation and write a paper.
Taught by: Murnaghan
Course not offered every year
Also Offered As: COML 302
Activity: Lecture
1 Course Unit

CLST 308 Visions of Rome in Art, Literature, and Cinema
Artists, writers, and filmmakers have been drawn to and repelled by the intense experiences offered to them by the city of Rome. This course surveys the cultural record of those experiences in various media from antiquity to the present. We will consider the city as a center of civilization, a den of iniquity, a religious sanctuary, and a political capital as depicted in the works of (among others) Cicero, Fellini, Goethe, Piranesi, Montaigne, Kubrick, Juvenal, Byron, Luther, and Freud.
Taught by: Farrell
Course not offered every year
Activity: Lecture
1 Course Unit
CLST 310 Ancient and Modern Constitution Making
Constitutionmaking reemerged as an urgent issue in the Twentieth Century with the transformation of colonial empires after World War II and the collapse of the Soviet empire near the end of the century. Constitutionmaking issues made themselves felt also in the constitutionally more mature locations. Even in the British Isles, for example, nationalist movements prompted new constitutional arrangements. And in the Twenty-First Century, as competition for control of Central Asia, the Middle East, and Northern Africa has intensified, the written constitution has been hailed by some as the vehicle for changing long established cultures. The most striking feature of constitutionmaking in the last two centuries may be its uneven success when it comes to reducing political conflict and in reforming if not improving customs, character, habits, and actions. What might explain this uneven success? Is an explanation to be found by going back to what appear to be the roots of constitutionmaking? This course builds on contemporary scholarship to reconstruct what we may call the constitutionmaking tradition as it develops in the main ancient texts, which are read in English translation. The ancient texts are taken from Herodotus, the Pseudo-Xenophon, Diodorus Siculus, Thucydides, Xenophon, Plato, the author of the Aristotelian Athenian Constitution, Aristotle himself, Polybius, Cicero, Tacitus, Plutarch, Diogenes Laertius, and Augustine. The course traces this tradition through the Middle Ages to the classically trained thinkers of the Seventeenth Century, following linguistic and other clues that carry one up to the American colonial compacts and covenants, the so-called state constitutions, and the debates in the U.S. Constitutional Convention; and it continues through Nineteenth-Century and Twentieth-Century constitutionmaking into today’s constitutionmaking efforts in Europe, North Africa, and elsewhere, concluding with an examination of the Egyptian constitution 2013.

Taught by: Mulhern
One-term course offered either term
Activity: Seminar
1 Course Unit

CLST 312 Writing History in Greece and Rome
What constituted history in ancient Greece and Rome? What claims to knowledge did history make, and how did these differ from other forms of knowledge? How did historians envision their task, and how did they go about performing it? We will read the works of the major Greek and Roman historians in translation in an attempt to answer those questions. Other issues to consider include the origins and development of historical writing, the place of history within the ancient literary tradition, and the similarities and differences between the ancient and modern practice of history.

Taught by: Damon
One-term course offered either term
Also Offered As: ANCH 312
Activity: Seminar
1 Course Unit

CLST 325 Topics in Roman Art and Architecture
Topics varies
One-term course offered either term
Also Offered As: ARTH 329
Activity: Seminar
1 Course Unit

CLST 328 Topography and Monuments of Ancient Rome
An intensive exploration of Rome’s urban topography during the Republican and Imperial periods (6th c. B.C. through 4th c. A.D.) Using archaeological and textual sources, including the Etruscan and Roman collections of the Penn Museum, the goal will be to reconstruct the built environment and decoration of Rome over the course of a millennium. Of interest to students of classics, archaeology, art history, and architecture. Some familiarity with Rome will be a plus, but is not required.

Course not offered every year
Also Offered As: AAMW 533, ARTH 228, CLST 533
Activity: Seminar
1 Course Unit

CLST 329 Topics in Classicism and Literature
This advanced seminar will examine the classical backgrounds to English poetry, in particular the Biblical and Greco-Roman antecedents to Renaissance lyric verse and verse drama (such as, preeminently, Shakespeare). Different versions of this course will have different emphases on Biblical or Hellenist backgrounds.

Course not offered every year
Also Offered As: COML 329, ENGL 229, ENGL 329
Activity: Seminar
1 Course Unit

CLST 331 Reading the Iliad in a Time of War
Homer’s Iliad presents a dark and difficult vision of the world, but one that nonetheless inspires. Casual cruelty, divine caprice, and savage violence test heroes and lesser people and provoke a reckoning with the stark realities of both human vulnerability and capability. It inspires a kind of terror, but still also somehow provides a kind of comfort, albeit one whose character seems almost beyond comprehension. By a close and careful reading of Homer’s text, along with some reflections and readings drawn from more contemporary wars, including the current ones, we will try to examine these issues with one eye on the past and one on the present. Our goal will be to achieve some further understanding of war and human experience.

Taught by: Struck
Course not offered every year
Also Offered As: ENGL 329
Prerequisite: CLST 100
Activity: CLST 100
1 Course Unit

CLST 332 The Rise and Decline of Macedonia
In this course, we will study the rise and development of Macedonia from a tiny kingdom on the northern fringes of the Greek world to one of the major powers of the region and beyond. Regarded by the Greeks as an at least semi-barbarian culture on the periphery, Macedonia became the dominant power in the Greek world during the fourth century BC and its king Alexander the Great set out to conquer the world. After his death, Macedonia was one of the Hellenistic kingdoms competing for power and influence in the Mediterranean until it finally came under Roman control. Topics that will be discussed include questions of ethnicity and identity, Macedonian kingship, culture and society (including the role of women) and the role of Macedonian traditions in the Hellenistic era in general. Special emphasis will be laid on the discussion of ancient texts and documents as well as archaeological evidence.

Taught by: Wilker
Course not offered every year
Also Offered As: ANCH 330
Activity: Seminar
1 Course Unit
CLST 335 The Etruscans
The Etruscans, who spoke a language unlike any others known, were cast by their Greek and Roman rivals as outsiders and enemies: pirates, lovers of luxury, loose women. Today we must rely on the archaeological evidence of painted tombs, decorated Tuscan temples and massive engineering works to correct the picture. The course will survey a millennium (1st millennium BCE) of Etruscan culture through archaeological sites, shipwrecks and trading posts, works of art and everyday material culture, including the landscape and built environment, technology, seafaring and war, women's world, and the unique religion for which Etruria was famous, ending with a surprising array of examples of Etruscan heritage embraced by society from the time of Augustus to the present day.
Taught by: Jean Turfa
Course not offered every year
Activity: Lecture
1 Course Unit

CLST 336 Archaeology of Anatolia
This class is devoted to the archaeology and history of Anatolia (ancient Turkey) from the beginning of the Bronze Age (3000 BC) to the end of the Byzantine period (1453 AD). Emphasis will be placed on the great empires in Anatolia (Hittite, Phrygian, Lydian, Urartian, Persian, Roman, and Byzantine), and on the great cities (Troy, Sardis, Ephesus, Constantinople). The course is intended to complement the major exhibit on Gordion, the Phrygians, and Anatolian archaeology that will open at the Penn Museum in February of 2016 and run for 10 months.
Taught by: Brian Rose
Course not offered every year
Also Offered As: AAMW 536, ARTH 421, NELC 121, NELC 521
Activity: Lecture
1 Course Unit

CLST 337 Iliad
Homer's Iliad presents a dark and difficult vision of the world, but one that nonetheless inspires. Casual cruelty, divine caprice, and savage violence test heroes and lesser folk and provoke a reckoning with the stark realities of both human vulnerability and capability. It inspires kind of terror, but still also somehow provides a kind of comfort, albeit one whose character seems almost beyond comprehension. By a close and careful reading of Homer's text, along with some reflections and readings drawn from more contemporary wars, including the current ones, we will try to examine these issues with one eye on the past and one on the present. Our goal will be to achieve some further understanding of war and human experience. This course will be offered online.
Taught by: Struck
Course usually offered summer term only
Activity: Seminar
1 Course Unit

CLST 340 Seafaring in the Ancient Greek World
This course explores ships, seafaring, and seafarers of the ancient Greek world from the Bronze Age (Minoans and Mycenaeans) to the Age of Alexander (Hellenistic period). Sources include shipwrecks and related artifacts, artistic representations, and ancient literature. The emphasis is not so much on the technical aspects of shipbuilding and navigation as on the ways that seafaring shaped Greek history and connected the Greeks to a wider world through trade, warfare, colonization, and adventure.
Taught by: Tartaron
Course not offered every year
Also Offered As: AAMW 542
Activity: Lecture
1 Course Unit

CLST 341 Topics in Greco-Roman Art
Taught by: Kuttner
Also Offered As: ARTH 325
Activity: Seminar
1 Course Unit

CLST 360 Classical Epic and Medieval Romance
This course looks at a number of strands in the broad epic tradition: narratives of warfare, quest narratives (both geographical and spiritual), and the combination of the two in narratives of chivalry and love. We will start with the Homeric poems, reading Iliad and Odyssey, and then we will see how Homeric themes are reprised in Virgil's narrative of travel, conquest, and empire, the Aeneid. From there we will move to one medieval epic of warfare, Beowulf. In the last part of the course we will read some Arthurian romances, which take up certain themes familiar from epic, but place them in a new context: the medieval institution of chivalry, where the ancient warrior is replaced by the medieval knight, where the collective battle is replaced by the individual quest, and where the psychology of sexual desire is now foregrounded as a motivation for heroic self-realization.
Taught by: Copeland
Course not offered every year
Also Offered As: COML 296, ENGL 229
Activity: Seminar
1 Course Unit
Digital methods allow archaeologists to approach research questions about the human past with increasing accuracies on larger datasets and at multiple scales. This class introduces students to the three main steps of digital archaeology: data management, analysis, and sharing. Data management involves the design, creation, and curation of digital objects that capture the archaeological process and evidence. Students will gain deep familiarity in working with the main types of digital archaeological data: structured data (relational databases), 3D models/spatial data, and raster images. The class will provide abundant hands-on experience with the latest equipment and software for working with many different kinds of data. We will learn about data analysis techniques through a close examination of a variety of case studies in the literature that demonstrate how other archaeologists have applied digital methods to their archaeological questions. Finally, we will discuss the importance of sharing data through open access data publication and we will apply our skills with structured data to existing online archaeological datasets. The goal of this class is to prepare students to make methodological decisions during future research endeavors, both in the field and in the archaeological lab.

Taught by: Peter Cobb
Also Offered As: ANTH 362, CLST 562
Prerequisite: Prior archaeological classwork and/or experience preferred
Activity: Lecture
1 Course Unit

Before the universities established public-service programs in the twentieth century, many Americans prepared themselves for public life by studying Greek and Latin authors in school and college. In this course, using English translations, students survey an eighteenth-century classical curriculum and trace its influence in the political activity of Madison and others who guided the development of American governmental institutions.

Taught by: John Mulhern
Course usually offered in fall term
Activity: Seminar
1 Course Unit

This is a course on the history of literary theory, a survey of major debates about literature, poetics, and ideas about what literary texts should do, from ancient Greece to examples of modern European thought. The first half of the course will focus on early periods: Greek and Roman antiquity, especially Plato and Aristotle; the medieval period (including St. Augustine, Dante, and Boccaccio), and the early modern period (such as Philip Sidney and Giambattista Vico). We'll move into modern and 20th century by looking at the literary (or "art") theories of some major philosophers, artists, and poets: Kant, Hegel, Shelley, Marx, the painter William Morris, Freud, and the critic Walter Benjamin. We'll end with a look at Foucault's work. The point of this course is to consider closely the Western European tradition which generated questions that are still with us, such as: what is the "aesthetic"; what is "imitation" or mimesis; how are we to know an author's intention; and under what circumstances should literary texts ever be censored. During the semester there will be four short writing assignments in the form of analytical essays (3 pages each), and students can use these small assignments to build into a long writing assignment on a single text or group of texts at the end of the term. Most of our readings will come from a published anthology of literary criticism and theory; a few readings will be on Canvas.

Taught by: Copeland
Course not offered every year
Also Offered As: COML 383, ENGL 394
Activity: Seminar
1 Course Unit

Notes: Benjamin Franklin Seminar

This course is taken by students doing independent work with a faculty advisor, such as students approved to work on a senior research paper in pursuit of honors in the major.

One-term course offered either term
Activity: Independent Study
1 Course Unit

Intensive Greek reading course for students in the Postbac program. Taught by: Cynthia Damon
Two terms. student may enter either term.
Corequisite: CLST 403
Activity: Lecture
1 Course Unit
Notes: Permission of the instructor required.

Advanced study in Latin for students enrolled in the Post-Baccalaureate Program in Classical Studies. Permission of the instructor required.
Two terms. student may enter either term.
Corequisite: CLST 402
Activity: Lecture
1 Course Unit
### CLST 427 Roman Sculpture
Survey of the Republican origins and Imperial development of Roman sculpture—free-standing, relief, and architectural—from ca. 150 BC to 350 AD. We concentrate on sculpture in the capital city and on court and state arts, emphasizing commemorative public sculpture and Roman habits of decorative display. Key themes are the depiction of time and space, programmatic decoration, and the vocabulary of political art. Taught by: Kuttner
Course not offered every year
Also Offered As: AAMW 427, ARTH 427
Activity: Lecture
1 Course Unit

### CLST 500 Materials and Methods, proseminar in CLASSICAL STUDIES AND ANCIENT HISTORY
This is the required proseminar for first year graduate students in classical and ancient history. It will introduce you to some key methodological, practical and theoretical tools for beginning a scholarly career in these fields. Course usually offered in fall term
Activity: Seminar
1 Course Unit

### CLST 503 Historical Grammar of Greek
Investigation of the grammar of Classical Greek from the viewpoint of historical linguistics. The course will offer historical explanations for numerous structural peculiarities of the Greek language and anomalies of Greek grammar, touch on the relationship of Greek with other languages, and incidentally introduce the student to some basic concepts of language analysis likely to be useful in teaching Greek and learning other languages. Taught by: Ringe
Course not offered every year
Prerequisite: A fluent reading knowledge of ancient Greek
Activity: Seminar
1 Course Unit

### CLST 517 Mla Proseminar
Activity: Seminar
1 Course Unit

### CLST 526 Material & Methods in Mediterranean Archaeology
This course is intended to familiarize new graduate students with the collections of the University of Pennsylvania Museum of Archaeology and Anthropology and the wide range of scholarly interests and approaches used by faculty at Penn and neighboring institutions, as well as to provide an introduction to archaeological methods and theory in a Mediterranean context. Each week, invited lecturers will address the class on different aspects of archaeological methodology in their own research, emphasizing specific themes that will be highlighted in readings and subsequent discussion. The course is divided into five sections: Introduction to the Mediterranean Section; Collections; Method and Theory in Mediterranean Archaeology; Museum Work; and Ethics. The course is designed for new AAMW graduate students, though other graduate students or advanced undergraduate students may participate with the permission of the instructor. Taught by: Tartaron
Course usually offered in fall term
Also Offered As: AAMW 526
Activity: Seminar
1 Course Unit

### CLST 532 Ancient Greek Colonies
This seminar examines the archaeology of Greek colonization from the Late Bronze Age to ca. 600 B.C. These colonies were highly diverse in their motivations, physical settings, and political and social structures, as well as their relationships with mother cities and the new worlds they inhabited. Emphasis is placed on the colonial experience as a cross-cultural and negotiated process. In addition to archaeological and epigraphic evidence, literary and historical traditions are examined. Colonies from the southern Balkan peninsula, Black Sea, Ionia, northern Africa, and Magna Graecia will be the focus of reading, reports, and discussion. Taught by: Tom Tartaron
Course not offered every year
Also Offered As: AAMW 519
Activity: Seminar
1 Course Unit

### CLST 533 Topog & Mon of Anc Rome
Course not offered every year
Also Offered As: AAMW 533, CLST 328
Activity: Seminar
1 Course Unit

### CLST 562 Intro to Digital Archaeology
Digital methods allow archaeologists to approach research questions about the human past with increasing accuracies on larger datasets and at multiple scales. This class introduces students to the three main steps of digital archaeology: data management, analysis, and sharing. Data management involves the design, creation, and curation of digital objects that capture the archaeological process and evidence. Students will gain deep familiarity in working with the main types of digital archaeological data: structured data (relational databases), 3d models/spatial data, and raster images. The class will provide abundant hands-on experience with the latest equipment and software for working with many different kinds of data. We will learn about data analysis techniques through a close examination of a variety of case studies in the literature that demonstrate how other archaeologists have applied digital methods to their archaeological questions. Finally, we will discuss the importance of sharing data through open access data publication and we will apply our skills with structured data to existing online archaeological datasets. The goal of this class is to prepare students to make methodological decisions during future research endeavors, both in the field and in the archaeological lab. Taught by: Peter Cobb
Also Offered As: AAMW 562, CLST 362
Prerequisite: Prior archaeological classwork and/or experience preferred
Activity: Lecture
1 Course Unit
CLST 568 Living World in Archaeological Science
By focusing on the scientific analysis of archaeological remains, this course will explore life and death in the past. It takes place in the new Center for the Analysis of Archaeological Materials (CAAM) and is team taught in three modules: human skeletal analysis, analysis of animal remains, and analysis of plant remains. Each module will combine laboratory and classroom exercises to give students hands-on experience with archaeological materials. We will examine how organic materials provide key information about past environments, human behavior, and cultural change through discussions of topics such as health and disease, inequality, and food.
Taught by: Kassabaum, Monge, Moore
Also Offered As: ANTH 267, ANTH 567, CLST 268
Activity: Lecture
1 Course Unit

CLST 598 Language Pedagogy Workshop
The Workshop is intended to serve as a forum for first-time teachers of Latin or Greek. This will include discussing course-plans and pedagogical theories and strategies, collaborating on course materials, and addressing any concerns in the language courses presently being taught.
Taught by: James Ker
Activity: Seminar
0 Course Units

CLST 600 Graduate Seminar
Topics will vary
One-term course offered either term
Activity: Seminar
1 Course Unit

CLST 611 Greek Epigraphy
An introduction to the principles and practices of Greek Epigraphy. Study of selected Greek inscriptions.
Taught by: McInerney
Course not offered every year
Also Offered As: AAMW 611, ANCH 611, GREK 611
Activity: Seminar
1 Course Unit

CLST 616 Ancient Economies
Scholars have long debated the nature of the ancient economy, the terms in which it can best be approached, and the decision-making processes that underpinned economic behavior in antiquity. In particular, controversy has surrounded the extent to which the economies of Greco-Roman antiquity can be modeled using contemporary tools of analysis. In recent scholarship, many of the tenets laid down by Moses Finley in his The Ancient Economy have been re-evaluated, with the result that the field is currently in a state of intellectual ferment. It is the purpose of this course to explore the terms in which contemporary debates over ancient economic systems are formulated, with reference to a variety of societies and periods, from the palace economies of the Mycenaean period to the system of taxation introduced in the early fourth century by the emperor Diocletian and his colleagues in the Tetrarchy.
Taught by: Bowes and Grey
One-term course offered either term
Also Offered As: ANCH 616
Activity: Seminar
1 Course Unit

CLST 618 Medieval Poetics
This is a comparative course on medieval stylistic practices, formal innovations, and especially theories of form. Our common ground will be the theories that were generated in learned and pedagogical traditions of medieval Latinity (with their roots in ancient thought about poetic form). We will also collaborate on the particulars of the European vernacular cultures that stamped their interests on the interplay of language, genre, and form. Questions common to all the literary traditions may be the social, ethical, and epistemological roles of poetry. Other common questions include the distinctively medieval terms of interpretive theory and practice; technologies of interpretation; theories of fiction (fabula); the histories of the language arts; transformations of the terminology of figurative language; grammatical orthopraxis and permitted deviation; and material texts. As we turn from interpretive to generative categories, we will consider how arts of poetry find their linguistic and stylistic focus in the vocabularies of individual vernacular traditions.
Taught by: Rita Copeland
Course not offered every year
Also Offered As: COML 601, ENGL 524
Activity: Seminar
1 Course Unit

CLST 620 Topography of Rome
The topographical development of ancient Rome from its prehistoric beginnings to the late Imperial times with emphasis on the city’s key historical and architectural monuments.
Course usually offered in fall term
Also Offered As: AAMW 620, ARTH 220, CLST 220
Activity: Lecture
1 Course Unit

CLST 631 Art and Archaeology of the Mediterranean World Seminar
Topic Varies
Taught by: Haselberger
Also Offered As: AAMW 530, ARTH 530
Activity: Seminar
1 Course Unit

CLST 698 Prospectus Workshop
This is a workshop to prepare students for writing the thesis in Comparative Literature and Classical Studies.
Taught by: Wilson
One-term course offered either term
Activity: Seminar
1 Course Unit
Notes: Graduates only; only for 3rd year graduate students in classical studies and comparative literature.

CLST 705 ETHNOARCHAEOLOGY GREECE
Ethnoarchaeology involves distinctive theoretical and methodological approaches to the study of living societies for the explicit purpose of shedding light on archaeological questions. In this seminar, we will review the intellectual history of ethnoarchaeology in North America and Europe, and explore case studies from Greece, the wider Mediterranean, and beyond. Among the topics will be analogy, cross-cultural comparison, experimental archaeology, oral history research, and archaeologically oriented ethnographic fieldwork. Students will create a proposal for ethnoarchaeological fieldwork in their area of interest in NSF or Wenner-Gren format, to be critiqued by the instructor and their peers.
Taught by: Tartaron
Course not offered every year
Also Offered As: AAMW 705
Activity: Seminar
1 Course Unit
CLST 706 Archaeology of the Hellenistic Period in Italy, Greece, and Asia Minor
A survey of the archaeology of the Hellenistic period (331-31 BCE) across the Mediterranean, with a focus on Rome, Magna Graecia, Greece, and western Asia Minor. The course will stress the interactions among cities and kingdoms during the Roman Republic and Greek Hellenistic periods, especially the second century B.C. Students will work with relevant objects in the Penn Museums Mediterranean Section.
Taught by: Brian Rose
Also Offered As: AAMW 706, ARTH 706
Activity: Seminar
1 Course Unit

CLST 711 The Archaeology of Greece and Asia Minor in the Archaic and Classical Periods
An examination of new discoveries and conflicting interpretations in the archaeology of Greece and Asia Minor between the seventh and fourth centuries B.C.E. Both sides of the Aegean will receive equal attention, and emphasis will be placed on sanctuaries, settlements, and cemeteries.
Taught by: C. Brian Rose
Also Offered As: AAMW 726, ARTH 726
Activity: Seminar
1 Course Unit
Notes: Graduates Students Only

CLST 715 Archaeology of Troy
An introduction to the archaeology of Troy, in northwestern Turkey. The course will focus on the results of excavations at the site in 1988, although the earlier excavations of Schliemann, Dorpfeld, and Blegen will also be considered. The course will cover a broad chronological span—from the early Bronze age through the late Roman period, and will include Greek, Roman, and Medieval attitudes toward Troy and the Trojan legend.
Taught by: Rose
Course not offered every year
Also Offered As: AAMW 715
Activity: Seminar
1 Course Unit

CLST 990 Masters Thesis
One-term course offered either term
Activity: Masters Thesis
1 Course Unit

CLST 995 Dissertation
One-term course offered either term
Activity: Dissertation
1 Course Unit

CLST 999 Independent Study and Research
For doctoral candidates.
One-term course offered either term
Prerequisites: Permission of Graduate Chair and instructor required.
Activity: Independent Study
1 Course Unit

Cognitive Science (COGS)

COGS 001 Introduction to Cognitive Science
Cognitive Science is founded on the realization that many problems in the analysis of human and artificial intelligence require an Interdisciplinary approach. The course is intended to introduce undergraduates from many areas to the problems and characteristic concepts of Cognitive Science, drawing on formal and empirical approaches from the parent disciplines of computer science, Linguistics, neuroscience, philosophy and psychology. The topics covered include Perception, Action, Learning, Language, Knowledge Representation, and Inference, and the relations and interactions between them. The course shows how the different views from the parent disciplines interact and identifies some common themes among the theories that have been proposed. The course pays particular attention to the distinctive role of computation in such theories and provides an introduction to some of the main directions of current research in the field. It is a requirement for the BA in Cognitive Science, the BAS in Computer and Cognitive Science, and the minor in Cognitive Science, and it is recommended for students taking the dual degree in Computer and Cognitive Science.
Taught by: Brainard/Ungar
Course usually offered in fall term
Also Offered As: CIS 140, LING 105, PHIL 044, PPE 140, PSYC 207
Activity: Lecture
1 Course Unit
Notes: This is a Formal Reasoning course.

COGS 298 Study Abroad
Activity: Lecture
1 Course Unit

COGS 301 Independent Study
One-term course offered either term
Activity: Independent Study
1 Course Unit

COGS 398 Senior Thesis
This course is a directed study intended for cognitive science majors who have been admitted to the cognitive science honors program. Upon admission into the program, students may register for this course under the direction of their thesis supervisor.
One-term course offered either term
Activity: Independent Study
1 Course Unit

College (COLL)

COLL 135 The Art of Speaking
This course is designed to equip students with the major tenets of rhetorical studies and peer education necessary to work as a CWiC speaking advisor. The course is a practicum that aims to develop students’ abilities as speakers, as critical listeners and as advisors able to help others develop those abilities. In addition to creating and presenting individual presentations, students present workshops and practice advising. During this ABCS course, students will practice their advising skills by coaching and mentoring students at a public school in Philadelphia.
Taught by: Weber
Course usually offered in fall term
Activity: Seminar
1 Course Unit
Notes: Students need to apply and are interviewed by the instructor and Associate Director of CWiC
COMM 125 Introduction to Communication Behavior
This course introduces students to the theoretical models and research methods used to study communication and behavior, with a focus on mass media processes and effects. Topics examined include: the social construction of meaning through communication, effects of media violence, children's responses to educational television, the political impact of the news, and the influence of social media on relationships, and the role of media in creating and perpetuating gender, racial, and ethnic stereotypes. The aim of the course is to provide students with (1) a general understanding of research on attitudinal and behavioral aspects of mediated and interpersonal communication, and (2) the basic conceptual tools needed to critically evaluate the assumptions, theories, and empirical evidence supporting conclusions about communication behavior and media effects. Toward this end, thought the paradigms of critical and cultural studies will be reviewed briefly, the class will focus on social scientific approaches to understanding communication behavior. Students have the option of producing a multi-media capstone project or writing a term paper on a communication behavior-related topic of their choice. This class meets twice a week (WF) as a lecture and once a week (M) in smaller group seminars.
For BA Students: Society Sector
Taught by: Turow
Course usually offered in spring term
Activity: Lecture
1 Course Unit

COMM 130 Media Industries and Society
The aim of this course is to prepare you to work in the media business as well as to be an informed citizen by acquainting you with the work and language of media practitioners. The class also investigates the exciting, and (to some employed there) scary changes taking place in the news industry, the advertising industry, the movie industry, and several other areas of the media system. In doing that, the course ranges over economic, political, legal, historical, and "cultural" considerations that shape what we see when we go online, use social media, watch TV, read books, play video games, and more. You'll never look at media the same again.
For BA Students: Society Sector
Taught by: Jordan
Course usually offered in fall term
Activity: Lecture
1 Course Unit

COMM 203 Media, Culture & Society in Contemporary China
This course studies contemporary Chinese media, culture, and society in the context of globalization. Major topics include Internet expression and censorship, mass media commercialization, entertainment media, middle class and consumerism, environmental degradation, new forms of inequality, and civil society and popular protest. Taking a sociological approach, this course introduces methods and theories for analyzing media, institutions, inequality, and social change.
Taught by: Yang
Course not offered every year
Also Offered As: SOCI 238
Activity: Lecture
1 Course Unit
COMM 209 Urban Communication
How cities communicate has had to evolve with the times and circumstances. Even as there is extraordinary optimism about the future of America’s cities, most continue to grapple with the devastating effects of 20th century deindustrialization and racial disparities in education, income, housing, and health and unplanned crisis. It has become the task of municipal leadership to both balance the demands of disparate interests, govern fairly and effectively and communicate to various constituency about policy and government’s role. In the age of social media that perpetuates a 24/7 news cycle, municipal governments and their leadership have had to respond to queries, concerns and circumstances while governing, all in new ways. Using personal experiences from serving 4 US Big City Mayors. I will provide examples about how cities have had to communicate through the varying levels of leadership during times of crisis.

Taught by: Peterkin-Bell
Course usually offered in spring term
Activity: Lecture
1 Course Unit

COMM 210 Quantitative Research Methods in Communication
This course is a general overview of the important components of social research. The goal of this class is to understand the logic behind social science research, be able to view research with a critical eye, and to engage in the production of research. The first third of the semester focuses on defining research problems, research design, and assessing research quality. We cover such topics as sampling, measurement, and causal inference. These topics are then illustrated through reviews of two research areas: survey research and content analysis. The last third of the semester focuses on descriptive and inferential statistics, measures of association for categorical and continuous variables, and the basic language of data analysis. For those classes, we make use of STATA, a program useful for learning statistics. Most modules are illustrated through lectures, class exercises, reading published scientific articles, and discussing research featured in the

Taught by: Bleakley
Course usually offered in fall term
Activity: Lecture
1 Course Unit

COMM 211 Media Activism Studies
This seminar provides an introduction to the politics and tactics underlying various types of media activism. The class will examine interventions aimed at media representations, labor relations in media production, media policy reform, activists’ strategic communications, and “alternative” media making. The course will draw from an overview of the existing scholarship on media activism, as well as close analyses of actual activist practices within both old and new media at local, national, and global levels. We will study how various political groups, past and present, use media to advance their interests and effect social change. Each member of the class will choose one case study of an activist group or campaign to explore throughout the semester.

Taught by: Pickard
Course not offered every year
Activity: Seminar
1 Course Unit

COMM 213 Social Media and Social Life
The irruption of social media as a means of communication has been said to transform many dimensions of social life, from how we interact with significant others to how we engage in public life - but has it, really? Regardless of the specific technology (blogs, micro-blogs, social networking sites, peer-to-peer networks), social media make interdependence more prevalent, and exposure to information more pervasive. But social networks, and the ties that bring us together, have long mediated the way in which we obtain information, engage in public discussion, and are recruited or mobilized for a public cause. So what has social media brought to the table that is new? This course will evaluate the evidence that can help us answer this question, as well as challenge conventional views and discuss questions that remain open. The effects of social media on ideological polarization, social influence and peer pressure, agenda-setting dynamics, and the formation and effects of social capital are examples of the substantive topics and theoretical debates that will be considered.

Taught by: Gonzalez-Bailon
Course not offered every year
Activity: Seminar
1 Course Unit

COMM 216 Big Data and Social Research
Big data is stirring a lot of buzz in academic policy and business debates. Even though the label is far from being unanimously accepted, it has become common shorthand for the vast amounts of transactional records that we generate daily in our use of digital technologies and online networks. As with the proverbial glass, however, the promise of big data is seen by many as half empty and by others as half full. This course will introduce and discuss recent contributions to the debate of how digital data - and the larger, more granular sets of observations of what we do as we use online technologies - change social research and the questions we can ask about the social world we inhabit. Although the use of big data raises many relevant privacy concerns, this course will show that there is value in stirring the discussion away from normative claims and consider, instead, how big data is helping us push social research to new, exciting frontiers.

Taught by: Gonzalez-Bailon
Course not offered every year
Activity: Seminar
1 Course Unit

COMM 225 Children and Media
This course examines children’s relationship to media in its historic, economic, political, and social contexts. The class explores the ways in which “childhood” is created and understood as a time of life that is qualitatively unique and socially constructed over time. It continues with a review of various theories of child development as they inform children’s relationship with and understanding of media. It next reviews public policies designed to empower parents and limit children’s exposure to potentially problematic media content and simultaneously considers the economic forces that shape what children see and buy. The course concludes with a critical examination of research on the impact of media on children’s physical, cognitive, social, and emotional development. Students in this course produce a prototype for an educational children’s media property as their capstone project.

Taught by: Jordan
Course usually offered in fall term
Activity: Lecture
1 Course Unit
COMM 226 Introduction to Political Communication
This course is an introduction to the field of political communication, conceptual approaches to analyzing communication in various forms, including advertising, speech making, campaign debates, and candidates’ and office-holders’ uses of news. The focus of this course is on the interplay in the U.S. between television and politics. The course includes a history of televised campaign practices from the 1952 presidential contest through the election of 2016.
Taught by: Jamieson
Course usually offered in fall term
Also Offered As: PSCI 232
Activity: Lecture
1 Course Unit

COMM 230 Advertising and Society
This course explores the historical and contemporary role of the advertising industry in the U.S. media system. The course will cover the social history of advertising; the structure of today’s advertising industry; the workings of advertising in digital media; and critical analyses of advertising’s role in society. In addition to academic writings, the class will read industry reports to understand contemporary strategies and processes.
Taught by: Turow
Course not offered every year
Activity: Lecture
1 Course Unit

COMM 237 Health Communication
An examination of the influence of public health communication on health behavior. The course will consider: intervention programs addressing behaviors related to cancer, cardiovascular disease, HIV/AIDS, drug use, obesity and others; theories of health behavior change; issues in the design of effective health communication programs; concerns about the portrayal of health and medicine on mass media.
Taught by: Hornik/Staff
Course not offered every year
Activity: Lecture
1 Course Unit

COMM 240 Film Forms and Contexts
This course traces the development of the classical Hollywood cinema, as well as significant alternatives to this dominant mode of representation, by relating analyses of the formal elements of film texts to discussions of film industries and audiences as well as the larger social, historical context. A variety of analytical methods and perspectives are applied to films drawn from times and countries in order to consider the cinema as a cultural construction.
Taught by: Messaris
Course not offered every year
Also Offered As: CIMS 203
Activity: Lecture
1 Course Unit

COMM 243 Ethnography and Media for Social Justice
How do qualitative social scientists study urban communities? What kinds of powerful tales can be told about urban lifestyles and social issues in places like Philadelphia? This course will allow students to study various ethnographic treatments of urban communities in the United States, using films, articles, TV serials, and books as guides for the framing of their own independent research on the streets of Philadelphia. Students will also form production teams of two or three people, and these production teams will be responsible for (i) identifying and researching an important urban issue in contemporary an important urban issue in contemporary Philadelphia and (ii) turning that research into a 15-30 minute video documentary or podcast. Mixing video/audio journalism with ethnographic methods will enhance their skills at archival and social research, from participant observation and interviewing techniques to sound editing and production. This course is intended to be a rigorous and exciting opportunity for students to tell empirically grounded stories using the voices of their participants and the sounds of the city.
Taught by: Lingel
One-term course offered either term
Activity: Seminar
1 Course Unit

COMM 245 Teens and Screens: Understanding Youth Media Behavior
Why do screen media and digital technologies captivate youth? In this course we address this question by examining the role media play in adolescent development and behavior. We begin by considering adolescence as a unique period of psychological and social development and discussing emerging adults as a special population. Next, we will explore how adolescents use and interact with media and how their media preferences are related to their developmental needs, with particular attention to social media use and media content targeted to, and popular with, adolescent audiences. Finally, we will investigate how media influence adolescent self-identity and behavior by reviewing media effects in areas of sex, violence, gender norms, and friendship quality. The strength of the evidence for media effects and its behavioral and policy implications will be presented and debated within each area of study. Relevant theoretical perspectives will inform these discussions. Throughout the semester students will critically reflect upon current empirical research while also spotlighting different media- TV shows, social media apps (e.g., Yik Yak) and social movements (e.g., #iammorethanadistraction).
Taught by: Bleakley
Course usually offered in fall term
Activity: Seminar
1 Course Unit

COMM 246 Visual Communication
Examination of the structure and effects of visual media (film, television, advertising, and other kinds of pictures).
Taught by: Messaris
Course not offered every year
Also Offered As: CIMS 204
Activity: Lecture
1 Course Unit
COMM 270 Global Digital Activism
This seminar examines the forms, causes, and consequences of global digital activism, defined broadly as activism associated with the use of digital media technologies (e.g., Facebook, Twitter, mobile phones, and the Chinese Weibo). The goal is to provide students with a theoretical tool-kit for analyzing digital activism and to develop a critical understanding of the nature of contemporary activism and its implications for global social change. Major cases to be examined include the "Occupy Wall Street" movement in the US, the Arab Spring, the "indignados" protests in Spain, and internet activism in China. Students are required to conduct primary, hands-on research on a contemporary case (or form) of digital activism and produce a final research paper. This research project may be done individually or in small groups.
Taught by: Yang
Course not offered every year
Also Offered As: SOCI 230
Activity: Seminar
1 Course Unit

COMM 275 Communication and Persuasion
Theory, research and application in the persuasive effects of communication in social and mass contexts. Primary focus on the effects of messages on attitudes, opinions, values, and behaviors. Applications include political, commercial, and public service advertising; propaganda; and communication campaigns (e.g. anti-smoking).
Taught by: Cappella/Staff
Course usually offered in spring term
Activity: Lecture
1 Course Unit

COMM 282 Sick and Satired - The Insanity of Humor and How it Keeps Us Sane
The goal of this course will be to prove definitively how and why humor, as both an instigator and peacemaker, might be considered one of the most influential and profoundly useful forms of communication devised by human beings. The unique ability of jokes and satire to transcend familiar literary and journalistic forms for the purpose of deepening (or cheapening) socio-philosophical arguments and to inspire (or discourage) debate and participation in public conversations about innumerable political and social issues will be explored. The fearless analytical nature of both high and lowbrow comedy will be examined, as well as its deflective qualities, and the corollaries construed from humor's dissection of straight society's monomania will be inspected and tested for cohesion and viability. Additionally, the course will teach students to recognize and assert, through informed justification based on both contemporary and historical examples, the indispensability of the political and cultural satirist's unique role in society as a witness, a predictor and, in some circumstances, an instigator of public and private debate conceived and exercised for the purpose of revealing and mediating differences between disparate groups based, not solely on language differences, but also on social status, political affiliation, cultural identity, ethnicity, gender, religious fellowship, sexual orientation and socio-economic caste.
Taught by: Booth
Course usually offered in fall term
Activity: Lecture
1 Course Unit

COMM 284 Chicks and Cyborgs: Gender, Technology and Culture
Information and communication technologies (ICT) are powerful tools of connectivity and social change, but they also contain embedded ideological tensions that can produce inequalities and deepen inter-group disparities. At the core of this class is a sustained analysis of the effects of gender on the development and use of ICT. Drawing on a range of theories for communication, gender, information, media, sexuality and technology, this course helps students understand feminist critiques of science and technology; develop critical analyses of public policies that have consequences; identify barriers to the recruitment and retention of historically marginalized groups in the technology industry; and understand frameworks for thinking about communication technologies as shaping everyday life.
Taught by: Lingel
Course not offered every year
Activity: Lecture
1 Course Unit

COMM 290 From Beulah to Awkward Black Girl: Black Women on and in Television in the United States
In a post-Scandal television landscape, there has been an upswing in Black women's visibility in leading roles on television and behind the scenes. How did we arrive at this moment? What are the implications of this visibility given the history of Black women's marginalization on television? This interdisciplinary course explores these questions by surveying American cultural, political, and television history from the 1950s to the present in order to examine how intersecting discourses of blackness, gender, class, and sexuality are enmeshed in the television industry's business and representational practices. Through weekly discussions students will analyze, interpret, and critique televised representations of Black female subjectivity and consider the ideological, political, and social implications of such depictions. Students will further develop their writing, analysis, and argumentation skills by conducting original research that draws on Black feminist theories and cultural studies frameworks, and that uses critical textual analysis as a method.
Taught by: Chatman
Course not offered every year
Activity: Seminar
1 Course Unit

COMM 292 WARNING! Graphic Content - Political Cartoons, Comix and the Uncensored Artistic Mind
This course examines the past, present and future of political cartooning, underground comix, graphic journalism and protest art, exploring the purpose and significance of image-based communication as an unparalleled propagator of both noble and nefarious idea. The work presented will be chosen for its unique ability to demonstrate the inflammatory effect of weaponized visual jokes, uncensored commentary and critical thinking on a society so often perplexed by artistic free expression and radicalized creative candor. Dwayne Booth, the course instructor, has been a freelance writer and cartoonist for twenty-five years, publishing under both his real name and the pen name of Mr. Fish with many of the nation's most reputable and prestigious magazines, journals and newspapers, including Harper's Magazine, Truthdig, the Los Angeles Times, the Village Voice, the LA Weekly, the Atlantic, the Huffington Post, The Nation and others. His most recent books are Go Fish: How to Win Contempt and Influence People, Akashic Books, 2011, and WARNING! Graphic Content, Annenberg Press, 2015.
Taught by: Booth
Activity: Lecture
1 Course Unit

COMM 294 Chicks and Cyborgs: Gender, Technology and Culture
Information and communication technologies (ICT) are powerful tools of connectivity and social change, but they also contain embedded ideological tensions that can produce inequalities and deepen inter-group disparities. At the core of this class is a sustained analysis of the effects of gender on the development and use of ICT. Drawing on a range of theories for communication, gender, information, media, sexuality and technology, this course helps students understand feminist critiques of science and technology; develop critical analyses of public policies that have consequences; identify barriers to the recruitment and retention of historically marginalized groups in the technology industry; and understand frameworks for thinking about communication technologies as shaping everyday life.
Taught by: Lingel
Course not offered every year
Activity: Lecture
1 Course Unit
COMM 300 Public Space, Public Life
Public space as a mediated system of communication anchored in embodied practice. Historical aspects, public space as a cultural signifier, how the organization and regulation of collective spaces facilitates and enriches or hinders common life, public space as a critical component of democracy.
Taught by: Marvin/Staff
Course usually offered in spring term
Activity: Seminar
1 Course Unit

COMM 301 Introduction to the Political Economy of Media
This course has two aims. First, assuming that communications are central to any society, it situates media systems within larger national and international social relationships and political structures. Second, this course critically examines the structures of the communication systems themselves, including ownership, profit imperatives, support mechanisms such as advertising and public relations, and the ideologies and government policies that sustain these arrangements. Considering case studies ranging from traditional news and entertainment media to new digital and social media, the course provides a comprehensive survey of the major texts in this vibrant sub-field of media studies.
Taught by: Pickard
Course not offered every year
Activity: Seminar
1 Course Unit

COMM 310 The Communication Research Experience
In this hands-on course students will work with active researchers in the Communication Neuroscience lab at Penn to gain experience in how research works. Research topics will depend on student interests, with emphasis on one or more of the following: social influence and persuasion, health communication, peer influence in teens, mobile technology, social media, emotion regulation, peace and conflict resolution, mindfulness, interpersonal communication, political communication, adolescent brain development, communication neuroscience. Students will have the opportunity to interact closely with a mentor and will gain experience conceptualizing research questions, designing experiments, collecting data, and making an analysis plan.
Taught by: Falk
One-term course offered either term
Prerequisites: COMM 210 (Communication Research Methods) or permission of the instructor.
Activity: Seminar
1 Course Unit

COMM 311 Peace Communication
When ‘me’ and ‘you’ becomes ‘us’ and ‘them’, a suite of psychological processes are amplified or come online. In this course, we will examine the forces that drive people to engage in intergroup conflict through the lenses of evolutionary biology and psychology, and then examine the effectiveness of communications-based interventions at easing conflict. In the first part of the course, we will learn about the theoretical work on intergroup psychology; in the second part, we will examine the specific processes that drive conflict (e.g., stereotypes, prejudice, dehumanization) and how they are measured using both explicit self-report and implicit measures (e.g., physiology, neuroimaging); in the third part, we will explore the interventions that have been demonstrated to work (and fail) to decrease intergroup conflict. No prior experience in psychology or neuroscience is required.
Taught by: Bruneau
Course usually offered in spring term
Activity: Seminar
1 Course Unit

COMM 321 Big Data and Social Research
Online networks are prevalent in how we access and share information. They shape how we consume news, how we interact with friends, peers and strangers, and how we mobilize groups or try to gain the attention of large audiences. Online networks encourage dynamics of information exchange that can, potentially, be very consequential for the societies we live in or the societies we would like to build. Networked technologies have, in brief, the potential to transform governance, collaboration, and organization, and radically change how we think about regulation and policy making in the digital age. This research seminar aims to help students develop a technical understanding of how networks operate, what dynamics they are more likely to encourage, and what features limit their ability to diffuse information or spread behavior. We need to understand the logic of networks - and learn how to model their complex and counter-intuitive dynamics - before we can analyze their social impact or engineer interventions, for instance, campaigns to promote socially beneficial behavior.
Taught by: Gonzalez-Bailon
Activity: Seminar
1 Course Unit

COMM 322 History and Theory of Freedom of Expression
Historical origins, purpose, theory, practice of freedom of expression in the United States. Philosophical roots of contemporary law and debates about expressive limits, especially problems associated with media of communication. Major topics include, but are not limited to traitorous and subversive speech, insulting speech and hate speech, sexual and violent expression, non-verbal expression, artistic expression.
Taught by: Marvin
Course usually offered in fall term
Activity: Seminar
1 Course Unit
**COMM 323 Contemporary Politics, Policy and Journalism**

A course on the modern media and its impact on government and politics. It primarily covers the post-Watergate/post-Vietnam era of journalism, the past quarter century. Each week focuses on specific topics and areas of post-Watergate journalism, as well as current press coverage of national events over the prior week. This course gives students the opportunity to interact and discuss the intersection of the press, politics, and public policy with some of the leading practitioners in the field.

Taught by: Hunt
Course usually offered in spring term
Activity: Seminar
1 Course Unit

**COMM 332 Survey Research and Design**

Survey research is a small but rich academic field and discipline, drawing on theory and practice from many diverse fields including political science, communication, sociology, psychology, and statistics. Surveys are perhaps the most ubiquitous tool of measurement in the social sciences today. Successful practitioners develop expertise in the art and science of survey methodology, including sampling theory and practice, questionnaire instrument development and operationalization, and the analysis and reporting of survey data. Survey researchers are scientists of the method itself testing various practices by which surveys can be improved upon, as well as developing a keen understanding of the nature of error in surveys and how to control it. This course is a canvass course on survey research and design, highly experiential but also based upon introductory statistical theory and analysis.

Taught by: Dutwin
Course not offered every year
Also Offered As: PSCI 332
Activity: Seminar
1 Course Unit

**COMM 337 Communicating about Health: Strategic Communication in the New Media Environment**

Communicating about health is increasingly challenging in a time when communicators must deal simultaneously with audience generated content, like Twitter, industry generated algorithms, and a culture rife with deniers and factoids. This course examines the uses and misuses of strategic communication across a wide variety of health messages, audiences and purposes. It explores new approaches to audience segmentation, message design systems within the health messaging arena. A primary focus will be on developing knowledge about and critical tools to analyze words and images related to health and disease. Informed by classical rhetorical concepts of ethos, pathos, and logos applied in new environments, it will examine notions of communities and uses of persuasion. The influences of law, policy, and advocacy (informed and dis-informed) on the development of health-related attitudes, beliefs, and habits will be considered within in a substantially changing media environment. And, because it belongs in any discussion of communicating about health, the theory and practice of health literacy and cultural respect will be introduced. The course concludes with the choice of a final project that is either 1) an analysis of a current strategic health communication effort; or, 2) the creation of a new health communication strategy.

Taught by: Allen
Course not offered every year
Activity: Seminar
1 Course Unit

**COMM 339 Critical Perspectives in Journalism**

This course aims to provide students with a critical understanding of journalism. It combines theoretical perspectives on the making of news with primary source material produced by and about journalists. Students will analyze theoretical material on journalism – about how news is made, shaped, and performed – alongside articles and broadcasts appearing in the media, interviews with journalists in the trade press, and professional reviews. Topics include models of journalistic practice, journalistic values and norms, gatekeeping and sourcing practices, storytelling formats in news, and ethical problems related to misrepresentation, plagiarism, and celebrity.

Taught by: Zelizer
Course usually offered in spring term
Activity: Seminar
1 Course Unit

**COMM 362 Visual Communication Lab**

This laboratory provides an opportunity for students to explore, through actual media production, many of the conceptual principles and research findings discussed in COMM 240 and COMM 262. (Requires Permission of Instructor.)

Taught by: Messaris
Course not offered every year
Prerequisite: COMM 240 or COMM 262
Activity: Lecture
1 Course Unit

**COMM 377 Philosophical Problems of Journalism**

An exploration of the relationship between journalism and philosophy by examining particular issues in epistemology, political philosophy, ethics, and aesthetics. Among likely topics: the concept of a "fact"; the role of the press in the state; whether journalists (like doctors and lawyers) operate according to a specialized "professional" ethics; and the limits of journalism as a literary or visual genre. Course reading will include philosophical texts, breaking print journalism, and blogs that specialize in media issues.

Taught by: Romano
Course usually offered in spring term
Activity: Seminar
1 Course Unit

**COMM 385 Media Activism and Social Change**

This course offers students the opportunity to explore the relationship between the media industry and the public and the role groups and movements can play in holding the media accountable to serve the public interest. We will wrestle with what that responsibility looks like by engaging the following questions: What obligations do media outlets have to offer fair, accurate, unbiased and inclusive representations in news and entertainment? How do media "insiders" understand this responsibility? Is it clear when a talk show host "crosses the line?" How do we define balance? Are there really two sides to every issue? What is media advocacy? What does it look like? What are the strategies and tactics employed by media activists? How do media insiders effectively contend with media outsiders lobbying for change? These questions will be explored in historically contextualized ways, using a diverse menu of social and political movements and examining the issues with recourse to all sides of the political spectrum.

Taught by: Garry
One-term course offered either term
Activity: Seminar
1 Course Unit
COMM 386 Nonprofit Communications Strategy
The success of a nonprofit organization as defined by its efforts to fulfill its mission is tied directly to its ability to clearly articulate its need, its vision and the specific programs it does or will employ to achieve that mission. This clear and persuasive communication is integral to its ability to raise funds, to establish a credible voice for lobbying or advocacy and in its efforts to engage the widest possible base of stakeholders. This class will explore the ways in which nonprofits engage in strategic communications. We will look at public service campaigns, ongoing press efforts, social media strategies, fundraising appeals and public speaking.

Taught by: Garry
One-term course offered either term
Activity: Seminar
1 Course Unit

COMM 388 Ritual Communication
This course explores the significance of rituals as communicative events in contemporary American culture. We will pay particular attention to the ways in which rituals contribute to the making and re-making of social groups, be they ethnic, religious, familial, or institutional. And we will also attend to the obverse: the ways in which rituals create and perpetuate "deviant" social behavior. Issues of race, class, gender, and sexuality will be central to our exploration of how rituals function. Over the course of the semester, we will analyze individual rites of passage—the quinceañera for example—as well as rituals that mark transitions on a far local level as well as those that most of us experience only in mediated forms. Students will conduct original ethnographic fieldwork and learn how to develop compelling research proposals.

Taught by: Paxton
Course usually offered in spring term
Activity: Seminar
1 Course Unit

COMM 390 The One Hundred Days
This course aims to enhance our understanding of the presidency—and presidential communications—by taking a searching look at the prime features of "the hundred days" of the US presidency in general, and of the Trump presidency in particular. What has been the importance of the one hundred days? What has defined success and failure of the president's one hundred days, and what have been the consequences of success and failure for the subsequent 45 months of a presidential administration. How do answers to those questions apply to the Trump presidency? How has Trump's 100 days conformed to expectations and patterns which have become evident in the decades since FDR's fabled one hundred days in 1933? In what ways did the Trump One Hundred Days conform to pattern, deviate from pattern, succeed or fail, and what are the implications for the Trump presidency to come? Ultimately, the goal of the course is to provide an opportunity to pioneer thinking about the "launch" phase of the presidency through the lens of communication.

Taught by: Eisenhower & Margolies
Course not offered every year
Activity: Lecture
1 Course Unit

COMM 393 Political Polling
Political polls are a central feature of elections and are ubiquitously employed to understand and explain voter intentions and public opinion. This course will examine political polling by focusing on four main areas of consideration. First, what is the role of political polls in a functioning democracy? This area will explore the theoretical justifications for polling as a representation of public opinion. Second, the course will explore the business and use of political polling, including media coverage of polls, use by politicians for political strategy and messaging, and the impact polls have on elections specifically and politics more broadly. The third area will focus on the nuts and bolts of election and political polls, specifically with regard to exploring traditional questions and scales used for political measurement; the construction and considerations of likely voter models; measurement of the horserace; and samples and modes used for election polls. The course will additionally cover a fourth area of special topics, which will include exit polling, prediction markets, polling aggregation, and other topics. It is not necessary for students to have any specialized mathematical or statistical background for this course.

Taught by: Dutwin
One-term course offered either term
Also Offered As: PSCI 398
Activity: Seminar
1 Course Unit

COMM 395 Communication and the Presidency
This course examines the vital aspect of communication as a tool of the US Presidency. Reading and class discussions focus on case studies drawn primarily from Presidential administrations beginning with FDR of the radio-televison-internet era, studies that demonstrate the elements of successful and unsuccessful presidential initiatives and the critical factor of communication, common to both. Readings and discussion will cover the range of issues of presidential import; issues pertaining to war and peace, the drive for civil rights and equal rights, domestic prosperity and development, international leadership and issues attending the rise of an interdependent world and a global economy. The key objective and requirement of 395 is an individual paper project that centers on a presidential speech (or set of speeches) addressing a key national or international topic. Student papers are to be based in part on primary research, hence, Communications 395 is also an introduction to primary research methods and to the use of primary research materials housed in the Presidential library system.

Taught by: Eisenhower
Two terms. student may enter either term.
Activity: Seminar
1 Course Unit
COMM 397 New Media and Politics
This course seeks to trace the evolving relationship between new media technologies and political power, process, and change from multiple perspectives: the citizen/voter, the campaign, and the news media. Major theories of communication and persuasion are the foundation of this course. We will apply these theories to each of the above perspectives beginning with a brief history of U.S. political campaigns before the advent of the internet in presidential campaigns in 1996. From there we will take a deeper dive into the landmark changes brought on by new media technologies to mobilize, persuade, inform, and fundraise around the presidential campaigns since then. We will then follow how the new U.S. president and new Congress operate in this ever evolving media and digital landscape through the crucial first 100 days. Finally, we will examine issues of social media and activism, including its use as a tool for regime change, social change, and terrorism in the U.S. and around the world. New media include, but are not limited to, the internet, email, texting, blogging, social media, and "Big Data."
Taught by: Winneg
Course usually offered in spring term
Activity: Seminar
1 Course Unit

COMM 402 Arab Uprisings: Local and Global Representations
This course explores the Arab uprisings as a battleground where multiple narratives battle for visibility across a variety of media platforms. We will examine local and global representations of the popular movements that have swept Arab countries since December 2010, analyzing different media, styles and modalities of representations. We will focus among other things on social media, political humor, graffiti, and the human body as instruments of communication, and focus on various related debates and polemics about the political impact of technology, the effectiveness of political satire, and the role of gender and sexuality in revolutionary politics. The overall approach of the course is critical/theoretical.
Taught by: Kraidy
Course not offered every year
Activity: Seminar
1 Course Unit

COMM 404 Media and Politics
Media and Politics will examine multiple issues specific to the past and present political media environment in the United States. Focus will be primarily, though not exclusively on the contemporary news media (as opposed to political advertising and other marketing-oriented communications). Topics will include the rise of partisan media, selective exposure, news as entertainment, etc. Reading expectations will be relatively heavy, and under the supervision of the professor, students will be expected to write a research paper on a topic not directly a part of the course material.
Taught by: Mutz
One-term course offered either term
Also Offered As: PSCI 404
Activity: Seminar
1 Course Unit

COMM 405 Facing Race: Race and Caricature in the Historical Imagination
Is race imaginary? If so, who invented facial distinctions and why can we see them? Do pictures change the way we think? How do artists think about the people they draw and satirize? This course will explore the relationship between caricature and perceptions of racial difference in modern western culture. We will interrogate the role that visual images play in framing our perceptions of groups and their defining characteristics. Broadly historical, this interdisciplinary course will introduce students to scholarship in visual culture, media studies, science studies, critical disability and gender studies, and race theory. Students will develop skills in primary source analysis, historical methodology, and visual analysis. Assignments will include a visual analysis, short papers, and a final project in which they make a comic book.
Taught by: Pearl
One-term course offered either term
Activity: Seminar
1 Course Unit

COMM 407 Understanding Social Networks
Digital technologies have made communication networks ubiquitous: even when we can’t really notice them, they mediate most aspects of our daily activities. Networks, however, have always been the backbone of social life: long before Facebook, Twitter, Snapchat, or other similar platforms, communication created channels for information diffusion that linked people in a myriad other ways. Through letters, commerce, or simply face to face interactions, people have always been exposed to the behavior of others. These communicative ties embed us into an invisible web of influence that we can make tangible and analyze. This course will teach you how to map those connections in the form of networks, and how to study those networks so that we can improve our understanding of social life. The goal is to help you grasp the consequences of connectivity, and how small changes in the structure of our ties can lead to big differences in how networks behave.
Taught by: Gonzalez-Bailon
Course not offered every year
Activity: Lecture
1 Course Unit

COMM 417 The Politics of Digital Media Policy
This discussion-oriented course examines key digital media policy debates and their underlying politics. We will examine policies affecting news and entertainment media, social media, telecommunications, and the Internet. Drawing from major texts within this growing sub-field, we will formulate analyses about the future trajectory of U.S. and global digital media and evaluate relevant policies in relation to democratic theory and ethical concerns. In particular, we will focus on how media policy is shaped by political processes in and outside Washington, D.C., and consider to what extent new digital media have disrupted pre-existing policy regimes. Students will choose one specific case study of a digital media policy debate to explore throughout the semester.
Taught by: Pickard
Course not offered every year
Activity: Seminar
1 Course Unit
COMM 419 Communication, Culture & Revolution
This seminar explores revolutionary communication and cultural expression. Looking at the ongoing Arab uprisings in comparative perspective, we will examine modalities of communication through which revolutionaries express themselves, describe and attack incumbent dictators and other opponents, call for new social solidarities, and construct revolutionary political identities. Revolutionary contexts are considered as battlegrounds where multiple narratives contend for visibility. We will explore relevant debates and polemics, historical and contemporary, concerning the political impact of technology and the role of gender and sexuality in revolutionary politics. We will focus on social media, political humor, graffiti, and the human body as instruments of communication. The overall approach of the seminar is theoretical, critical and transnational.
Taught by: Kraidy
Activity: Seminar
1 Course Unit

COMM 423 Communication and Social Influence Laboratory
Considerable resources are devoted to constructing mass media campaigns that persuade individuals to change their behavior. In addition, individuals powerfully influence one another without even knowing it. Still, our ability to design and select optimal messages and interventions is far from perfect. This course will review investigations in social and cognitive psychology and communication sciences that attempt to circumvent the limits of introspection by using biological and implicit measures, with particular focus on neuroimaging studies of social influence and media effects.
Taught by: Falk
Course not offered every year
Prerequisites: COMM 275 or a media effects or persuasion course at ASC, psych, or Wharton
Activity: Seminar
1 Course Unit

COMM 431 Is Public Opinion the Voice of the People?
Democracy relies on mechanism in which the public communicates with policy makers. This course examines the extent to which public opinion effectively represents this mechanism. We begin with historical conceptions of public opinion tracing back to ancient Athens and 18th century enlightenment thinking. We then consider the extent to which public opinion can be captured by modern day polling, or whether it only emerges after considered deliberation and discussion. We then discuss the ways in which elite rhetoric and the media move public opinion, including through the use of public opinion polls. Finally, we ask whether policymakers are actually sensitive to the voice of the people or only the voice of some of the people.
Taught by: Leikes
Course not offered every year
Activity: Seminar
1 Course Unit

COMM 439 Media Criticism
Criticism has at its core an assumption of judgment about the target or performance being evaluated. Yet whose judgment is being articulated? On which basis and authority? To which ends? And with which effects? This course examines the shape of contemporary media criticism, focusing on its meaning function in different domains of popular culture (including music, television, news, and film) and the patterns by which it is produced. Students will become acquainted with theories and ongoing debates about contemporary media criticism themselves. The course aims to sensitize students to the nuances of their own consumption of criticism and patterns by which it is typically produced.
Taught by: Zelizer
Course not offered every year
Activity: Seminar
1 Course Unit

COMM 462 Digital Media Lab
The Digital Media Laboratory provides students with an opportunity for the practical exploration of theories and principles of audio-visual communication.
Taught by: Messaris
Course not offered every year
Prerequisites: COMM 240, COMM 262, or other course with the current instructor of COMM 462.
Activity: Seminar
1 Course Unit

COMM 470 Freaks and Geeks: People on Display
In life as in fashion, either you are in or you are out. Except in life, the inside and the outside are always changing, depending on who makes the rules, where the inside is situated, and who is doing the displaying. In this course, we will explore who the freaks are and who they were, where they can be found, how they came to be defined, and how this changed. Starting with the nineteenth-century freakshow, we move through time charting outsiders and their representations, including male and female hysterics, war wounded, medical "cases," and the mentally ill. As we progress through the twentieth century, will discuss subcultures and alternative communities, thinking through the rise of "geek chic" and the dominance of the computer geek as a reversal of traditional trends. We will discuss current models of the exhibition of human types, including bodyworlds and The Learning Channel programming. As we circle around our own moment in time, we will ask: who are the freaks today? This interdisciplinary course will incorporate historical primary source documents, scholarly secondary works, a range of creative materials including films, plays, television shows, and works of art.
Taught by: Pearl
Course not offered every year
Activity: Lecture
1 Course Unit
COMM 485 Globalization and the Music Video
This seminar focuses on the music video genre to explore topical and conceptual issues at the heart of the globalization of the media and cultural industries. After a formative period largely grounded in North America and Western Europe, the music video migrated to other parts of the world in the 1990s as a wave of privatization and liberalization engulfed national media systems worldwide. Based on a variety of scholarly and trade readings about the globalization of media and culture, the changing media and creative industries, and the music video genre itself, questions to be tackled include: What changes when a media form migrates from its original context? What does the content of music videos reveal about socio-economic and cultural change worldwide? How do music videos rearticulate gender and sexuality, and nationalism? What transnational circuits of ideas, images and ideologies are enabled or constrained by music video?
Taught by: Kraidy
Course not offered every year
Activity: Seminar
1 Course Unit

COMM 491 Communication Internship
Seminar for students concurrently participating in department-approved internships in communication-related organizations. Students will develop independent research agendas to investigate aspects of their internship experience or industry. Building on written field notes, assigned readings, and classroom discussion and evaluation, students will produce final papers using ethnographic methods to describe communications within their site or industry in order to understand and critically examine their hands-on experiences.
Taught by: Haas
Two terms. student may enter either term.
Activity: Seminar
1 Course Unit

COMM 493 Independent Study
Two terms. student may enter either term.
Activity: Independent Study
1 Course Unit

COMM 494 Honors & Capstone Thesis
First semester of the two semester thesis course; completed during the Fall semester of senior year. The senior thesis provides a capstone intellectual experience for Honors students and Communication and Public Service Program (ComPS) participants. Students conduct a primary research study on a communication related issue over the course of two semesters. Students should consult with and arrange for a faculty supervisor no later than the summer before senior year. Students must also file a designated form and topic statement, approved and signed by the supervising faculty member no later than the first day of class. Required of all students planning to enroll in COMM 495 or COMM 499 in the Spring. All Honors students must have a 3.5 cumulative GPA at the end of junior year for eligibility. See the Annenberg website for complete eligibility requirements.
Two terms. student may enter either term.
Activity: Lecture
1 Course Unit

COMM 495 COMPS Capstone Thesis
Second semester of two semester thesis course. Successful completion of Comm 494 is required for enrollment. The capstone thesis is a requirement for all Communication and Public Service Program participants. Students complete the primary research project started during COMM 494. For students graduating with a 3.5 cumulative GPA after completing COMM 495 with a grade of 3.7 or higher, the capstone thesis may be designated as a senior honors thesis in communication and public service.
Two terms. student may enter either term.
Prerequisites: Written proposal approved by both thesis supervisor and major chair.
Activity: Independent Study
1 Course Unit

COMM 498 Experimental Design
The main goal of this course is to familiarize students with experiments, quasi-experiments, population-based survey experiments and field experiments as they are widely used in the social sciences. By the end of the course, students will be expected to understand what it is about a study that allows for a strong causal inference. Whether one is reading about studies in a newspaper or reading academic journal articles, it is important to know how to distinguish convincing versus unconvincing evidence of any given claim. As a final project, students will be expected either to develop their own original experimental design or to analyze the evidence pertaining to a causal claim of their choosing based on what they have learned in class. Throughout the course of the semester, we will also consider how to deal with the issue of causality as it occurs in observational studies, and draw parallels between experimental and observational research.
Taught by: Mutz
Course not offered every year
Also Offered As: PSCI 439
Activity: Seminar
1 Course Unit

COMM 499 Senior Honors Thesis
Second semester of two semester thesis course. Completion of Comm 494 with a grade of 3.3 or higher and a 3.5 cumulative GPA at the end of the Fall semester of senior year are required for enrollment. The Senior Honors Thesis provides a capstone intellectual experience for students who have demonstrated academic achievement of a superior level. Students complete the primary research project started during COMM 494.
Two terms. student may enter either term.
Activity: Independent Study
1 Course Unit

COMM 500 Proseminar
Introduction to the field of communications study and to the graduate program in communications. Required of all degree candidates. Open only to graduate students in communication.
Course usually offered in fall term
Activity: Lecture
0 Course Units
COMM 501 (Mis)Communication: The History of a Discipline
There is a field of Communication. But is there a discipline? This course will explore the development of the academic study Communication in a broad historical context. We will examine the emergence of the field in the United States, Canada, and England, thinking critically about the differences in each country both historically and today. As we consider what counts as Communication, focusing in particular on the links between qualitative and quantitative research, we also ask what gets left outside. What fields claim a relationship to Communication, and what fields have tried to sever all ties? How are these related areas of study—including Rhetoric, Composition, Journalism, Production, Cinema Studies, and (most recently) New Media—linked to the field of Communication, and what are the stakes for their autonomy? To answer these questions, we will explore the role of applied material in the modern academy and the status of practical and professional Communications research relative to theoretical academic pursuits. We will try (with full expectation of failure) to answer the question: What is communication?
Taught by: Pearl
Activity: Seminar
1 Course Unit

COMM 506 Introduction to Media Policy
This interactive and discussion-oriented course provides an introduction to key media policy debates, ranging from policies affecting news and entertainment media to telecommunications and the Internet. The course traces the history and politics of media policy through the development of radio, television, telecommunications, and digital media. Understanding these policies in relation to democratic theory and ethical concerns, the course examines how media policy is shaped in and outside Washington, D.C., and it considers the central role policy plays in structuring the kinds of media that we consume and create.
Taught by: Pickard
Activity: Seminar
1 Course Unit

COMM 509 Directed Readings in Theory
In the crush of academic life, it is not always as easy to read dense theoretical texts carefully and in as much details as we’d like. This course offers a chance to slow down, step back, and revel in the opportunity to read informing texts that address the relationship between social theory and communication. Here are texts that are often quoted; we will explore their content and place them in conversation with one another, with their interlocutors, and with ourselves. Besides lively discussion, requirements include several essays and a long-form critically annotated citation analysis of a foundational text.
Taught by: Marvin/Pearl
Course not offered every year
Activity: Seminar
1 Course Unit

COMM 522 Introduction to Communication Research
The logic of scientific inquiry and the nature of research. Hypothesis development, research design, field and laboratory observation and experimentation, measurement, interviewing and content analysis, sampling, and basic statistical analysis. Required of all degree candidates. Open only to graduate communication students.
Taught by: Delli Carpini/Hornik
Course usually offered in fall term
Activity: Lecture
1 Course Unit

COMM 525 Introduction to Political Communication
This course is designed as a PH.D.-level introduction to the study of political communication, and is recommended as a foundational course to be taken early in ones course of study for students interested in political communication as a primary or secondary area of research and teaching. As an introduction to the field it is structured to cover a wide-range of topics and approaches, including media institutions and the effects of both mass mediated and deliberative communications. While no single course can provide comprehensive coverage of a subfield with as long and diverse a history as political communication, our hope is that you will leave this course with a strong grasp of the major theories, trends, methods, findings and debates in this area of study, as well as the gaps in our knowledge and promising directions for future research.
Taught by: Moehler
Course not offered every year
Also Offered As: PSCI 525
Activity: Seminar
1 Course Unit

COMM 530 Advertising and Society
Advertising and Society will explore the development of the advertising industry in the U.S., the relationship between the advertising industry and the U.S. mass media, and historical as well as contemporary discussions of advertising’s social and cultural roles.
Taught by: Turow
Course not offered every year
Activity: Seminar
1 Course Unit
Notes: Fulfills ASC Culture Distribution

COMM 539 Journalism and the Academy
Contemporary journalism remains one of the most studied yet unexplained agents of reality construction. This course tracks theories of journalism across academic disciplines, exploring what is common and disparate about the varied perspectives they invoke. Topics include the development of journalism as a field of academic inquiry, histories of news, organizational research on the newsroom, narrative and discourse analytic work on news-texts, and recent work in cultural studies.
Taught by: Zelizer
Course not offered every year
Activity: Seminar
1 Course Unit
Notes: Fulfills ASC Culture Distribution

COMM 550 Mass Media Industries
Through theoretical readings and case studies, this course will provide an introduction to the study of media institutions from the standpoint of business processes, legal frameworks, and public policies. The first part of the course will sketch the history of major US media and present conceptual frameworks for understanding industrial, legal and policy approaches to US media institutions. Part 2 will explore key contemporary industrial, legal and policy issues relating to particular US media industries. Part 3 of the course will use case studies to apply and deepen understanding of the frameworks and issues.
Taught by: Turow
Course not offered every year
Activity: Seminar
1 Course Unit
Notes: Fulfills ASC Institutions Requirement
COMM 562 Fundamentals of Visual Communication
Introduction to the study of picture-based media: film, television, web, print, and other images. Theory and research on visual culture, visual "literacy," and visual persuasion.
Taught by: Messaris
Course usually offered in spring term
Also Offered As: CIMS 504
Activity: Lecture
1 Course Unit

COMM 564 The Digital Image
How is the evolution of digital media transforming the nature of visual communication? With that question in mind, this course focuses on the following features of visual media: photo-manipulation, computer-based editing & post-production, animation & special effects, 3D, digital cinema & television, online video, computer games, virtual reality & virtual worlds.
Taught by: Messaris
One-term course offered either term
Prerequisites: PLEASE NOTE: Instructor’s permission required for enrollment. Course not open to undergraduates.
Activity: Seminar
1 Course Unit

COMM 575 Social Psychology of Communication
Contributions of social psychology to understanding communication behavior: message systems; social cognition; persuasive communications; attitude formation and change; face-to-face interactions and small group situations; strategies of attributional and communicative interpretation; mass communication effects; social influence and networks.
Taught by: Cappella
One-term course offered either term
Activity: Seminar
1 Course Unit

COMM 580 Cybernetics, Systems and Media
An introduction to cybernetics, systems, information, and complexity theory, whose concepts are fueling the present information revolution. The course develops the formal building blocks for constructing operational models of communication and complex systems, whether these concern causal, cognitive, or social phenomena, and whether these are mathematical, computational, or conceptual in nature. The course embraces theories of human interfaces with technology: cyborg, information, coordination, and autopoiesis; and involves second-order cybernetic concepts, which offer a reflexive approach to understanding. The interdisciplinary scope of the course invites students from fields other than communication to draw on knowledge from their own backgrounds.
Taught by: Krippendorff/Staff
Course not offered every year
Activity: Lecture
1 Course Unit
Notes: Fulfills ASC Culture Distribution

COMM 594 Intro To Networks
One-term course offered either term
Activity: Seminar
1 Course Unit

COMM 592 Media Ritual
Examines the relationship between ritual, a "traditional" and essential mode of group communication and the pervasive media environment of post-traditional society. While societies seem eager to ritualize with all media at their disposal, the historical innovation of mass mediated ritual appears to offer a significant challenge to the body-based social connectedness that has long been regarded as definitive for ritual communication. Students will read from religious, anthropological and media traditions of ritual scholarship to consider what rituals do, how they do it, how they can be said to succeed or fail and how mediated ritual modifies or transforms older systems of ritual communication.
Taught by: Marvin
Course not offered every year
Activity: Seminar
1 Course Unit

COMM 609 Comparative Political Communication
This course explores major themes in the study of political communication from a comparative perspective. It focuses on how communication affects political behavior, attitudes, and outcomes. In doing so we will question how different political and social institutions shape individual-level communication effects. We also examine the roles of mass media and interpersonal communication under different regime types and economic systems. Finally we also ask how media systems are influenced by political institutions. For each topic we will critically examine the working hypotheses, methods, and evidence. The class is designed to provide a greater understanding of comparative political communication theories, as well as to develop social science reasoning and methodology. The readings, class discussions, and assignments will move back and forth between theories, empirical evidence, and public policies. The seminar will require active student participation in class discussions. The discussions will focus on the assigned readings for the week, but students are encouraged to discuss additional works that are relevant. Students must also write an original research paper, which can hopefully become a published article. The course readings span every major region but students are free to choose a geographic focus for their research paper.
Taught by: Moehler
Also Offered As: PSCI 609
Activity: Seminar
1 Course Unit

COMM 615 Experimental Design and Issues in Causality
The main goal of this course is to familiarize students with experiments, quasi-experiments, survey experiments and field experiments as they are widely used in the social sciences. Some introductory level statistics background will be assumed, though this is a research design course, not a statistics course. By the end of the course, students will be expected to develop their own original experimental design that makes some original contribution to knowledge. Throughout the course of the semester, we will also consider how to deal with the issue of causality as it occurs in observational studies, and draw parallels to experimental research.
Taught by: Mutz
One-term course offered either term
Also Offered As: PSCI 635
Activity: Seminar
1 Course Unit
COMM 623 Health Psychology Seminar
Seminar members shall critically review current applications of psychosocial theory and methodology to health-related issues with the goal of suggesting new directions that research might take. Preventive health behavior, HIV risk-associated behavior, psychosocial factors and physical health, practitioner-patient interactions, patterns of utilization of health services, and compliance with medical regimens are among the topics that will be studied.
Taught by: Jemmott
Course not offered every year
Activity: Seminar
1 Course Unit

COMM 630 Historical Trends of Mass Communication Research
An introduction into the field of mass communication research covering classic studies from the late 19th century through 1970s. Emphasis is on the societal, organizational, political, and other considerations that shaped the field.
Taught by: Turow
One-term course offered either term
Activity: Seminar
1 Course Unit

COMM 637 Public Health Communication
Theories of health behavior change and the potential role for public health communication; international experience with programs addressing behaviors related to cancer, AIDS, obesity, cardiovascular disease, child mortality, drug use and other problems, including evidence about their influence on health behavior; the design of public health communication programs; approaches to research and evaluation for these programs.
Taught by: Hornik
Course usually offered in spring term
Activity: Lecture
1 Course Unit

COMM 639 Communication and Cultural Studies
This course tracks the different theoretical appropriations of “culture” and examines how the meanings we attach to it depend on the perspectives through which we define it. The course first addresses perspectives on culture suggested by anthropology, sociology, communication, and aesthetics, and then considers the tensions across academic disciplines that have produced what is commonly known as “cultural studies.” The course is predicated on the importance of becoming cultural critics versed in alternative ways of naming cultural problems, issues, and texts. The course aims not to lend closure to competing notions of culture but to illustrate the diversity suggested by different approaches.
Taught by: Zelizer
Course not offered every year
Also Offered As: COML 639, FOLK 639
Activity: Seminar
1 Course Unit

COMM 640 Analysis of Data in Large-Sample Communication Research
Statement of measurement and substantive models, and strategies for examining the fit of data to those models. Examples and data are drawn from the media effects literature. Application of data reduction procedures, contingency table analysis, and correlational approaches including regression and structural equation models.
Taught by: Hornik
Course offered fall; odd-numbered years
Prerequisites: COMM 522 and 524, or the equivalents
Activity: Lecture
1 Course Unit

COMM 644 Communication and Space
Physicalized space is said to be crucial to public life. Perhaps so. But it is also critical to urbanization, globalization, modernity, mobility, social hierarchy, flow, scale, imperialism (what Said called the geography of violence), revolution, intimacy, shopping malls, simulacra, and being-in-the-world. Space is not only mediated and dialectical; it is a privileged strategy of post-modernity, “the everywhere of modern thought.” So far as media go, the analytic of space implies a shift away from narrative and toward process and practice as ways of structuring experience. What are the theories that get at this? How can we use theories of space to think about media and culture, to rediscover the richness of the world? And what about the explosive iteration of screen culture that logically ought to imperil lived space but seem to offer new modes for grounding it. We will explore these themes in the relevant literatures for the purpose of developing fabulously interesting research projects, including some in visual format. No spatial pre-requisites.
Taught by: Marvin
Course not offered every year
Activity: Seminar
1 Course Unit

COMM 660 Content Analysis
An introduction to content analysis, the analysis of large bodies of textual matter, also called message systems analysis, quantitative semantics, propaganda analysis, and (computer-aided) text analysis. The course inquires into the theories, methods, and empirical problems common to these analytical efforts: sampling, text retrieval, coding, reliability, analytical constructs, computational techniques, and abductive inference. It illustrates these problems by studies of mass media content, interview or panel data, legal research, and efforts to draw inferences from personal documents typical in psychology and literature. Students design a content analysis and do the preparatory work for an academic or practical research project. They may also use the opportunity of forging available theories into a new analytical technique and test it with available texts, or solve a methodological problem in content analysis research.
Taught by: Krippendorff
Course not offered every year
Activity: Seminar
1 Course Unit

COMM 665 Digital Media and Social Theory
This course explores critical issues in contemporary society through the lens of digital media studies and social theory. The goal is to build constructive dialogues between digital media studies and contemporary social theory. Special attention will be given to how social theory may inform the theorizing and empirical analysis of digital culture, politics, and practices. We will read monographs on globalization, power and control, dissent and protest, self and community, and the public sphere as they relate to digital media technologies. They include works by McLuhan, Castells, Turkle, Papacharissi, Lievrouw, Bimber, W. Chun and more. These monographs will be examined alongside the works of Gramsci, Foucault, Williams, Habermas, Bourdieu, Giddens, and Melucci. Students are required to submit weekly reading reports, make oral presentations, and complete a term paper.
Taught by: Yang
One-term course offered either term
Also Offered As: SOCI 664
Activity: Seminar
1 Course Unit
COMM 671 Computational Social Science
This is an advanced graduate research seminar in which guest speakers will present cutting-edge research in Computational Social Science. Our focus will be on carefully reading the speaker's work, and discussing in detail their theoretical models, empirical methods, and overall scientific contribution. Participants will also present in the seminar, which will help to prepare them for professional presentations of their work at conferences and job talks. This seminar will meet weekly.
Taught by: Centola
One-term course offered either term
Activity: Seminar
1 Course Unit

COMM 675 Message Effects
Current research, theory and statistical methods for assessing the effects of messages. Specific focus on messages designed to have a persuasive effect on attitudes, beliefs, opinions, or behaviors. Experimental and non-experimental research from mass and interpersonal communication, health, social psychology, advertising, political science and journalism will be considered. Unintended effects—such as the consequences of violent pornography—are not considered.
Taught by: Cappella
Course not offered every year
Prerequisite: COMM 575
Activity: Seminar
1 Course Unit

COMM 697 Popular Culture and Politics
Not surprisingly, most research regarding the media's impact on political attitudes, opinions, knowledge and behaviors focuses on news and public affairs genres, ignoring the vast majority of media content labeled "entertainment." Spurred in part by technological, economic, cultural and political changes that have increasingly blurred the line between news and entertainment, a small but growing body of empirical research is exploring the political influence of popular culture. In this course we will critically review this literature, focusing on issues of theory, methods, findings and implications.
Taught by: Delli Carpini
Course not offered every year
Activity: Seminar
1 Course Unit

COMM 699 Advanced Project in a Medium
Proposal written in specified form and approved by both the student's project supervisor and academic advisor must be submitted with registration. Open only to graduate degree candidates in communication.
One-term course offered either term
Activity: Independent Study
1 Course Unit

COMM 701 Introduction to the Political Economy of Media
This course has two aims. First, assuming that communications are central to any society, it situates media systems within larger national and international social relationships and political structures. Second, this course critically examines the structures of the communication systems themselves, including ownership, profit imperatives, support mechanisms such as advertising and public relations, and the ideologies and government policies that sustain these arrangements. Considering case studies ranging from traditional news and entertainment media to new digital and social media, the course provides a comprehensive survey of the major texts in this vibrant sub-field of media studies.
Taught by: Pickard
Course not offered every year
Activity: Seminar
1 Course Unit

COMM 703 International Communication: Power and Flow
The tumultuous rise of new media technologies, including the Internet and social media, combine with grinding geopolitical change to create dramatic changes in law and policy regarding speech and society. This course is an examination of current dilemmas in historical context; about strategic communications in contrast or challenge to goals of free expression and to the exercise of power over the flow of information. Taking relevant contexts, including societies in transition, authoritarian societies, states and societies in conflict, we explore the relationship of the state and other entities to the flow of words and images, and how these messages impact public opinion, stability, and democratic growth. We start with a theoretical orientation focused on two competing paradigms- the paradigm of free expression and the paradigm of national identity, conflict management, and sovereignty. The class will then explore several case studies viewed through the lens of narrative theory. Areas of discussion may include case studies such as Ukraine, Russia, Syria, Iran and, as well, the drama of the development of global internet policy.
Taught by: Price, M./Katz
One-term course offered either term
Also Offered As: LAW 914, PSCI 703
Activity: Seminar
1 Course Unit
COMM 705 Comparative Media Policies in a Cross-Disciplinary Context
This course will seek to capture the dynamics of media policy developments, across technologies and across societies. The seminar will draw on the work of the Center for Global Communication Studies using case studies from Europe, China, India, the US and elsewhere. The following issues will likely be included: understanding of institutions of censorship in Iran; competing concepts of "internet freedom"; the roles of the UN rapporteur on free expression and equivalents at the OSCE, the OAS and in Africa; concepts of pluralism; varying definitions and judicial examinations of "decency"; political control and the making of policy concerning satellite transponders; approaches to media independence and ownership; and changing concepts of public service media. The course starts from the premise that the policies that govern the media are significant societal artifacts embedding distinct values, patterns and processes of control in relation to mediation, freedom of expression and access to information. They are the result of forces-institutional, technical and cultural-acting toward a particular notion of social order. Media laws and policies are signposts concerning commitments to democratic aspirations, to ideas of identity and to symbols of a society’s cohesion. Media laws and policies are, as well, an essay on globalization over time.
Taught by: M.Price
Course not offered every year
Activity: Seminar
1 Course Unit

COMM 706 Analysis of Election Data
This course is intended to serve as a workshop for students interested in the empirical analysis of elections, public opinion and political communication more generally. The centerpiece of the course will be an original research paper produced by each student on a topic of his or her own choosing. The requirements for these papers are fairly open, but demanding: the research papers must a) involve empirical analysis of a major election data set, b) be oriented toward answering an original research question selected with the guidance of the instructor, and c) aim to be of publishable quality. There are no formal prerequisites for the course. However, if you have less than two semesters of statistical training, and/or no formal background in the study of elections, public opinion or political communication, then this is probably not the right course for you. In order to be able to formulate an original research question, you need some background in the literature, which is provided by other courses, but is not a formal part of this course.
Taught by: Mutz
One-term course offered either term
Also Offered As: PSCI 805
Activity: Seminar
1 Course Unit

COMM 713 Historical and Visual Culture Methodology
This methodology class will examine different historiographical and visual approaches, particularly as they relate to the study of communication. Students will be guided through archival research skills, working extensively with primary sources in their final projects. Each week will feature a different "research question" that will require archival exploration to answer, and the readings will relate to different ways to approach the question. The second half of the course will be devoted to developing and workshop final projects.
Taught by: Pearl
Course not offered every year
Activity: Seminar
1 Course Unit

COMM 715 Political Communication
This course examines the role of political communication in influencing political attitudes and behaviors. Because of the broad nature of the topic, course readings and lectures will be interdisciplinary, drawing on research in sociology, history, psychology, political science and communication research. There are two primary goals for the course. One goal is to acquaint graduate students with the wide-ranging literature on political communication. A second major goal is to stimulate ideas for original research in the field of political communication. Toward this end, by the end of the semester students will be expected to be sufficiently familiar with the field to propose original studies on topics of their choosing. The formulation of an original research question and research design will be an important component of the final examination.
Taught by: Mutz
Course not offered every year
Activity: Seminar
1 Course Unit

COMM 717 Race, Media and Politics
"Race" has and continues to play an important role in American politics. In this course we will critically review the relevant Communication and Political Science literature with an eye towards understanding: (1) the role of the mass media in the construction and dissemination of race as a sociopolitical concept; (2) how race affects political attitudes, opinions and behaviors; (3) the unique methodological problems researchers face in studying racial attitudes and opinions; and (4) shortcomings in the existing scholarship on race, media and politics and how these shortcomings might be addressed.
Taught by: Delli Carpini
One-term course offered either term
Activity: Seminar
1 Course Unit
COMM 717 Communication and Development
This course explores the role of communication in classic and current theories of political and economic development. It addresses the questions: What is development? What are the major hypotheses about the relationship between communication and development? How have our hypotheses about communication and development evolved over time in response to changes in prominent development theories, policy trends, and empirical evidence? What are the effects of different and political regimes on media systems and visa versa? What actions are being taken to enhance media development? How has the media been employed to facilitate socioeconomic development, good governance, and democratic development? To what extent are media assistance programs supported by theory and empirical evidence? What should be the focus of future development efforts? First, the course surveys the major theories over the past 50 years about how states develop economically and politically focusing on the role of media, information, and communication as both causes and consequences of development. It considers how the theories shaped public policies and investigates the real-world and academic challenges that emerged. Second, the course examines some current communication and development issues including: Media and conflict; media regulation in democratic and authoritarian regimes; restrictive media environments and public opinion; elections and the media; communication and governance; development and changing forms of political communication, including the mass media, citizen deliberation, and new information and communication technologies; information access, poverty, and inequality; development communication and persuasion; and media development interventions and outcomes. For each topic we will critically examine the working hypotheses, methods, and evidence. The class is designed to provide a greater understanding of the communication challenges faced by developing countries, as well as to develop social science reasoning and methodology. The readings, class discussions, and assignments will move back and forth between theories, public policies, and empirical evidence.
Taught by: Moehler
Activity: Seminar
1 Course Unit

COMM 721 Theory and History in Global Communication
For more than a half century, global communication theory has been shaped by interaction between worldwide geopolitical developments on the one hand, and theoretical trends in the social sciences and humanities on the other hand. This course is designed to give you a firm grasp of the historical trajectory of global communication theory and to develop knowledge of the central debates that have animated the field since the mid-20th century. We will discuss how these debates have changed, under what circumstances, and how contemporary scholarship wrestles with them; and how language and jargon in the field has shifted from "international" to "global." We will also explore why some key issues and media have received relatively scant attention in global communication research, while others have arguably been overemphasized. We will read a mixture of primary sources by luminaries in the different paradigms that have dominated global communication, complemented with secondary texts that are carefully selected to give you a sense of the architecture of the field, an understanding of what sub-areas of global communication scholarship are published and the journals and presses that publish in those sub-areas.
Taught by: Kraidy
One-term course offered either term
Activity: Seminar
1 Course Unit

COMM 727 Evaluation of Communication Campaigns
The various roles of research in campaign work: foundational research, formative research, monitoring research, summative evaluation research, policy research. The place for a theory of campaign effects. The ethics of evaluation research. Alternative designs, measurement, statistical and analytic approaches.
Taught by: Hornik
One-term course offered either term
Activity: Seminar
1 Course Unit

COMM 731 Beauty & Technology
Have concepts of beauty changed over time? According to Darwin, the meaning of facial expressions and emotions are consistent across cultures and are universally understood. Modern scholarship would have us believe that notions of human beauty are framed by facial symmetry and reproductive fitness, while fashion magazines seem to challenge both these claims. What role does technology play in communicating and shaping ideas of beauty? By the same token, to what extent is technology deployed in service of the ideas of those behind the lens? In this course, we will explore changing notions of beauty and their relationship to the technologies and media through which it is viewed.
Taught by: Pearl
Course not offered every year
Activity: Seminar
1 Course Unit

COMM 741 Media Effects Research Design
This course will include three components. Part one will focus on readings and lectures about media effects research design, with some emphasis on exposure measurement, and on constructing out-of-laboratory designs including natural and quasi experiments, longitudinal and time series designs and designs appropriate for evaluating persuasive campaigns. Part two will be case focused, asking for design critiques of current published research studies. Part three will provide an opportunity for development of designs relevant to students’ own interests.
One-term course offered either term
Activity: Seminar
1 Course Unit

COMM 745 Media Ethnography: Theory and Practice
This course will allow students to conduct ‘critical readings’ of ethnographic engagements with television, radio and film as cultural phenomena. We will examine how ethnographers use their method and genre to understand the production, reception and circulation of mass media. We will also draw on contemporary social/critical theory to unpack some of the epistemological assumptions organizing and anchoring such qualitative work. (The internet will also be discussed.)
Taught by: Jackson
Course not offered every year
Also Offered As: ANTH 740
Activity: Seminar
1 Course Unit
COMM 750 Seminar in Media Industries
This research seminar will center on the processes and social implications of out-of-home advertising and other forms of marketing communication. The course encourages students to tackle emerging issues related to any number of traditional or emerging media, including mobile handsets; billboards (digital and traditional); event marketing; event sponsorship; transit materials; and the panoply of in-store marketing vehicles including architecture, packaging, radio, television, computer-laden carts, signage, floor mats, and more. Social issues related to these issues are many; they include privacy, surveillance, industrial constructions of audiences, varieties of redlining, understandings of food and food-culture, and definitions of identity and public-private space. Marketers say that out-of-home advertising is the fastest growing-form of advertising next to internet advertising. During the past couple of years, every major media conglomerate has joined the race to track and reach people as they move through the world. Oddly, communication researchers have virtually ignored this part of our world. So I think there is here an opportunity here to push a new research agenda.
Taught by: Turow
Course not offered every year
Prerequisite: COMM 550 and/or COMM 530
Activity: Seminar
1 Course Unit

COMM 753 The Internet, State Power, and Free Expression: Media Policy Evolution in a Evolving Global Context
Global Internet policy is a zone of contestation, with states, corporations, civil society, and "netizens" seeking to assert particular perspectives. This course studies processes and rhetoric of Internet policy-making. It seeks to identify the major competing positions and the structures in key countries charged with projecting and obtaining global consensus. Among the concepts to be analyzed in this context are "sovereignty," "Internet freedom," "multi-stakeholder involvement," and the growing role of cybersecurity. There will be sessions on the WCIT meetings in Dubai in 2012 and its predecessors, on approaches to Internet policy in US, China, Brazil, Russia and India. We shall explore the relationship between national policy making and global approaches.
Taught by: Price
Also Offered As: LAW 914
Activity: Seminar
1 Course Unit

COMM 760 Social Constructions of Reality
This seminar inquires into the principles and processes by which realities come to be socially constructed and discursively maintained. It serves as an introduction to the emerging epistemology of communication, which is concerned less with what communication is than with what it does, constitutes, and actively maintains, including when being studied. The seminar develops analytical tools to understand how realities establish themselves in language and action, how individuals can become entrapped in their own reality constructions, how facts are created and institutions take advantage of denying their constructedness. After reading several exemplary studies, students explore the nature of a construction on their own. The seminar draws on the discourse of critical scholarship and emancipatory pursuits, which are allied with feminist writing, cultural studies, and reflexive sociology. It is committed to dialogical means of inquiry and takes conversation as an ethical premise.
Taught by: Krippendorff
One-term course offered either term
Activity: Seminar
1 Course Unit

COMM 762 Visual Communication Seminar
Implementation of persuasion theories in the design and creation of advertising for social causes.
Taught by: Messaris
Activity: Seminar
1 Course Unit

COMM 799 Independent Research
Proposal written in specified form and approved by both the student's project supervisor and academic advisor or another member of the faculty must be submitted with registration.
One-term course offered either term
Activity: Independent Study
1 Course Unit

COMM 809 Digital Media and Social Theory
This course explores critical issues in contemporary society through the lens of digital media studies and social theory. The goal is to build constructive dialogues between digital media studies and contemporary social theory. Special attention will be given to how social theory may inform the theorizing and empirical analysis of digital culture, politics, and practices. We will read monographs on globalization, power and control, dissent and protest, self and community, and the public sphere as they relate to digital media technologies. They include works by McLuhan, Castells, Turkle, Papacharissi, Lievrouw, Bimber, W. Chun and more. These monographs will be examined alongside the works of Gramsci, Foucault, Williams, Habermas, Bourdieu, Giddens, and Melucci. Students are required to submit weekly reading reports, make oral presentations, and complete a term paper.
Taught by: Yang
Course not offered every year
Also Offered As: SOCI 809
Activity: Seminar
1 Course Unit

COMM 811 Neurobiology of Soc Infl
A graduate level statistics course, ability to read primary research articles in cognitive neuroscience (no course prereqs, but students with less background may need to do supplemental work at the front end). Considerable resources are devoted to constructing mass media campaigns that persuade individuals exert powerful influence one another without even knowing it. Still, our ability to design and select optimal messages and interventions is far from perfect. This course will review investigations in social and cognitive psychology and communication sciences that attempt to circumvent the limits of introspection by using biological and implicit measures, with particular focus on neuroimaging studies of social influence and media effects.
Course not offered every year
Activity: Seminar
1 Course Unit
COMM 813 Theor & Hist Global Comm
For decades, global communication theory has been shaped by interaction between worldwide political, economic and technological developments and theoretical trends in the social sciences and humanities. This course is designed to give you a firm grasp of the historical trajectory of global communication theory and to acquire knowledge of the central debates that have animated the field since the mid-20th century. From development communication to global digital culture, we will discuss how these debates have changed, under what circumstances, and how contemporary scholarship wrestles with them. We will also explore why some key issues and types of media have received relatively scant attention in global communication research, while others have arguably been over-emphasized. We will read a mixture of primary sources by intellectual leaders of different paradigms that have dominated global communication, complemented with secondary texts that are carefully selected to give you a sense of the architecture of the field, an understanding of what sub-areas of global communication scholarship are published and the journals and presses that publish in those sub-areas. Required readings will be available on electronic reserves.
Course not offered every year
Activity: Seminar
1 Course Unit

COMM 815 Community, Network, and Crowd: Critical Perspectives on Forms of Human Togetherness
Between the micro-level of individuals and the macro-level of society is the meso-level of social phenomena, where much sociological research locates its scholarship. This seminar considers theories of human togetherness that have shaped research in the humanities and the social sciences. As researchers shift between terms like community, network, public, and collective, what connotations drop out and emerge? What are the relevant theories that can help us be critical and precise about the analysis of social groups? Our discussions will examine the meanings of a broad range of concepts, from crowds and publics to community and networks, from secret societies and gangs to counter-cultural communes. Special attention will be given to the sources, functions, and influences of different types of communities and the relationship among communication, community, and solidarity. Readings will include classical statements by Durkheim and Simmel as well as contemporary writings by Kristen Ross, Jodi Dean, Judith Butler, Michael Warner, Etienne Wenger, Antonio Negri, Michael Hardt, danah boyd and others.
Course not offered every year
Also Offered As: SOCI 815
Activity: Seminar
1 Course Unit

COMM 818 Media Crit & Fut Journ
This course is divided into two parts. Drawing from critical traditions such as the Frankfurt School, British Cultural Studies, and Marxian political economy, the first half of the semester will focus on systemic, ideological, and cultural critiques of news media systems. The second half of the semester will address the "what is to be done" question, and will focus on issues related to economic and democratic theories of journalism, as well as public policy approaches to the future of news media.
Course not offered every year
Activity: Seminar
1 Course Unit

COMM 825 #sorrynotsorry: mediate apologies and the power structures of forgiveness
What are the power dynamics of public apologies and forgiveness? This course will explore the modern mediated ritual of apology and forgiveness, asking in particular who gets to apologize, who is asked to forgive, and what the difference is between these two processes. Drawing on theoretical literature in feminist philosophy of language, media ritual, journalism studies, meme and celebrity studies, and political communication, we will consider a series of case studies to think about how apologies and forgiveness works, and when and if these two processes should be separated. Starting with recent cases of police shootings, we will pay particular attention to requests for forgiveness in absence of apology, thinking about which kinds of bodies and what kind of victims bear the burden of being publicly forgiving, and what kinds of power dynamics are at stake in the process of granting forgiveness in the absence of granting forgiveness in the absence of apology.
Taught by: Pearl
One-term course offered either term
Activity: Seminar
1 Course Unit

COMM 831 Cultural Production Res
One-term course offered either term
Activity: Seminar
1 Course Unit
Notes: Cultural production refers to the making, circulation and reception of cultural forms. Cultural production scholarship explores cultural production in situ - the processes and practices of cultural producers and users in any expressive mode (music, visual art, verbal storytelling, gaming, online zines) and any context - from the commercial mainstream, to garage bands and urban knitting circles, to genres and scenes online, territorial borders between nations, or overlapping cultural modernities. Our reading will cover cultural industries, fan cultures, and community cultural production, and we will take care to connect cultural production to social distinction and hierarchy. Beyond those traditional approaches, however, we will also work on the relationship between culture and thriving - asking not only about industry vs. resistance, creatives vs. suits, cultural mediators vs. fans, and community cultural economies, but also about the essential place of culture and art in everyday life. In response to student interest, the course will also include a dossier on social class in cultural production.

COMM 834 Black Feminist/Queer Thr
This course stages a series of dialogues between US black feminist theory and black queer theory through the discussion of such topics as: the legacy of slavery; activism; work, family and self-esteem; body politics, i.e., sexuality, reproduction, violence, HIV/AIDS, popular culture representations; appropriations and alliances.
One-term course offered either term
Activity: Seminar
1 Course Unit
COMM 835 Revolting Media
Social change has always had its communicative element: pamphleteers calling for the abolition of absolute monarchy, citizen journalists campaigning against tyranny, filmmakers celebrating revolution, broadcasters publicising civil rights, illegal radio stations supporting anti-colonial struggles, bloggers organising pro-democracy movements. This course celebrates the role of media in historical revolts and considers the work of key theorists - including Fanon, Enzensberger, Williams and Mattelart - who mapped out the the conditions in which communications could play a progressive role in reform and revolution. The course then moves from an emphasis on the media in revolt to more recent debates concerning a revolt against the media. This includes looking at the collapse of trust in key public institutions, the breakdown of the traditional liberal consensus, increased pressures on impartiality and the rise of populist media forms and outlets. The course features a timeline of revolting media that includes everything from purposeful struggles against inequality and injustice to more recent manifestations marked by 'fake news', 'post truth' and 'emotion-driven journalism' in an effort to demonstrate the diversity of media models available (but not always offered).
One-term course offered either term
Activity: Seminar
1 Course Unit

COMM 846 Ordinary People and the Media: The Demotic Turn
This course will explore the historical, theoretical and methodological roots of the way media circulations have been shaped in public moral (including as a category of political) discourse. Evolving media have been met with evolving discourses of promise and portent, some expressed or experienced as moral panics. This course will expand the boundaries of commonplace academic and lay discourses, by looking for sources in American culture to explain the extents and limits of these ideas of the meaning of mediation. The course will assume significant contributions from American religious cultures, looking beyond their taken-for-granted (while significant) role in establishing formal standards of acceptability to inquire specifically about the role of Protestantism as a definitive source in the American experience. While it is not a singular objective the course, some consideration will be given to re-thinking how a more substantive understanding along these lines might contribute to a more robust definition of a specifically American cultural studies tradition.
Activity: Seminar
1 Course Unit

COMM 847 Development Communication and Social Change
If we are to improve our attempts to address serious global problems and resolve devastating conflicts, we must re-evaluate development communication as a practice and as an approach. Development communication engages the strategic application of communication technologies and processes to resolve social problems. This course surveys the field of development communication, from its historical conceptions toward its current practice. Following our discussions of the dominant approaches to understanding development communication and subsequent critiques, we consider alternative approaches advocating participation, liberation, resistance, and recognizing power as a central dimension. This course takes a critical approach toward understanding how development organizations produce communication strategies and how strategic interventions communicate assumptions about development. We discuss how communication campaigns, entertainment-education strategies, and digital media are being used in strategic intervention. In the final section, we explore development discourse concerning the nature of development and social change, through activist strategies promoting consumption and advocating social justice.
One-term course offered either term
Activity: Lecture
1 Course Unit

COMM 848 Decoding the Social World
Have digital technologies, and the new data they provide, helped us advance old theoretical debates about communication and the role it plays in social life? How was social thought shaped by previous technological breakthroughs and how is the digital revolution shaping our theories today? What are the questions that are still open, the puzzles that require further research and more theoretical development? This seminar will consider these and related questions, offering a (personal) overview of the frontiers of communication research as seen through the lens of digital data and with a focus on the identification of social mechanisms. The discussions will be articulated around two forthcoming books: 'Decoding the Social World: When Data Science Meets Communication,' and 'The Oxford Handbook of Communication in the Networked Age,' which will offer a starting point to start thinking about theoretical problems and the best empirical strategies to solve them.
Taught by: Gonzalez-Bailon
Course not offered every year
Activity: Seminar
1 Course Unit

COMM 850 The Body: Theory, Method, Discourse
Taught by: Kraidy
Course not offered every year
Activity: Seminar
1 Course Unit
Notes: This seminar examines the body as a central communication problematic in theory research. We will read a wide-ranging selection of essays, articles and books, examining a variety of research traditions that have focused on the body - phenomenology, feminism, biopolitics, etc-across the humanities and social sciences. We will explore how the body has been understood as tool, symbol, icon, battleground, and lived experience. In turn we will examine contemporary applications, ending with digital culture, of these approaches through notions of affect, aesthetics, materiality, embodiment, performativity, docility, social action, and creative insurgency. Though theoretical, this seminar has a strong methodological component focusing on discourse analysis.
COMM 856 Privacy, Surveillance & Marketplace
This class will look at various philosophical and sociological perspectives on privacy, put them into historical context, and explore some of the dynamics of the contemporary marketplace that may (or may not) affirm Sun Microsystem CEO Scott McNealy’s 1999 comment to reporters and analysts, “You have zero privacy anyway. Get over it.” The class will involve mainly reading and discussion, with possibly a paper that extends a stream of the readings in a particular direction.
Taught by: Turow
Course not offered every year
Activity: Seminar
1 Course Unit

COMM 857 Advanced Qualitative Research
For students writing qualitative dissertation proposals. Seminar members will read and respond to one another’s developing drafts and preliminary research. We will talk through unfolding projects and develop research and writing practice. For most students the goal is to produce a defensible proposal by the end of the semester. In some cases students who are not writing formal proposals but are beginning to focus on literature review & dissertation design may find this seminar useful. Adviser approval required for enrollment.
Taught by: Marvin
Course not offered every year
Activity: Seminar
1 Course Unit

COMM 860 Global Media Activism: The 1960s
The long 1960s witnessed the explosion of media and activism on a global scale. From the French May Movement in 1968 to the Chinese Cultural Revolution, from the student protests in Zimbabwe, Germany and Brazil to Women’s Liberation and the New Left in the United States, political radicalism was deeply intertwined with activist and alternative media and the mainstream press. The ideological divide of the Cold War not only failed to stop the transnational flows of the narratives and icons of radicalism, but gave them a fateful potency. In this process, the meanings and forms of political activism were transformed. This seminar analyzes this wave of political activism and its media practices while tracing its long-term consequences, memories, and legacies. Our goal is to understand media and activism in a pivotal period of global modernity as well as the historical origins of mediated activism in the 21st century.
Taught by: Yang
Also Offered As: SOCI 860
Activity: Seminar
1 Course Unit

COMM 869 Ethnography and the Internet
This course covers qualitative and interpretive methods for investigations of socio-technical phenomena related to digital culture and online life. Concentrating on ethnographic methods, the course will cover methodological issues common to research on digital technologies, drawing on theorists from communication, media studies, information studies, sociology, anthropology and internet studies. In addition to developing a sophisticated understanding of ethical and methodological issues surrounding ethnography and online life, students will complete a research proposal for a qualitative or interpretive study of online phenomena.
Taught by: Lingel
Course not offered every year
Prerequisite: Completion of graduate level research methods course
Activity: Seminar
1 Course Unit

COMM 870 Introduction to the Political Economy of Media
This seminar provides an in-depth analysis of media institutions and practices in modern China, with an emphasis on the contemporary scene. A main goal is to identify and explore critical new questions for advanced empirical and historical research. We will read major works on selected media genres (newspapers, television, radio, films, documentary films, and the internet) and analyze their theoretical and empirical contributions. Another goal is to understand the causes and dynamics of media control and media innovation, the formation of publics and counterpublics, and the role of media and political change. We will examine how the state and the market shape media practices in different media genres and how media professionals, artists, citizens, and audience negotiate change. The analysis will be linked to the current scholarly debates on the evolution of Chinese authoritarianism and a Chinese-style civil society. Students will complete a term paper based on primary research. The research project may be done individually or in collaboration with classmates.
Taught by: Yang
Course not offered every year
Activity: Seminar
1 Course Unit

COMM 871 Computational Social Science Seminar
This is an advanced graduate research seminar in which guest speakers will present cutting-edge research in Computational Social Science. Our focus will be on carefully reading the speaker’s work, and discussing in detail their theoretical models, empirical methods, and overall scientific contribution. Participants will also present in the seminar, which will help to prepare them for professional presentations of their work at conferences and job talks. This seminar will meet weekly.
Taught by: Centola
Course not offered every year
Activity: Seminar
1 Course Unit
COMM 872 Internet Experiments Practicum
Web-based experiments are an exciting new way to do social science research online. They have created a vast number of new scientific opportunities for studying complex social systems. This course is an advanced undergraduate / graduate practicum that focuses on how to build Internet experiments. Class participants will be exposed to the literature in computational social science/complex science that uses the Internet to study human behavior. Students will be expected to participate in a hands-on research project in which we build a new experiment to study complex social behavior. This course requires strong research and analytic abilities, and would be appropriate for both advanced social science majors with a strong technical background, and advanced computer science and engineering majors with a strong interest in social science. The practicum will meet weekly. Interested students will need to prepare a paragraph describing their interest and preparation for this course, and will be asked to discuss their background with Professor Centola.
Taught by: Centola
Course not offered every year
Activity: Seminar
1 Course Unit

COMM 883 Describing Your Data
This course is for students who have collected empirical data and will explore ways of describing data for scientific and translational purposes. For example, students will explore different methods to explore and visualize their data, write about their data (e.g., a conference abstract vs. a blog post), present present their data (e.g., a conference talk vs. a pop talk) and make their data more reproducible. Students will also read scholarly work (oversampling, though not limited to work on media effects) and critique their research in relation to what is known about effective communication and reproducibility. Students should come prepared to engage with art, science and computer programming.
One-term course offered either term
Activity: Seminar
1 Course Unit

COMM 885 Old Media and Digital Communication in Revolutionary Times
This doctoral seminar focuses on the material-virtual nexus in the emerging media environment. We will critically examine transformations undergone by old media like the human body, graffiti, puppetry and video, in the digital age, in addition to changes in various genres and acts of speech, including political parody, posing naked and tagging city walls. Aided by a wide, eclectic and provocative literature, we will pay special attention to two characteristics of the digital media ecology: (1) the crumbling of boundaries between nations, cultures, technologies, and media; and (2) the often contentious circulation of discourse enabled by the weakening of borders, especially in revolutionary times. We will also explore (3) issues of aesthetics and affect in old-new media couplings. The Arab uprisings will operate as a principal locus for discussion and analysis, but like everything I teach this seminar will be global in scope and comparative in outlook. Course requirements include a major research paper, a book review, a reading presentation, and a research presentation.
Taught by: Kraidy
Course not offered every year
Activity: Seminar
1 Course Unit

COMM 893 Networks, Theories, and Online Data: New Approaches to Social Change
How do fads and innovations spread across a population? Why do political parties polarize, or reach an unexpected consensus? How can social technologies help to promote the emergence of social movements and new democratic politics? This course examines theories of social change and innovation diffusion, in light of methodological advances in network science and computational social science. The new revolution in computing has creating remarkable opportunities for doing social science research, and understanding the dynamics of how collective behaviors emerge and spread. The goal of the course is to think carefully about how formal/predictive models can be connected with empirical data. This course addresses research at the forefront of social science and complex systems. Participants will get the most out of the material by aggressively pursuing questions that emerge from the readings, and from participating in hands-on research projects. The expectation is that students will develop research projects, or mature existing projects, which will be the focus of their work for the course. They should use this course as a foundation for developing publishable research. This course will also focus on the presentation of research - emphasizing clear, intelligible presentations, suitable for disciplinary conferences.
Taught by: Centola
One-term course offered either term
Activity: Seminar
1 Course Unit

COMM 894 Introduction to Networks
Much of what we think and do is shaped by social interactions, by the behavior we see in other people, or the information we receive from them: we pay attention to what our friends or we monitor news through the feeds of social media, and we are more likely to use technologies already embraced by other users. Networks are behind those (and, by extension, most) dimensions of social life. They offer the language to capture the invisible structure of interdependence that links us together, and the means to analyze dynamics like diffusion, influence, or the effects of media in an increasingly diverse information environment. The aim of this course is to introduce networks and the relational way of thinking. Students will gain the necessary literacy to read, interpret, and design network-based research; learn how to go from concepts to metrics; and draw and interpret networks through the lens of substantive research questions. We will pay equal attention to the theory and the empirical science of network science, and set the foundations for more advanced work on networks.
Taught by: Gonzalez-Bailon
One-term course offered either term
Activity: Seminar
1 Course Unit

COMM 897 Legacy Media in Transition
The rise of the digital age has put enormous pressure on so-called legacy media industries. Those are businesses that rose to fame and fortune in the 19th and 20th centuries but are now having to fundamentally rethink their plans regarding audiences, subsidies, and delivery technologies. This class will focus on four legacy media industries: music recordings, newspapers, books, and television. For each, we will consider the history of the industry, the challenges it has faced in the we will consider the history of the industry, the challenges it has faced in the evolving digital environment. Students will write a paper on a topic related to one of these media or another legacy medium in transition.
Taught by: Turow
Course not offered every year
Activity: Seminar
1 Course Unit
COMM 898 Social Influence, Media Effects and the Brain
Considerable resources are devoted to constructing mass media
campaigns that persuade individuals to change their behavior and
individuals exert powerfully influence one another without even
knowing it. Still, our ability to design and select optimal messages and
interventions is far from perfect. This course will review investigations
in social and cognitive psychology and communication sciences that
attempt to circumvent the limits of introspection by using biological
and implicit measures, with particular focus on neuroimaging studies of
social influence and media effects.
Taught by: Falk
Course not offered every year
Prerequisites: A graduate level statistics course, ability to read primary
research articles in cognitive neuroscience (no course prereqs, but
students with less background may need to do supplemental work at the
front end)
Activity: Seminar
1 Course Unit

Comparative Literature (COML)
COML 001 Approaches to Genre
The topic for Fall 2017: THE END IS COMING: APOCALYPSE IN FILM AND
LIT From global pandemics to great floods, from nuclear wars to days of
judgment, from climate collapse to universal heat death, our world has
never freed itself from the threat of impending apocalypse. This perennial
premonition, THE END IS COMING, is at once religious, political, rhetorical,
environmental, historical, aesthetic, and personal— and so, against the
backdrop of our perceived current crisis this course returns to endings
that have gripped the cultural imagination from the Book of Revelation to
Wall-E. It investigates the past, present, and future of the notion that we
have no future, in an attempt to zero in on several significant questions.
What drives our fascination with, our fear of, and even our desire for
destruction? Does the sense of an ending condition our experience of the
world, of art, of narrative, and of thought? And is it really the end of the
world, or just the end of our world that obsesses us? To attempt answers,
we will probe the definition of such terms as world, end, coming, desire,
and “our” and will examine how literature and film ground the universal
catastrophes they predict in specific places and times. Every generation
has believed it was the last; our own no exception. Some dare to build the
struts and rafters of a Jerusalem to come, some turn their heads away
from the writing on the wall, and some dance as the palaces burn. We
mean to investigate each, and to articulate our own responses to the
end that comes again and again. Although no artist, author, or prophet
that we study was able to shake their sense of the final, the course itself
will not have one. But it will address those figures in depth. They include:
Margaret Atwood, Stanley Kubrick, Sigmund Freud, John of Patmos,
William Blake, Ovid, Lars Von Trier, Octavia Butler, William Shakespeare,
Samuel Beckett, Boccaccio, Mary Shelley, Karl Marx, Mohammed, Donna
Haraway, Frank Kermode, Cormac McCarthy, and Norman O. Brown.
Taught by: Elliott/Knudson
One-term course offered either term
Also Offered As: ENGL 001
Activity: Seminar
1 Course Unit
Notes: Communication within the Curriculum. This is a topics course.
This seminar engages questions of literary genre, including its function
as a mediating presence for thinking about audience, literary history,
and the marketplace. The theme of the seminar will change with the
instructor. Customarily this course will be affiliated with Communication
within the Curriculum (CWIC), and so will have a speaking and
presentation component to it.

COML 002 Approaches to Literary Studies
This is a topics course. Please see the Comp Lit website for additional
information at: http://ccat.sas.upenn.edu/complit/
Course not offered every year
Also Offered As: ENGL 002
Activity: Seminar
1 Course Unit
Notes: Communication within the Curriculum. This is a topics course.
This seminar engages questions of literary genre, including its function
as a mediating presence for thinking about audience, literary history,
and the marketplace. The theme of the seminar will change with the
instructor. Customarily this course will be affiliated with Communication
within the Curriculum (CWIC), and so will have a speaking and
presentation component to it.
COML 011 Censored! A History of Book Censorship
Although its pages may appear innocuous enough, bound innocently between non-descript covers, the book has frequently become the locus of intense suspicion, legal legislation, and various cultural struggles. But what causes a book to blow its cover? In this course we will consider a range of specific censorship cases in the west since the invention of the printed book to the present day. We will consider the role of various censorship authorities (both religious and secular) and grapple with the timely question about whether censorship is ever justified in building a better society. Case studies will focus on many well-known figures (such as Martin Luther, John Milton, Voltaire, Benjamin Franklin, Goethe, Karl Marx, and Salman Rushdie) as well as lesser-known authors, particularly Anonymous (who may have chosen to conceal her identity to avoid pursuit by the Censor).

Taught by: Wiggin
Course not offered every year
Also Offered As: GRMN 003
Activity: Seminar
1 Course Unit
Notes: Freshman Seminar. All readings and lectures in English. No knowledge of German is required.

COML 012 India's Literature: Love, War, Wisdom and Humor
This course introduces students to the extraordinary quality of literary production during the past four millennia of South Asian civilization. We will read texts in translation from all parts of South Asia up to the sixteenth century. We will read selections from hymns, lyric poems, epics, wisdom literature, plays, political works, and religious texts. For BA Students: Arts and Letters Sector

Taught by: Patel
Course not offered every year
Also Offered As: SAST 004
Activity: Lecture
1 Course Unit

COML 013 Introduction to Modern South Asian Literatures
This course provides an introduction to the literatures of South Asia - chiefly India, Pakistan, and Bangladesh - between 1500 and the present. We will read translated excerpts from literary texts in several languages - Braj, Persian, Hindi, Urdu, Bengali, Marathi, Malayalam, and Tamil - and explore the relationship between these literary texts and their historical contexts. No prior knowledge of South Asia is required.

Taught by: Sreenivasan, R.
Also Offered As: SAST 007
Activity: Seminar
1 Course Unit

COML 014 Critical Speaking Seminar
Topics vary from semester to semester.

Also Offered As: NELC 008
Activity: Seminar
1 Course Unit

COML 015 Freshman Seminar
The primary goal of the freshman seminar program is to provide every freshman the opportunity for a direct personal encounter with a faculty member in a small setting devoted to a significant intellectual endeavor. Specific topics will be posted at the beginning of each academic year. Please see the College Freshman seminar website for information on current course offerings http://www .college.upenn.edu/courses/ seminars/freshman.php. Fulfills Arts and Letters sector requirement.
Course not offered every year
Also Offered As: ENGL 016, MUSC 016
Activity: Seminar
1 Course Unit

COML 016 Topics in Literature
This course will explore various topics within the diverse landscape of literature with an emphasis on a particular theme or genre.
Course not offered every year
Also Offered As: CIMS 015, ENGL 015, ENGL 016
Activity: Seminar
1 Course Unit
Notes: Freshman seminar.

COML 021 Medieval Literature and Culture
This course introduces students to four hundred years of English literary culture, from approximately 1100 to 1500. This period was marked by major transformations, not only with respect to government, law, religious practice, intellectual life, England's relation to the Continent (during the 100 Years War), the organization of society (especially after the Black Death), the circulation of literary texts, and the status of authors. Topics may include medieval women writers, manuscript production, literatures of revolt, courtly culture, Crusades, cross-Channel influences, and religious controversy.
Course not offered every year
Also Offered As: ENGL 021
Activity: Lecture
1 Course Unit

COML 023 In Praise of the Small
We can memorize aphorisms and jokes, carry miniature portraits with us, and feel playful in handling small objects. This seminar will ask us to pay attention to smaller texts, art works, and objects that may easily be overlooked. In addition to reading brief texts and looking at images and objects, we will also read texts on the history and theory of short genres and the small.

Taught by: Weissberg
Course not offered every year
Also Offered As: GRMN 023
Activity: Seminar
1 Course Unit
Notes: Freshman seminar. All readings and lectures in English. No knowledge of German is required.
COML 031 Introduction to Renaissance Literature and Culture
This course will introduce you to some of the most exciting and vital issues and texts--historical, cultural and literary--of Renaissance England. We will read a variety of men and women who take us into pre-modern worlds that are significantly different from our own, and yet help us understand our own modernity. Hence the readings will range from Shakespeare's plays or Donne's poems to a speech by Queen Elizabeth's or Columbus's letter announcing the "discovery" of the Americas. We will try to understand the fashioning of various identities--such as those of gentleman, lady, monarch or subject--at this time. We will trace the changing meanings of gender, the family, love, authority, the nation and race. And most importantly, we will see how literary texts contribute to these meanings in their own distinctive ways.
Taught by: Loomba
Course not offered every year
Also Offered As: ENGL 031
Activity: Lecture
1 Course Unit

COML 032 Books that Made History
It is often said that books reflect the society in which they were written. Yet many books--and their authors--shaped society, and changed how people understood the world around them. In this course we will focus on a variety of texts from the world of Rome to 1600, the era in which European society took form. In each case, we will seek not only to understand the work itself, but also how it affected the lives and the thought of its readers. Works will range from Cicero and the Biblical New Testament to Luther and Machiavelli.
Taught by: Moyer
Course not offered every year
Also Offered As: HIST 054
Activity: Lecture
1 Course Unit

COML 052 Books that Made History
It is often said that books reflect the society in which they were written. Yet many books--and their authors--shaped society, and changed how people understood the world around them. In this course we will focus on a variety of texts from the world of Rome to 1600, the era in which European society took form. In each case, we will seek not only to understand the work itself, but also how it affected the lives and the thought of its readers. Works will range from Cicero and the Biblical New Testament to Luther and Machiavelli.
Taught by: Loomba
Course not offered every year
Also Offered As: ENGL 031
Activity: Lecture
1 Course Unit

COML 053 Music of Africa
African Contemporary Music: North, South, East, and West. Come to know contemporary Africa through the sounds of its music: from South African kwela, jazz, marabi, and kwailo to Zimbabwean chimurenga; Central African soukous and pygmy pop; West African fuji, and North African rai and hophop. Through reading and listening to live performance, audio and video recordings, we will examine the music of Africa and its intersections with politics, history, gender, and religion in the colonial and post-colonial era.
Taught by: Muller
Course not offered every year
Also Offered As: AFST 053, MUSC 051
Activity: Lecture
1 Course Unit

COML 055 19th-Century Novel
During the nineteenth century the novel became the dominant literary form of its day, supplanting poetry and drama on both sides of the Atlantic. In this introduction to the novelists of the period, we will read the writers who secured the novel's cultural respectability and economic prominence. Likely authors will include Austen, the Brontes, Collins, Dickens, Eliot, Hardy, Hawthorne, Melville, Poe, Thackeray, Scott, and Stowe. The course will explore the themes, techniques, and styles of the nineteenth-century novel. It will focus not only on the large structural and thematic patterns and problems within each novel but also on the act of reading as a historically specific cultural ritual in itself.
Course usually offered in fall term
Also Offered As: ENGL 055, GWS 055
Activity: Lecture
1 Course Unit

COML 056 Seeing/Hearing South Africa: Politics and History through Contemporary Performance
Students engage with South African performance and political history; the history of the festival in Grahamstown; and listen closely to the history of South African jazz; they are given guidelines for writing about live performances; students discuss program choices; and spend some time talking about travel to South Africa and the lived experience of two weeks at the National Arts Festival. Everyone travels to the National Arts Festival in late June and spends two weeks attending live performances (4-6 per day), blogging on the performances, discussing these experiences with the Professor and fellow students; we visit a game park and do a "township tour" as part of the two weeks in the Eastern Cape. On returning home, students have about 4 weeks to write a substantial paper on the festival experience. While this is primarily a music class, the National Arts Festival includes all kinds of performances--theater, music, dance, and visual arts, of all kinds. This is two weeks of total immersion in the arts, and thinking deeply about the place of the arts in contemporary arts and society.
Taught by: Muller
Also Offered As: AFRC 056, AFST 056, MUSC 056
Activity: Seminar
1 Course Unit

COML 059 Modernisms and Modernities
This class explores the international emergence of modernism, typically from the middle of the 19th century to the middle of the 20th century. We will examine the links between modernity, the avant-garde, and various national modernisms that emerged alongside them. Resolutely transatlantic and open to French, Spanish, Italian, German, or Russian influences, this course assumes the very concept of Modernism to necessitate an international perspective focusing on the new in literature and the arts -- including film, the theatre, music, and the visual arts. The philosophies of modernism will also be surveyed and concise introductions provided to important thinkers like Marx, Nietzsche, Sorel, Bergson, Freud, and Benjamin.
Course not offered every year
Also Offered As: ENGL 059
Activity: Lecture
1 Course Unit
Notes: This is a topics course.

COML 062 20th-Century Poetry
From abstraction to beat, from socialism to negritude, from expressionism to ecopoetry, from surrealism to visual poetry, from collage to digital poetry, the poetry of the twentieth century has been characterized by both the varieties of its forms and the range of its practitioners. This course will offer a broad overview of many of the major trends and a few minor eddies in the immensely rich, wonderfully varied, ideologically and aesthetically charged field. The course will cover many of the radical poetry movements and individual innovations, along with the more conventional and idiosyncratic work, and will provide examples of political, social, ethnic, and national poetries, both in the Americas and Europe, and beyond to the rest of the world. While most of the poetry covered will be in English, works in translation, and indeed the art of translation, will be an essential component the course.
Course not offered every year
Also Offered As: ENGL 062
Activity: Lecture
1 Course Unit
COML 065 20th-Century British Novel
This course traces the development of the novel across the twentieth-century. The course will consider the formal innovations of the modern novel (challenges to realism, stream of consciousness, fragmentation, etc.) in relation to major historical shifts in the period. Authors treated might include: Conrad, Lawrence, Joyce, Forster, Woolf, Cather, Faulkner, Hemingway, Achebe, Greene, Rhys, Baldwin, Naipaul, Pynchon, Rushdie, and Morrison.
Course not offered every year
Also Offered As: AFST 065, ENGL 065
Activity: Lecture
1 Course Unit

COML 069 Poetry and Poetics
What is poetry and what place does it have among literary forms? What is its relation to culture, history, and our sense of speakers and audiences? This course will focus on various problems in poetic practice and theory, ranging from ancient theories of poetry in Plato and Aristotle to contemporary problems in poetics. In some semesters a particular school of poets may be the focus; in others a historical issue of literary transmission, or a problem of poetic genres, such as lyric, narrative, and dramatic poetry, may be emphasized. The course will provide a basic knowledge of scan in English with some sense of the historical development of metrics. This course is a good foundation for those who want to continue to study poetry in literary history and for creative writers concentrating on poetry.
Course not offered every year
Also Offered As: ENGL 069
Activity: Lecture
1 Course Unit

COML 074 Science and Literature
This course will explore the emergence of modern science fiction as a genre, the ways it has reflected our evolving conceptions of ourselves and the universe, and its role as the mythology of modern technological civilization. We will discuss such characteristic themes as utopias, the exploration of space and time, biological engineering, superman, robots, aliens, and other worlds—and the differences between European and American treatment of these themes.
For BA Students: Arts and Letters Sector
Course not offered every year
Also Offered As: ENGL 075, HIST 117, HSOC 110, STSC 110
Activity: Lecture
1 Course Unit

COML 090 Women and Literature
This course will focus on questions of gender difference and of sexual desire in a range of literary works, paying special attention to works by women and treatments of same-sex desire. More fundamentally, the course will introduce students to questions about the relation between identity and representation. We will attend in particular to intersections between gender, sexuality, race, class, and nation, and will choose from a rich vein of authors: Mary Wollstonecraft, Jane Austen, Mary Shelley, Lord Byron, the Brontes, Christina Rossetti, George Eliot, Oscar Wilde, Henry James, Gertrude Stein, Zora Neale Hurston, E. M. Forster, Virginia Woolf, Nella Larsen, Radclyffe Hall, Willa Cather, Elizabeth Bishop, Jean Rhys, James Baldwin, Sylvia Plath, Bessie Head, Audre Lorde, Adrienne Rich, Cherré Moraga, Toni Morrison, Michael Cunningham, Dorothy Allison, Jeanette Winterson, and Leslie Feinberg.
One-term course offered either term
Also Offered As: ENGL 090, GSWS 090
Activity: Lecture
1 Course Unit
Notes: This is a topics course. If the topic is "Gender, Sexuality, and Literature," the following description applies.

COML 093 Introduction to Postcolonial Literature
English is a global language with a distinctly imperial history, and this course serves as an essential introduction to literary works produced in or about the former European colonies. The focus will be poetry, film, fiction and non fiction and at least two geographic areas spanning the Americas, South Asia, the Caribbean and Africa as they reflect the impact of colonial rule on the cultural representations of identity, nationalism, race, class and gender.
Course not offered every year
Also Offered As: ENGL 093, LALS 093
Activity: Lecture
1 Course Unit
Notes: This is a topics course.

COML 094 Introduction to Literary Theory
This course introduces students to major issues in the history of literary theory. Treating the work of Plato and Aristotle as well as contemporary criticism, we will consider the fundamental issues that arise from representation, making meaning, appropriation and adaptation, categorization and genre, historicity and genealogy, and historicity and temporality. We will consider major movements in the history of theory including the "New" Criticism of the 1920s and 30s, structuralism and post-structuralism, Marxism and psychoanalysis, feminism, cultural studies, critical race theory, and queer theory.
Course not offered every year
Also Offered As: ENGL 094, GRMN 279
Activity: Lecture
1 Course Unit
COML 100 Introduction to Literary Study
Literature does not exist for your protection. So dangerous is it, that Socrates argued poets ought to be banned from his ideal Republic. And Socrates himself—one of the most subversive of all poetic thinkers—was condemned to death for corrupting the young with his speeches. All great literature is unsettling and alarming. Along with its beauty and delicacy and rhetorical power and ethical force, it can be terrifyingly sublime and even downright ugly: full of contempt and horror and grandiosity and malice. From Socrates’ day to our own, countless writers have been jailed, exiled, and murdered, their works censored, banned, burned, for daring to say what others wish would remain unsaid—about religion and the State; sexuality, gender, and the body; art, science, and commerce; freedom and order; love and hate—and for saying it in ways that are aesthetically innovative, surprising, seductive, ravishingly unanticipated.
For BA Students: Arts and Letters Sector
One-term course offered either term
Also Offered As: ENGL 100, RUSS 195
Activity: Lecture
1 Course Unit

COML 101 Introduction to Folklore
The purpose of the course is to introduce you to the subjects of the discipline of Folklore, their occurrence in social life and the scholarly analysis of their use in culture. As a discipline folklore explores the manifestations of expressive forms in both traditional and modern societies, in small-scale groups where people interact with each face-to-face, and in large-scale, often industrial societies, in which the themes, symbols, and forms that permeate traditional life, occupy new positions, or occur in different occasions in everyday life. For some of you the distinction between low and high culture, or artistic and popular art will be helpful in placing folklore forms in modern societies. For others, these distinction will not be helpful. In traditional societies, and within social groups that define themselves ethnically, professionally, or culturally, within modern heterogeneous societies, and traditional societies in the Americas, Africa, Asia, Europe and Australia, folklore plays a more prominent role in society, than it appears to plan in literate cultures on the same continents. Consequently the study of folklore and the analysis of its forms are appropriate in traditional as well as modern societies and any society that is in a transitional phase.
For BA Students: Humanities and Social Science Sector
Taught by: Ben-Amos
Course not offered every year
Also Offered As: FOLK 101, NELC 181, RELS 108
Activity: Lecture
1 Course Unit

COML 104 Study of a Period
This is an introduction to literary study through a survey of works from a specific historical period—often the 20th century, but some versions of this course will focus on other times. We will explore the period’s important artistic movements, ideas, and authors, focusing on interconnectedness of the arts to other aspects of culture.
For BA Students: Arts and Letters Sector
One-term course offered either term
Also Offered As: CIMS 104, ENGL 104
Activity: Lecture
1 Course Unit

COML 106 Topics in Literature and Society
While the topic of this course varies from semester, its subject is always the relation between literature and socio-economic realities: political, economic, social, and of identity. Past versions of English 105 have included “The World of Work,” “Disability Narratives,” and “Conflict in Print.” Each devotes a number of weeks to the economic and social theories underlying its given subject in order to provide students with adequate background.
For BA Students: Humanities and Social Science Sector
One-term course offered either term
Also Offered As: ENGL 105, GSWS 105
Activity: Lecture
1 Course Unit
Notes: This is a topics course. The topic varies from year to year.

COML 107 Topics: Freshman Seminars
This is a topics course. Topics vary each year. The topic of Spring 2016 will be WOMEN IN ITALIAN LITERATURE AND CINEMA.
One-term course offered either term
Also Offered As: CIMS 014, ITAL 100
Activity: Seminar
1 Course Unit

COML 108 Greek and Roman Mythology
Myths are traditional stories that have endured many years. Some of them have to do with events of great importance, such as the founding of a nation. Others tell the stories of great heroes and heroines and their exploits and courage in the face of adversity. Still others are simple tales about otherwise unremarkable people who get into trouble or do some great deed. What are we to make of all these tales, and why do people seem to like to hear them? This course will focus on the myths of ancient Greece and Rome, as well as a few contemporary American ones, as a way of exploring the nature of myth and the function it plays for individuals, societies, and nations. We will also pay some attention to the way the Greeks and Romans themselves understood their own myths. Are myths subtle codes that contain some universal truth? Are they a window on the deep recesses of a particular culture? Are they entertaining stories that people like to tell over and over? Are they a set of blinders that all of us wear, though we do not realize it? Investigate these questions through a variety of topics creation of the universe between gods and mortals, religion and family, sex, love, madness, and death.
For BA Students: Arts and Letters Sector
Taught by: Struck
Course not offered every year
Also Offered As: CLST 100
Activity: Lecture
1 Course Unit
COML 110 Theatre, History, Culture I, Classical Athens to Elizabethan London
This course will explore the forms of public performance, most specifically theatre, as they emerge from and give dramatic shape to the dynamic life of communal, civic and social bodies, from their anthropological origins in ritual and religious ceremonies, to the rise of great urban centers, to the closing of the theaters in London in 1642. This course will focus on the development of theatre practice in both Western and non-Western cultures intersects with the history of cities, the rise of market economies, and the emerging forces of national identity. In addition to examining the history of performance practices, theatre architecture, scenic conventions and acting methods, this course will investigate, where appropriate, social and political history, the arts, civic ceremonies and the dramaturgic structures of urban living.

For BA Students: Arts and Letters Sector
One-term course offered either term
Also Offered As: ENGL 097, ENGL 111, THAR 102
Activity: Lecture
1 Course Unit
Notes: Fulfills Arts and Letters Distributional Requirement

COML 111 Theatre, History, Culture II
This course examines theatre and performance in the context of the broader urban, artistic and political cultures housing them from the Renaissance to the mid-19th century. Encompassing multiple cultures and traditions, it will draw on a variety of readings and viewings designed to locate the play, playwright, trend or concept under discussion within a specific socio-historical context. The evolution of written and performed drama, theatre architecture, and scenography will be examined in tandem with the evolution of various nationalisms, population shifts, and other commercial and material forces on theatrical entertainments. Readings consequently will be drawn not only from plays and other contemporary documents, but also from selected works on the history, theory, design, technology, art, politics or society of the period under discussion.

One-term course offered either term
Also Offered As: ENGL 097, THAR 102
Activity: Lecture
1 Course Unit
Notes: Fulfills Arts and Letters Distributional Requirement

COML 115 Experimental Writing Seminar
It's clear that long-cherished notions of creativity are under attack, eroded by file-sharing, media culture, widespread sampling, and digital replication. How does writing respond to this environment? This workshop will rise to that challenge by employing strategies of appropriation, replication, plagiarism, piracy, sampling, plundering, as compositional methods. Along the way, we'll trace the rich history of forgery, frauds, hoaxes, avatars, and impersonations spanning the arts, with a particular emphasis on how they employ language. We'll see how the modernist notions of change, procedure, repetition, and the aesthetics of boredom dovetail with popular culture to usurp conventional notions of time, place, and identity, all as expressed linguistically.

Taught by: Bernstein
One-term course offered either term
Also Offered As: ENGL 111
Activity: Seminar
1 Course Unit
Notes: Students wishing to take this course must submit a writing sample as part of the selection process. May be repeated for credit with a different instructor.

COML 116 Introduction to Film Theory
This course offers students an introduction to the major texts in film theory across the 20th and 21st centuries. The course gives students an opportunity to read these central texts closely, to understand the range of historical contexts in which film theories are developed, to explore the relationship between film theory and the major film movements, to grapple with the points of contention that have emerged among theorists, and finally to consider: what is the status of film theory today? This course is required for all Cinema Studies majors, but is open to all students, and no prior knowledge of film theory is assumed.

Requirements: Close reading of all assigned texts; attendance and participation in section discussions; 1 midterm exam; 1 take-home final exam.
Also Offered As: ENGL 095
Activity: Lecture
1 Course Unit

COML 118 Poetics of Screenwriting
This course studies scriptwriting in a historical, theoretical and artistic perspective. We discuss the rules of drama and dialogue, character development, stage vs. screen-writing, adaptation of nondramatic works, remaking of plots, author vs. genre theory of cinema, storytelling in silent and sound films, the evolution of a script in the production process, script doctoring, as well as screenwriting techniques and tools. Coursework involves both analytical and creative tasks.

Taught by: Todorov
Course not offered every year
Also Offered As: CIMS 111, RUSS 111
Activity: Seminar
1 Course Unit

COML 119 The Novel
An introduction to literary study through a genre, either the short story or poetry. Versions of this course will vary widely in the selection of texts assigned. Some versions will begin with traditional stories or poems, including a sampling of works in translation. Others will focus exclusively on modern and contemporary American short fiction or poetry. This course is designed for the General Requirement, and is ideal for the students wishing to take an English course but not necessarily intending to major.

For BA Students: Arts and Letters Sector
Course not offered every year
Also Offered As: ENGL 103
Activity: Lecture
1 Course Unit
COML 120 Iranian Cinema: Gender, Politics, Religion
This seminar explores Iranian culture, society, history and politics through the medium of film. We will examine a variety of cinematic works that represent the social, political, economic and cultural circumstances of contemporary Iran, as well as the diaspora. Along the way, we will discuss issues pertaining to gender, religion, nationalism, ethnicity, and the role of cinema in Iranian society and beyond. Discussions topics will also include the place of the Iranian diaspora in cinema, as well as the transnational production, distribution, and consumption of Iranian cinema. Films will include those by internationally acclaimed filmmakers, such as Rakhshan Bani-Etemad, Asghar Farhadi, Bahman Ghobadi, Abbas Kiarostami, Mohsen Makhmalbaf, Dariush Mehrjui, Tahmineh Milani, Jafar Panahi, Marjane Satrapi and others. All films will be subtitled in English. No prior knowledge is required.
Taught by: Entezari
Course not offered every year
Also Offered As: NELC 118
Activity: Seminar
1 Course Unit

COML 121 Working with Translation
In this class we will study and translate some of the major figures in 20th century poetry, including Rainer Maria Rilke, Claire Malroux, Pablo Neruda, Cesare Pavese, Anna Akhmatova, and Bei Dao. While the curriculum will be tailored to the interests and linguistic backgrounds of the students who enroll, all those curious about world poetry and the formidable, irresistible act of translation are welcome. Students should have at least an intermediate knowledge of a language other than English. We will study multiple translations of seminal poems, render our own versions in response, and have the additional opportunity to work directly from the original. Students may also work in pairs, or groups. A portion of the course will be set up as a creative writing workshop in which to examine the overall effect of each others’ translations so that first drafts can become successful revisions. While class discussions will explore the contexts and particularity of (among others) Urdu, Italian, French, and Polish poetry, they might ultimately reveal how notions of national literature have radically shifted in recent years to more polyglottic and globally textured forms. Through guest speakers, essays on translation theory, and our own ongoing experiments, this course will celebrate the ways in which great poetry underscores the fact that language itself is a translation. In addition to the creative work, assignments will include an oral presentation, informal response papers, and a short final essay.
Taught by: Silverman, Taije
Course not offered every year
Also Offered As: ENGL 120
Activity: Seminar
1 Course Unit

COML 125 Narrative Across Cultures
The purpose of this course is to present a variety of narrative genres and to discuss and illustrate the modes whereby they can be analyzed. We will be looking at shorter types of narrative: short stories, novellas, and fables, and also some extracts from longer works such as autobiographies. While some works will come from the Anglo-American tradition, a larger number will be selected from European and non-Western cultural traditions and from earlier time-periods. The course will thus offer ample opportunity for the exploration of the translation of cultural values in a comparative perspective.
For BA Students: Arts and Letters Sector
One-term course offered either term
Also Offered As: ENGL 103, FOLK 125, NELC 180, SAST 124
Activity: Lecture
1 Course Unit

COML 126 Fantastic & Uncanny in Literature: Ghosts, Spirits and Machines
Do we still believe in spirits and ghosts? Do they have any place in an age of science of technology? Can they perhaps help us to define what a human being is and what it can do? We will venture on a journey through literary texts from the late eighteenth century to the present to explore the uncanny and fantastic in literature and Our discussions will be based on a reading of Sigmund Freud’s essay on the uncanny, and extraordinary Romantic narratives by Ludwig Tieck, E.T.A. Hoffmann, Edgar Allan Poe, Nathaniel Hawthorne, Prosper
For BA Students: Arts and Letters Sector
Taught by: Weissberg
Course usually offered in fall term
Also Offered As: GRMN 242
Activity: Lecture
1 Course Unit

COML 127 The Adultery Novel
The object of this course is to analyze narratives of adultery from Shakespeare to the present and to develop a vocabulary for thinking critically about the literary conventions and social values that inform them. Many of the themes (of desire, transgression, suspicion, discovery) at the heart of these stories also lie at the core of many modern narratives. Is there anything special, we will ask, about the case of adultery—once called “a crime which contains within itself all others”? What might these stories teach us about the way we read in general? By supplementing classic literary accounts by Shakespeare, Pushkin, Flaubert, Chekhov, and Proust with films and with critical analyses, we will analyze the possibilities and limitations of the different genres and forms under discussion, including novels, films, short stories, and theatre. What can these forms show us (or not show us)about desire, gender, family and social obligation? Through supplementary readings and class discussions, we will apply a range of critical approaches to place these narratives of adultery in a social and literary context, including formal analyses of narrative and style, feminist criticism, Marxist and sociological analyses of the family, and psychoanalytic understandings of desire and family life.
For BA Students: Arts and Letters Sector
One-term course offered either term
Also Offered As: CIMS 125, GSWS 125, RUSS 125
Activity: Seminar
1 Course Unit
Notes: All readings and discussions in English.

COML 128 The Diary
Diary writing is an intimate mode of expression in which individuals seek to find meaning in their personal lives and relations, responding to the external realities in which they live. Their coping is subjected to their historical, educational and social contexts, and to the generic conventions of diary writing. This course examines the diary as a genre, exploring its functions, meanings, forms and conventions, comparing it with fictive and non-fictive autobiographical writings such as the diary novel, autobiography and the memoir, as well as comparative gender diary-writing.
Taught by: Ben-Amos, B
Course not offered every year
Also Offered As: ENGL 076, GSWS 128
Activity: Lecture
1 Course Unit
COML 140 Topics in Modernism
This course explores an aspect of literary modernism intensively; specific course topics will vary from year to year. Past offerings have included seminars on the avant-garde, on the politics of modernism, and on its role in shaping poetry, music, and the visual arts.
One-term course offered either term
Also Offered As: ENGL 259, GRMN 249
Activity: Seminar
1 Course Unit
Notes: Critical Speaking

COML 141 Scandalous Arts in Ancient and Modern Communities
What do the ancient Greek comedian Aristophanes, the Roman satirist Juvenal, have in common with Snoop Dogg and Eminem? Many things, in fact, but perhaps the most fundamental is that they are all united by a stance that constantly threatens to offend prevailing social norms, whether through obscenity, violence or misogyny. This course will examine our conceptions of art (including literary, visual and musical media) that are deemed by certain communities to transgress the boundaries of taste and convention. It juxtaposes modern notions of artistic transgression, and the criteria used to evaluate such material, with the production of and discourse about transgressive art in classical antiquity. Students will consider, among other things, why communities feel compelled to repudiate some forms of art, while others into classics."
For BA Students: Humanities and Social Science S
Taught by: Rosen
Course not offered every year
Also Offered As: CLST 140
Activity: Lecture
1 Course Unit

COML 143 Foundations Euro Thought
Also Offered As: HIST 143
Activity: Lecture
1 Course Unit

COML 148 Slavery and Serfdom
During the Cold War, the United States and Russia were locked in an ideological battle, as capitalist and communist superpowers, over the question of private property. So how did these two countries approach the most important question regarding property that ever faced human civilization: how could governments justify the treatment of its subjects, people, as property? In 1862, Russia abolished serfdom, a form of human bondage that had existed in its territories since the 11th century. Just a year later, in 1863, Abraham Lincoln signed the Emancipation Proclamation, declaring America's slaves then, thenceforward, and forever free. What forces, both domestic and international, both political and cultural, influenced this near simultaneous awakening in which huge swaths of the Russian and U.S. populations were liberated? While scholars have often sought to compare slavery and serfdom as institutions, this course does not attempt to draw connections between the two. Rather, we will focus on how the slavery/anti-slavery and serfdom/anti-serfdom debates were framed in each respective country as well as how Russia used American slavery and the U.S. used Russian serfdom to shape their own domestic debates.
Taught by: Wilson
Course not offered every year
Also Offered As: AFRC 148, RUSS 149
Activity: Seminar
1 Course Unit

COML 150 War and Representation in Russia, Europe and the U.S.
Representations of war have been created for as many reasons as wars are fought: to legitimate conflict, to celebrate military glory, to critique brutality, to vilify an enemy, to mobilize popular support, to generate national pride, etc. In this course we will examine a series of representations of war drawn from the literature, film, state propaganda, memoirs, visual art, etc. of Russia, Europe and the United States of the twentieth century.
For BA Students: Humanities and Social Science S
One-term course offered either term
Also Offered As: RUSS 193
Activity: Seminar
1 Course Unit

COML 151 Water Worlds: Cultural Responses to Sea Level Rise & Catastrophic Flooding
As a result of climate change, the world that will take shape in the course of this century will be decidedly more inundated with water than we’re accustomed to. The polar ice caps are melting, glaciers are retreating, ocean levels are rising, polar bear habitat is disappearing, countries are jockeying for control over a new Arctic passage, while low-lying cities and small island nations are confronting the possibility of their own demise. Catastrophic flooding events are increasing in frequency, as are extreme droughts. Hurricane-related storm surges, tsunamis, and raging rivers have devastated regions on a local and global scale. In this seminar we will turn to the narratives and images that the human imagination has produced in response to the experience of overwhelming watery invasion, from Noah to New Orleans. Objects of analysis will include mythology, ancient and early modern diluvianism, literature, art, film, and commemorative practice. The basic question we’ll be asking is: What can we learn from the humanities that will be helpful for confronting the problems and challenges caused by climate change and sea level rise?
For BA Students: Arts and Letters Sector
Taught by: Richter
Course not offered every year
Also Offered As: ENVS 150, GRMN 150
Activity: Lecture
1 Course Unit

COML 163 Empire and Popular Culture: India and the Metropole
This course will explore the everyday experiences of the empire of those who were located physically in the “metropolitan home”. Beyond the politics and economics of the empire, this course studies the impact of the empire on the everyday lives of the British in the imperial age. Structured around how a Briton living in the ‘home’ might come to experience the empire through his/her encounters with the diverse cultural images and artefacts that were circulating since the turn of the nineteenth century, this course will specifically look at how these popular images of the Indian empire came to be informed by and in turn helped inform the shifting imperial notions of masculinity, sexuality, class, race and even spirituality.
Taught by: Mukharji
Course not offered every year
Also Offered As: HIST 227
Activity: Seminar
1 Course Unit
COML 191 World Literature
This course will introduce students to a wide array of literary works from across the world. It operates on the assumption that cultures have never been isolated from each other and that literature has always been in motion across national boundaries; it has been translated, adapted, and circulated. We will explore the genres, forms, and thematic preoccupations of major works that strive to imagine a wider world, while also studying the critical debates around the concept of world literature, from its origins with Goethe's essay on Weltliteratur to contemporary arguments about cosmopolitanism and globalization.
Taught by: Premoli/Irele
One-term course offered either term
Also Offered As: CLST 191, ENGL 277
Activity: Seminar
1 Course Unit

COML 192 Classics of the World II
This class provides a survey of works drawn from the Western literary canon from the Renaissance to the 20th century. Work may be drawn in part from the following authors: Montaigne, Shakespeare, Webster, Moliere, Milton, Behn, Laclos, Rousseau, Sterne, the Romantic poets, Austen, Dickens, Bronte, Wilde, Woolf and Joyce.
One-term course offered either term
Activity: Seminar
1 Course Unit

COML 193 Great Story Collections
This course is intended for those with no prior background in folklore or knowledge of various cultures. Texts range in age from the first century to the twentieth, and geographically from the Middle East to Europe to the United States. Each collection displays various techniques of collecting folk materials and making them concrete. Each in its own way also raises different issues of genre, legitimacy, canon formation, cultural values and context.
For BA Students: Arts and Letters Sector
Taught by: Azzolina
Course not offered every year
Also Offered As: ENGL 099, FOLK 241
Activity: Lecture
1 Course Unit

COML 197 Madness and Madmen in Russian Culture
This course will explore the theme of madness in Russian literature and arts from the medieval period through the October Revolution of 1917. The discussion will include formative masterpieces by Russian writers (Pushkin, Dostoevsky, Tolstoy, Chekhov, and Bulgakov), painters (Repin, Vrubel, Filonov), composers (Mussorgsky, Tchaikovsky, and Stravinsky), and film-directors (Protazanov, Eisenstein), as well as non-fictional documents such as Russian medical, judicial, political, and philosophical treatises and essays on madness.
For BA Students: Humanities and Social Science S
Course not offered every year
Also Offered As: RUSS 197
Activity: Lecture
1 Course Unit

COML 201 Topics Film History
This is a topics course. Please check each semester for the topic on the Comparative Literature website: http://ccat.sas.upenn.edu/Complit/.
Course not offered every year
Also Offered As: ARTH 290, CIMS 201, ENGL 291
Activity: Seminar
1 Course Unit

COML 203 Masterpieces-Italian Literature
Readings and reflections on significant texts of the Italian literary and artistic tradition exploring a wide range of genres, themes, cultural debates by analyzing texts in sociopolitical contexts. Readings and discussions in Italian.
For BA Students: Arts and Letters Sector
Course usually offered in spring term
Also Offered As: COLL 228, ITAL 203
Activity: Seminar
1 Course Unit

COML 204 Tolstoy
This course consists of three parts. The first, How to read Tolstoy? deals with Tolstoy's artistic stimuli, favorite devices, and narrative strategies. The second, Tolstoy at War, explores the authors provocative visions of war, gender, sex, art, social institutions, death, and religion. The emphasis is placed here on the role of a written word in Tolstoys search for truth and power. The third and the largest section is a close reading of Tolstoys masterwork The War and Peace (1863-68) a quintessence of both his artistic method and philosophical insights.
Course not offered every year
Also Offered As: RUSS 202
Activity: Seminar
1 Course Unit
Notes: Ben Franklin Seminar

COML 205 The Religious Other
Courseexplores attitudes toward monotheists of other faiths, and claims made about these "religious Others" in real and imagined encounters between Jews, Christians and Muslims from antiquity to the present. Strategies of "othering" will be analyzed through an exploration of claims about the Other's body, habits and beliefs, as found in works of scripture, law, theology, polemics, art, literature and reportage. Attention will be paid to myths about the other, inter-group violence, converts, cases of cross-cultural influence, notions of toleration, and perceptions of Others in contemporary life. Primary sources will be provided in English.
Taught by: Fishman
Course not offered every year
Also Offered As: JWST 213, NELC 383, RELS 203
Activity: Seminar
1 Course Unit
COML 209 Sustainability & Utopianism
This seminar explores how the humanities can contribute to discussions of sustainability. We begin by investigating the contested term itself, paying close attention to critics and activists who deplore the very idea that we should try to sustain our, in their eyes, dystopian present, one marked by environmental catastrophe as well as by an assault on the educational ideals long embodied in the humanities. We then turn to classic humanist texts on utopia, beginning with More’s fictive island of 1517. The “origins of environmentalism” lie in such depictions of island edens (Richard Grove), and our course proceeds to analyze classic utopian tests from American, English, and German literatures. Readings extend to utopian visions from Europe and America of the nineteenth and twentieth centuries, as well as literary and visual texts that deal with contemporary nuclear and flood catastrophes. Authors include: Bill McKibben, Jill Kerr Conway, Christopher Newfield, Thomas More, Francis Bacon, Karl Marx, Henry David Thoreau, Robert Owens, William Morris, Charlotte Perkins Gilman, Ayn Rand, Christa Wolf, and others.
For BA Students: Humanities and Social Science S
Taught by: Wiggin
Course not offered every year
Also Offered As: GRMN 239
Activity: Seminar
1 Course Unit

COML 212 Modern Middle Eastern Literature in Translation
The Middle East boasts a rich tapestry of cultures that have developed a vibrant body of modern literature that is often overlooked in media coverage of the region. While each of the modern literary traditions that will be surveyed in this introductory course: Arabic, Hebrew, Persian and Turkish will be analyzed with an appreciation of the cultural context unique to each body of literature, this course will also attempt to bridge these diverse traditions by analyzing common themes such as modernity, social values, the individual and national identity as reflected in the genres of poetry, the novel and the short story. This course is in seminar format to encourage lively discussion and is taught by four professors whose expertise in modern Middle Eastern literature serves to create a deeper understanding and aesthetic appreciation of each literary tradition. In addition to honing students’ literary analysis skills, the course will enable students to become more adept at discussing the social and political forces that are reflected in Middle Eastern literature, explore important themes and actively engage in reading new Middle Eastern works on their own translation. All readings are in English.
For BA Students: Arts and Letters Sector
Taught by: Gold
Course usually offered in spring term
Also Offered As: NELC 201
Activity: Lecture
1 Course Unit

COML 213 Saints and Devils in Russian Literature
This course is about Russian literary imagination, which is populated with saints and devils, believers and religious rebels, holy men and sinners. In Russia, where people’s frame of mind had been formed by a mix of Eastern Orthodox Christianity and earlier pagan beliefs, the quest for faith, spirituality, and the meaning of life has invariably been connected with religious matters. How can one find the right path in life? Is humility the way to salvation? Should one live for God or for the people? Does God even exist?
For BA Students: Arts and Letters Sector
Taught by: Verkholyantsev
Course not offered every year
Also Offered As: RELS 218, RUSS 213
Activity: Seminar
1 Course Unit

COML 215 Arabic Literary Heritage
This course provides a survey of the genres and major figures in Arabic literary history from the 6th century up to the present day. Selections will be read in translation after a general introduction to the cultural background and a session devoted to the Qur'an and its influence, a sequence of sessions will be devoted to poetry, narratives, drama, and criticism. Each set of texts is accompanied by a collection of background readings which place the authors and works into a literary, political and societal context. This course thus attempts to place the phenomenon of “literature” into the larger context of Islamic studies by illustrating the links between Arab litterateurs and other contributors to the development of an Islamic/Arab culture on the one hand, and by establishing connections between the Arabic literary tradition and that of other (particularly Western) traditions.
Taught by: Fakhreddine
Course usually offered in fall term
Also Offered As: NELC 233
Activity: Lecture
1 Course Unit

COML 216 CU in India: Topics Course
C.U. in India is a hybrid, domestic/overseas course series which provides students with the opportunity to have an applied learning and cultural experience in India. The 2-CU course requires: 1) 15 classroom hours at Penn in the Fall term 2) A 12-Day trip to India with the instructor during the winter break to visit key sites and conduct original research (sites vary) 3) 15 classroom hours at Penn in the Spring term and 4) A research paper; due at the end of the spring term. Course enrollment is restricted to students admitted to the program. For more information, and the program application, go to http://sites.sas.upenn.edu/cuinindia
Two terms. student must enter first term.
Also Offered As: SAST 217
Activity: Seminar
1 Course Unit

COML 218 Perspectives in French Literature
This basic course in literature provides an overview of French literature and acquaints students with major literary trends through the study of representative works from each period. Students are expected to take an active part in class discussion. French 231 has as its theme the presentation of love and passion in French literature.
Course usually offered in fall term
Also Offered As: COLL 221, FREN 231
Activity: Seminar
1 Course Unit
**COML 219 Perspectives in French Literature: The Individual and Society**
This basic course in literature provides an overview of French literature and acquaints students with major literary trends through the study of representative works from each period. Special emphasis is placed on close reading of texts in order to familiarize students with major authors and their characteristics and with methods of interpretation. Students are expected to take an active part in class discussion in French. French 232 has as its theme the Individual and Society.
For BA Students: Arts and Letters Sector
Course usually offered in fall term
Also Offered As: COLL 221, FREN 232
Activity: Seminar
1 Course Unit

**COML 220 Russia and the West**
This course will explore the representations of the West in eighteenth- and nineteenth-century Russian literature and philosophy. We will consider the Russian visions of various events and aspects of Western political and social life - Revolutions, educational system, public executions, resorts, etc. - within the context of Russian intellectual history. We will examine how images of the West reflect Russia's own cultural concerns, anticipations, and biases, as well as aesthetic preoccupations and interests of Russian writers. The discussion will include literary works by Karamzin, Pushkin, Gogol, Dostoevsky, Leskov, and Tolstoy, as well as non-fictional documents, such as travelers' letters, diaries, and historiosophical treatises of Russian Freemasons, Romantic and Positivist thinkers, and Russian social philosophers of the late nineteenth century. A basic knowledge of nineteenth-century European history is desirable. The class will consist of lectures, discussions, short writing assignments, and two in-class tests.
For BA Students: Humanities and Social Science S
One-term course offered either term
Also Offered As: HIST 220, RUSS 220
Activity: Seminar
1 Course Unit

**COML 221 Topics in Medieval Literature**
This seminar explores an aspect of medieval literature intensively; specific course topics will vary from year to year. Topics in the past have included the medieval performance, medieval women, and medieval law and literature. Please see the Comparative Literature website each semester for the topic: http://ccat.sas.upenn.edu/Complit/.
Course not offered every year
Also Offered As: ENGL 221
Activity: Seminar
1 Course Unit

**COML 222 Topics In Romance**
This seminar explores an aspect of epic or romance intensively; specific course topics will vary from year to year.
Course not offered every year
Also Offered As: ENGL 222, GSWS 221
Activity: Seminar
1 Course Unit

**COML 224 African Epic: Performance and Power**
Homer's Iliad and Odyssey from ancient Greece and Song of Roland from medieval France are familiar landmarks in world literature. In contrast, Sunjata Epic of Mali, Mwindo Epic of Congo and more than twenty-five other heroic narrative poems throughout Africa are less known but equally valuable for accessing ancient wisdom, exploits of heroes and heroines, cultural values, knowledge systems, and supernatural realms. An additional benefit of studying African epic is that they are performed today or in living memory, so the cultural, performative, and social contexts are not obscured by centuries. These living traditions give us opportunities to more fully understand bards' roles, interaction of bard and audience, transformation from oral to written representation, and the extension of epic themes into other aspects of social life.
Taught by: Blakely
Course not offered every year
Also Offered As: AFST 228
Activity: Lecture
1 Course Unit

**COML 226 Hindi Nation and its Fragments**
This course will trace the formation and contestation of a Hindi national public during the colonial and post-colonial periods, utilizing the post-colonial critical thought of writers in English like Partha Chatterjee, Gayatri Spivak, and Aijaz Ahmed, but also of critics writing in Hindi like Namvar Singh, Ashok Vajpevi, Rajendra Yadav, etc. Attention will be given to this manner in which the contours and character of this imagined community have been debated in the context of different literary, social, and political movements, with particular emphasis given to aspects of gender, caste, and regional identity. Central to class discussions will be the question of what constitutes a language literature, and consequently what relation these concepts can have to nation in a multilingual state such as India. Readings will be in translation.
Taught by: Williams
One-term course offered either term
Also Offered As: COML 535, SAST 227, SAST 527
Activity: Seminar
1 Course Unit

**COML 228 Studies in Hebrew Bible**
This course introduces students to the methods and resources used in the modern study of the Bible. To the extent possible, these methods will be illustrated as they apply to a single book of the Hebrew Bible that will serve as the main focus of the course.
One-term course offered either term
Also Offered As: HEBR 250, JWST 256, RELS 220
Prerequisite: HEBR 154 or the equivalent
Activity: Lecture
1 Course Unit
**COML 233 Censored! The Book and Censorship since Gutenberg**
Although its pages may appear innocuous enough, bound innocently between non-descript covers, the book has frequently become the locus of intense suspicion, legal legislation, and various cultural struggles. But what causes a book to blow its cover? In this course we will consider a range of specific censorship cases in the west since the invention of the printed book to the present day. We will consider the role of various censorship authorities (both religious and secular) and grapple with the timely question about whether censorship is ever justified in building a better society. Case studies will focus on many well-known figures (such as Martin Luther, John Milton, Voltaire, Benjamin Franklin, Goethe, Karl Marx, and Salman Rushdie) as well as lesser-known authors and, particularly Anonymous (who may have chosen to conceal her identity to avoid pursuit by the Censor).

Taught by: Wiggin
Course not offered every year
Also Offered As: GRMN 233
Activity: Seminar
1 Course Unit

**COML 234 The World of Dante**
Dante's masterpiece in context of 14th century culture. Selected cantos will connect with such topics as books and readers in the manuscript era, life in society dominated by the Catholic church (sinners vs. saints, Christian pilgrimage routes, the great Franciscan and Dominican orders), Dante's politics as a Florentine exile (power struggles between Pope and Emperor), hi classical and Biblical literary models, his genius as a poet in the medieval structures of allegory, symbolism, and numerology. Field trip to University of Pennsylvania Rare Book Collection. Text in Italian with facing English translation.

Course not offered every year
Also Offered As: ITAL 232
Activity: Seminar
1 Course Unit
Notes: Freshman Seminar

**COML 235 Medieval Russia: Origins of Russian Cultural Identity**
This course offers an overview of the cultural history of Rus from its origins to the sixteenth century, a period which laid the foundation for the Russian Empire. The course takes an interdisciplinary approach to the evolution of the main cultural paradigms of Russian Orthodoxy viewed in a broader European context. Although this course is historical in content, it is also about modern Russia. The legacy of Medieval Rus is still referenced, often allegorically, in contemporary social and cultural discourse as the Russian, Ukrainian and Belarusian societies attempt to reconstruct and reinterpret their histories. In this course, students learn that the study of the medieval cultural and political history explains many aspects of modern Russian society, its culture and mentality. Understanding of the region and its people.

Taught by: Verkholantsev
Course not offered every year
Also Offered As: HIST 219, RUSS 234, SLAV 517
Activity: Seminar
1 Course Unit

**COML 236 Napoleonic Era and Tolstoy**
In this course we will read what many consider to be the greatest book in world literature. This work, Tolstoy's War and Peace, is devoted to one of the most momentous periods in world history, the Napoleonic Era (1789-1815). We will study both the novel and the era of the Napoleonic Wars: the military campaigns of Napoleon and his opponents, the grand strategies of the age, political intrigues and diplomatic betrayals, the ideologies and human dramas, the relationship between art and history. How does literature help us to understand this era? How does history help us to understand this great novel?

Taught by: Holquist
Course not offered every year
Also Offered As: HIST 333, RUSS 240
Activity: Lecture
1 Course Unit
Notes: All readings and lectures in English.

**COML 239 Topics in 18th Century Literature**
This course explores an aspect of 18th-century literature intensively; specific course topics will vary from year to year.

Course not offered every year
Also Offered As: ENGL 241, GSWS 241
Activity: Seminar
1 Course Unit

**COML 240 Fairy Tales**
This course surveys the fairy tale (Marchen) as an oral narrative genre, and in its transformations as literature, sequential art, and film. Topics include classic and contemporary collections from Europe, the United States, and beyond; issues of "authenticity" and the ownership of tales; fairy tales as folk performance, post-modern pastiche, and material culture; and the genre's relationship to geography, gender, power, and desire. This course will serve as a scholarly introduction to the field of Fairy-Tale Studies. And it may examine works from Matthew Bright, Angela Carter, Emma Donoghue, Guillermo Del Toro, Neil Gaiman, David Kaplan, and Bill Willingham.

Course not offered every year
Also Offered As: FOLK 240
Activity: Lecture
1 Course Unit

**COML 242 Religion and Literature**
A consideration of how great works of literature from different cultural traditions have reclaimed and reinterpreted compelling religious themes. The focus this semester will be on themes of creation, especially the creation of human beings, from ancient myths of different cultures to modern science fiction. This course fulfills the General Requirement in Sector 3, Arts and Letters.

For BA Students: Arts and Letters Sector
Taught by: Matter
One-term course offered either term
Also Offered As: RELS 003
Activity: Lecture
1 Course Unit
COML 245 Study of a Theme
This is an introduction to literary study through the works of a compelling literary theme. (For offerings in a given semester, please see the online course descriptions on the English Department website). The theme's function within specific historical contexts, within literary history generally, and within contemporary culture, are likely to be emphasized. For BA Students: Arts and Letters Sector
Course not offered every year
Also Offered As: AFST 102, CIMS 112, ENGL 102, GSWS 102, PSYS 102
Activity: Lecture
1 Course Unit
Notes: This is a topics course.

COML 247 Free Radicals: Marx, Marxism, and the Culture of Revolution
"A spectre is haunting Europe--the spectre of Communism": This, the famous opening line of The Communist Manifesto, will guide this course's exploration of the history, legacy, and potential future of Karl Marx's most important texts and ideas, even long after Communism has been pronounced dead. Contextualizing Marx within a tradition of radical thought regarding politics, religion, and sexuality, we will focus on the philosophical, political, and cultural origins and implications of his ideas. Our work will center on the question of how his writings seek to counter or exploit various tendencies of the time; how they align with the work of Nietzsche, Freud, and other radical thinkers to follow; and how they might continue to haunt us today. We will begin by discussing key works by Marx himself, examining ways in which he is both influenced by and appeals to many of the same fantasies, desires, and anxieties encoded in the literature, arts and intellectual currents of the time. In examining his legacy, we will focus on elaborations or challenges to his ideas, particularly within cultural criticism, postwar protest movements, and the cultural politics of the Cold War. In conclusion, we will turn to the question of Marxism or Post-Marxism today, asking what promise Marx's ideas might still hold in a world vastly different from his own. For BA Students: Humanities and Social Science S
Course not offered every year
Also Offered As: AFST 102, CIMS 112, ENGL 102, GSWS 102, PSYS 102
Activity: Lecture
1 Course Unit
Notes: This is a topics course. Please see the Comparative Literature website for the each semester's topic: http://ccat/sas.upenn.edu/Complit/.

COML 248 Topics in European History
One-term course offered either term
Also Offered As: HIST 230
Activity: Seminar
1 Course Unit
Notes: This is a topics course. Please see the Comparative Literature website for each semester's topic: http://ccat/sas.upenn.edu/Complit/.

COML 249 Topics in 19th Century Literature
This course explores an aspect of 19th-century literature intensively; specific course topics will vary from year to year. One-term course offered either term
Also Offered As: CIMS 250, ENGL 251, GSWS 250
Activity: Seminar
1 Course Unit

COML 252 Spanish Literature in Translation
Course usually offered in spring term
Also Offered As: SPAN 250
Activity: Seminar
1 Course Unit
Notes: This is a topics course. The topic may be "Latin American Travel Narratives or "Caribbean Writers in the U.S.">

COML 253 Freud: The Invention of Psychoanalysis
No other person of the twentieth century has probably influenced scientific thought, humanistic scholarship, medical therapy, and popular culture as much as Sigmund Freud. This seminar will study his work, its cultural background, and its impact on us today. In the first part of the course, we will learn about Freud's life and the Viennese culture of his time. We will then move to a discussion of seminal texts, such as excerpts from his Interpretation of Dreams, case studies, as well as essays on psychoanalytic practice, human development, definitions of gender and sex, neuroses, and culture in general. In the final part of the course, we will discuss the impact of Freud's work. Guest lecturers from the medical field, history of science, psychology, and the humanities will offer insights into the reception of Freud's work, and its consequences for various fields of study and therapy. For BA Students: Humanities and Social Science S Taught by: Weissberg
One-term course offered either term
Also Offered As: ENGL 240, GRMN 253, GSWS 252
Activity: Lecture
1 Course Unit
Notes: All readings and lectures in English.

COML 254 Metropolis: Culture of the City
An exploration of modern discourses on and of the city. Topics include: the city as site of avant-garde experimentation; technology and culture; the city as embodiment of social order and disorder; traffic and speed; ways of seeing the city; the crowd; city figures such as the detective, the criminal, the flaneur, the dandy; film as the new medium of the city. Special emphasis on Berlin. Readings by, among others, Dickens, Poe, Baudelaire, Rilke, Doeblin, Marx, Engels, Benjamin, Kracauer. Films include Fritz Lang's Metropolis and Tom Tykwer's Run Lola Run. For BA Students: Arts and Letters Sector Taught by: MacLeod
One-term course offered either term
Also Offered As: CIMS 244, GRMN 244, URBS 244
Activity: Lecture
1 Course Unit
Notes: All readings and lectures in English.

COML 255 Russian Thinkers
This class focuses on the complex relations between philosophy, history, and art in Russia and offers discussions of works of major Russian authors (such as Dostoevsky, Tolstoy, Khlebnikov), religious and political thinkers (Chaadaev, Herzen, Berdiaev, Lenin, Bogdanov), avant-garde artists (Filonov, Malevich) and composers (Skriabin) who created and tested in their lives their own, sometimes very peculiar and radical, worldviews. We will consider these worldviews against a broad cultural background and will reenact them in class in the form of philosophical mini-dramas. The only prerequisite for this course is intellectual curiosity and willingness to embrace diverse, brave and often weird ideas. Taught by: Vinitsky
Course not offered every year
Also Offered As: RUSS 261
Activity: Seminar
1 Course Unit
COML 256 Contemporary Fiction & Film in Japan
This course will explore fiction and film in contemporary Japan, from 1945 to the present. Topics will include literary and cinematic representation of Japan's war experience and post-war reconstruction, negotiation with Japanese classics, confrontation with the state, and changing ideas of gender and sexuality. We will explore these and other questions by analyzing texts of various genres, including film and film scripts, novels, short stories, manga, and academic essays. Class sessions will combine lectures, discussion, audio-visual materials, and creative as well as analytical writing exercises. The course is taught in English, although Japanese materials will be made available upon request. No prior coursework in Japanese literature, culture, or film is required or expected; additional secondary materials will be available for students taking the course at the 600 level. Writers and film directors examined may include: Kawabata Yasunari, Hayashi Fumiko, Abe Kobo, Mishima Yukio, Oe Kenzaburo, Yoshimoto Banana, Ozu Yasujiro, Naruse Mikio, Kurosawa Akira, Imamura Shohei, Koreeda Hirokazu, and Beat Takeshi.
For BA Students: Arts and Letters Sector
Taught by: Kano
Course not offered every year
Also Offered As: CIMS 151, EALC 151, GSWS 257
Activity: Lecture
1 Course Unit

COML 257 Jewish Literature in the Middle Ages in Translation
Course explores the cultural history of Jews in the lands of Islam from the time of Mohammed through the late 17th century (end of Ottoman expansion into Europe) – in Iraq, the Middle East, al-Andalus and the Ottoman Empire. Primary source documents (in English translation) illuminate minority-majority relations, internal Jewish tensions (e.g., Qaraism), and developments in scriptural exegesis, rabbinic law, philosophy, poetry, polemics, mysticism and liturgy. Graduate students will have additional readings and meetings.
Taught by: Fishman
One-term course offered either term
Also Offered As: JWST 153, NELC 158, NELC 458, RELS 223
Activity: Seminar
1 Course Unit

COML 259 Jewish Humor
In modern American popular culture Jewish humor is considered by Jews and non-Jews as a recognizable and distinct form of humor. Focusing upon folk-humor, in this course we will examine the history of this perception, and study different manifestation of Jewish humor as a particular case study of ethnic in general. Specific topics for analysis will be: humor in the Hebrew Bible, Jewish humor in Europe and in America, JAP and JAM jokes, Jewish tricksters and pranksters, Jewish humor in the Holocaust and Jewish humor in Israel. The term paper will be collecting project of Jewish jokes.
For BA Students: Arts and Letters Sector
Taught by: Ben-Amos
One-term course offered either term
Also Offered As: FOLK 296, NELC 254
Activity: Lecture
1 Course Unit

COML 261 Topics in German Cinema
This is a topics course. Specific topics vary from year to year.
Course not offered every year
Also Offered As: CIMS 299, GRMN 259
Activity: Lecture
1 Course Unit

COML 262 Topics In 20th-Century American Literature
The course explores an aspect of 20th-century American literature intensively; specific course topics will vary from year to year.
Course not offered every year
Also Offered As: ARTH 301, CIMS 263, ENGL 263
Activity: Seminar
1 Course Unit

COML 263 Topics in 20th C. Novel
This course explores an aspect of the 20th-century novel intensively; specific course topics will vary from year to year.
One-term course offered either term
Also Offered As: ENGL 265, GSWS 266
Activity: Seminar
1 Course Unit

COML 265 Jewish Films and Literature
From the 1922 silent film “Hungry Hearts” through the first “talkie,” “The Jazz Singer,” produced in 1927, and beyond “Schindler’s List,” Jewish characters have confronted the problems of their Jewishness on the silver screen for a general American audience. Alongside this Hollywood tradition of Jewish film, Yiddish film blossomed from independent producers between 1911 and 1939, and interpreted literary masterpieces, from Shakespeare’s “King Lear” to Sholom Aleichem’s “Teyve the Dairyman,” primarily for an immigrant, urban Jewish audience. In this course, we will study a number of films and their literary sources (in fiction and drama), focusing on English language and Yiddish films within the framework of three dilemmas of interpretation: a) the different ways we “read” literature and film, b) the various ways that the media of fiction, drama, and film “translate” Jewish culture, and c) how these translations of Jewish culture affect and are affected by their implied audience.
Taught by: Hellerstein
Course usually offered in spring term
Also Offered As: CIMS 279, GRMN 261, JWST 261
Activity: Lecture
1 Course Unit

COML 266 Introduction to Modern Hebrew Literature
The objective of this course is to develop an artistic appreciation for literature through in-depth class discussions and text analysis. Readings comprised of Israeli poetry and short stories. Students examine how literary language expresses psychological and cultural realms. The covers topics such as: the image of the Israeli city, the conflict between individual dreams and national/Zionist goals, etc. Because the content of this course changes from year to year, students may take it for credit more than once.
For BA Students: Arts and Letters Sector
Taught by: Gold
Course not offered every year
Also Offered As: COLL 227, HEBR 259, HEBR 559, JWST 259
Prerequisites: HEBR 059 or equivalent.
Activity: Seminar
1 Course Unit
Notes: This course is conducted in Hebrew and all readings are in Hebrew. Grading is based primarily on participation and students’ literary understanding. (HEBR 054 or equivalent required)

COML 267 Topics In Modern Drama
This course explores an aspect of Modern drama intensively; specific course topics will vary from year to year.
Course not offered every year
Also Offered As: CLST 315, ENGL 256, THAR 275
Activity: Seminar
1 Course Unit
COML 269 Fascist Cinemas
Cinema played a crucial role in the cultural life of Nazi Germany and other fascist states. As cinema enthusiasts, Goebbels and Hitler were among the first to realize the important ideological potential of film as a mass medium and saw to it that Germany remained a cinema powerhouse producing more than 1000 films during the Nazi era. In Italy, Mussolini, too, declared cinema "the strongest weapon." This course explores the world of "fascist" cinemas ranging from infamous propaganda pieces such as "The Triumph of the Will" to popular entertainments such as musicals and melodramas. It examines the strange and mutually defining kinship between fascism more broadly and film. We will consider what elements mobilize and connect the film industries of the Axis Powers: style, genre, the aestheticization of politics, the creation of racialized others. More than seventy years later, fascist cinemas challenge us to grapple with issues of more subtle ideological insinuation than we might think. Weekly screenings with subtitles.
For BA Students: Arts and Letters Sector
Taught by: MacLeod
Course not offered every year
Also Offered As: CIMS 257, GRMN 257, ITAL 257
Activity: Lecture
1 Course Unit
Notes: All discussions and readings in English.

COML 270 German Cinema
An introduction to the momentous history of German film, from its beginnings before World War One to developments following the fall of the Berlin Wall in 1989 and German reunification in 1990. With an eye to film's place in its historical and political context, the course will explore the "Golden Age" of German cinema in the Weimar Republic, when Berlin vied with Hollywood; the complex relationship between Nazi ideology and entertainment during the Third Reich; the fate of German film-makers in exile during the Hitler years; post-war film production in both West and East Germany; the call for an alternative to "Papa's Kino" and the rise of New German Cinema in the late 1960's.
For BA Students: Arts and Letters Sector
Taught by: MacLeod
Course not offered every year
Also Offered As: CIMS 258, GRMN 258
Activity: Lecture
1 Course Unit

COML 271 Topics in 20th Century Literature
The course explores an aspect of 20th-century literature intensively; specific course topics will vary from year to year.
Course not offered every year
Also Offered As: CIMS 261, ENGL 361
Activity: Seminar
1 Course Unit

COML 273 Topics in the Literature of Africa and the African Diaspora
This course explores an aspect of the literature of Africa and the African Diaspora intensively; specific course topics will vary from year to year.
Course usually offered summer term only
Also Offered As: AFRC 276, ENGL 271
Activity: Seminar
1 Course Unit

COML 274 Topics: Twentieth Century Poetry
The course explores an aspect of 20th-century poetry intensively; specific course topics will vary from year to year.
Also Offered As: ENGL 262
Activity: Seminar
1 Course Unit

COML 277 Jewish American Literature
What makes Jewish American literature Jewish? What makes it American? This course will address these questions about ethnic literature through fiction, poetry, drama, and other writings by Jews in America, from their arrival in 1654 to the present. We will discuss how Jewish identity and ethnicity shape literature and consider how form and language develop as Jewish writers "immigrate" from Yiddish, Hebrew, and other languages to American English. Our readings, from Jewish American Literature: A Norton Anthology, will include a variety of stellar authors, both famous and less-known, including Isaac Mayer Wise, Emma Lazarus, Isaac Bashevis Singer, Celia Dropkin, Abraham Cahan, Anzia Yezierska, Saul Bellow, Philip Roth, Cynthia Ozick, and Allegra Goodman. Students will come away from this course having explored the ways that Jewish culture intertwines with American culture in literature.
For BA Students: Arts and Letters Sector
Taught by: Hellerstein
One-term course offered either term
Also Offered As: GRMN 263, JWST 261
Activity: Lecture
1 Course Unit

COML 280 Italian Cinema
The course will consist of a broad and varied sampling of classic Italian films from WWII to the present. The curriculum will be divided into four units: (1) The Neorealist Revolution, (2) Metacinema, (3) Fascism and War Revisited, and (4) Postmodernism or the Death of the Cinema. One of the aims of the course will be to develop a sense of "cinematic literacy" to develop critical techniques that will make us active interpreters of the cinematic image by challenging the expectations that Hollywood has implanted in us: that films be action-packed wish-fulfillment fantasies. Italian cinema will invite us to re-examine and revise the very narrow conception that we Americans have of the medium. We will also use the films as a means to explore the postwar Italian culture so powerfully reflected, and in turn, shaped, by its national cinema. Classes will include close visual analysis of films using video clips and slides. The films will be in Italian with English subtitles and will include works of Fellini, Antonioni, De Sica, Visconti, Pasolini, Wertuller, Rossellini, Rossellini, Bertolucci and Moretti.
Course not offered every year
Also Offered As: CIMS 340, ITAL 322
Activity: Seminar
1 Course Unit

COML 281 Topics Poetry and Poetics
This course explores an aspect of poetry and poetics intensively; specific course topics will vary from year to year.
Also Offered As: ENGL 269
Activity: Seminar
1 Course Unit
COML 282 Modern Hebrew Literature and Culture in Translation
This course follows and analyzes the transformations in Israeli literature and cinema. The focus and the specific topic of the study changes from semester to semester. Topics include: The Holocaust; The Image of Childhood; Dream, Fantasy and Madness; Love and War; The Many Voices of Israel; The Image of the City; and other topics. While Israeli works constitute much of the course’s material, European and American film and fiction play comparative roles. 5-6 film screenings per semester; This topic course explores aspects of Hebrew Literature, Film, and Culture. Specific course topics vary from semester to semester. Students may take it more than once for credit. Please see the COML website for the current course offering.
For BA Students: Arts and Letters Sector
Taught by: Gold
Course usually offered in fall term
Also Offered As: CIMS 159, ENGL 079, JWST 154, NELC 159
Activity: Lecture
1 Course Unit
Notes: There will be five film screenings; the films will also be placed on reserve at the library for those students unable to attend. The content of this course changes from year to year, and therefore, students may take it for credit more than once.

COML 283 Jewish Folklore in Literature
The Jews are among the few nations and ethnic groups whose oral tradition occurs in literary and religious texts dating back more than two thousand years. This tradition changed and diversified over the years in terms of the migration of Jews into different countries and historical, social, and cultural changes that these countries underwent. The course attempts to capture the historical and ethnic diversity of Jewish folklore in a variety of oral literary forms.
Taught by: Ben-Amos
Course not offered every year
Also Offered As: FOLK 280, JWST 260, NELC 258
Activity: Lecture
1 Course Unit

COML 284 Latin American Literature
This course explores an aspect of Latina/o literature intensively; specific course topics will vary from year to year.
Course not offered every year
Also Offered As: ENGL 270, LALS 291, ROML 290
Activity: Seminar
1 Course Unit

COML 287 Ethnic Humor
Humor in ethnic societies has two dimensions: internal and external. The inside humor of an ethnic group is accessible to its members; it draws upon their respective social structures, historical and social experiences, languages, cultural symbols, and social and economic circumstances and aspirations. The external humor of an ethnic group targets members of other ethnic groups, and draws upon their stereotypes, and attributed characteristics by other ethnic groups. The external ethnic humor flourishes in immigrant and ethnically heterogenic societies. In both cases jokes and humor are an integral part of social interaction, and in their performance relate to the social, economic, and political dynamics of traditional and modern societies.
Taught by: Ben-Amos, D.
Course not offered every year
Also Offered As: FOLK 202, NELC 287
Activity: Lecture
1 Course Unit

COML 288 Topics in American Poetry
Sometimes limiting itself to the works of one or two authors, sometimes focusing on a particular theme such as “American Poetry and Democratic Culture,” this course devotes itself to the study of twentieth-century America poetry.
Course not offered every year
Also Offered As: AFRC 288, ENGL 288
Activity: Seminar
1 Course Unit

COML 290 Topics In Gender, Sexuality, and Literature
The advanced women’s studies course in the department, focusing on a particular aspect of literature by and about women. Topics might include: "Victorian Literary Women", "Women, Politics, and Literature", "Feminist Literary Theory"; and similar foci.
Course not offered every year
Also Offered As: ENGL 290, GSWS 290
Activity: Seminar
1 Course Unit

COML 291 Topics In Literary Theory
This course explores an aspect of literary theory intensively; specific course topics vary from year to year.
Course not offered every year
Also Offered As: ENGL 294, GSWS 296
Activity: Seminar
1 Course Unit

COML 292 Topics Film Studies
Specific course topics vary from year to year.
Taught by: Beckman
Course not offered every year
Also Offered As: ARTH 289, CIMS 202, ENGL 292, GSWS 292
Activity: Seminar
1 Course Unit

COML 295 Topics in Cultural Studies
This course explores an aspect of cultural studies intensively; specific course topics vary from year to year.
Course not offered every year
Also Offered As: AFRC 296, ARTH 293, CIMS 295, ENGL 295
Activity: Seminar
1 Course Unit

COML 296 Classical Epic and Medieval Romance
This course looks at a number of strands in the broad epic tradition: narratives of warfare, quest narratives (both geographical and spiritual), and the combination of the two in narratives of chivalry and love. We will start with the Homeric poems, reading Iliad and Odyssey, and then we will see how Homeric themes are reprised in Virgil’s narrative of travel, conquest, and empire, the Aeneid. From there we will move to one medieval epic of warfare, Beowulf. In the last part of the course we will read some Arthurian romances, which take up certain themes familiar from epic, but place them in a new context: the medieval institution of chivalry, where the ancient warrior is replaced by the medieval knight, where the collective battle is replaced by the individual quest, and where the psychology of sexual desire is now foregrounded as a motivation for heroic self-realization.
Taught by: Copeland
Course not offered every year
Also Offered As: CLST 296, CLST 360, ENGL 229
Activity: Seminar
1 Course Unit
COML 300 Topics in Italian History, Literature, and Culture
Topics vary. Please check the department’s website for course description: http://www.sas.upenn.edu/complit/
Course not offered every year
Also Offered As: CIMS 300, ENGL 231, ITAL 300
Activity: Seminar
1 Course Unit
Notes: This is a topics course. Topics will vary from year to year.

COML 301 Handschrift-Hypertext: Deutsche Medien
This course will provide an introduction to German-language literary studies through exemplary readings of short forms: fables, fairy tales, aphorisms, stories, novellas, feuilletons, poems, songs, radio plays, film clips, web projects and others. Paying particular attention to how emergent technology influences genre, we will trace an evolution from Handschrift to hypertext. Students will have ample opportunity to improve their written and written German through class discussion and a series of internet-based assignments. Readings and discussions in German.
For BA Students: Arts and Letters Sector
Course usually offered summer term only
Also Offered As: COLL 225, GRMN 301
Prerequisites: GRMN 203 is a prerequisite.
Activity: Lecture
1 Course Unit
Notes: This course will be offered every spring semester. Taught in German.

COML 302 Odyssey and its Afterlife
As an epic account of wandering, survival, and homecoming, Homer’s Odyssey has been a constant source of themes and images with which to define and redefine the nature of heroism, the sources of identity, and the challenge of finding a place in the world.
Taught by: Murnaghan
Course usually offered spring term
Also Offered As: CLST 302
Activity: Lecture
1 Course Unit

COML 303 The Medieval Reader
Through a range of authors including Augustine, Dante, Petrarch, Galileo, and Umberto Eco, this course will explore the world of the book in the manuscript era. We will consider 1) readers in fiction-male and female, good and bad; 2) books as material objects produced in monasteries and their subsequent role in the rise of the universities; 3) medieval women readers and writers; 4) medieval ideas of the book as a symbol (e.g., the notion of the world as God’s book); 5) changes in book culture brought about by printing and electronic media. Lectures with discussion in English, to be supplemented by visual presentations and a visit to the Rare Book Room in Van Pelt Library. No prerequisites.
Course not offered every year
Also Offered As: GSWS 310, ITAL 310
Activity: Seminar
1 Course Unit

COML 304 Advanced Topics in Global Gender and Sexuality Studies
How do sex and gender become sites of cultural production, identity-formation, and contentious politics? This seminar engages these questions in the context of the "Middle East" as a constructed geopolitical space for imperial politics and political intervention. The class is divided into three units. In the first unit, we engage feminist and queer theories to discuss the shifting meanings of "sex" and "gender" in transnational and postcolonial contexts. In the second unit we explore the contextual and shifting notions of "private" and "public" as they have been elaborated in political theory, feminist theory, and media studies. We also consider how different media technologies enable and constrain the performance and expression of gender and sexual identities. In the last unit, we examine the material and symbolic construction of sex and gender in the shadow of Orientalism, the War on Terror, Multiculturalism, and the recent Arab uprisings. In this unit, we consider how geopolitics are refracted in public controversies around issues like gay rights, female genital mutilation, the veil, and honor killing.
Also Offered As: CIMS 322, GSWS 322
Activity: Seminar
1 Course Unit

COML 305 Sanskrit Literature and Poetics
This course will focus solely on the specific genres, themes, and aesthetics of Sanskrit literature (the hymn, the epic, the lyric, prose, drama, story literature, the sutra, etc.) and a study of the history and specific topics of Sanskrit poetics and dramaturgy. All readings will be in translation.
Taught by: Patel
Course not offered every year
Also Offered As: COML 624, SAST 324, SAST 624
Activity: Seminar
1 Course Unit

COML 306 Topics in Italian History, Literature, and Culture
This advanced seminar will examine the classical backgrounds to English poetry, in particular the Biblical and Greco-Roman antecedents to Renaissance lyric verse and verse drama (such as, preeminently, Shakespeare). Different versions of this course will have different emphases on Biblical or Hellenistic backgrounds.
Course not offered every year
Also Offered As: CLST 329, ENGL 329
Activity: Seminar
1 Course Unit
Notes: Benjamin Franklin Seminar

COML 307 Adv Topics Dutch Studies
Topics vary annually.
Course not offered every year
Also Offered As: DTCH 330, GRMN 330
Activity: Seminar
1 Course Unit
Notes: Taught in English.

COML 308 Topics In Modern Drama
This course explores an aspect of Modern drama intensively; specific course topics will vary from year to year.
Course usually offered in fall term
Also Offered As: ENGL 356
Activity: Seminar
1 Course Unit
Notes: Benjamin Franklin Seminar
COML 333 Dante's Divine Comedy
In this course we will read the Inferno, the Purgatorio and the Paradiso, focusing on a series of interrelated problems raised by the poem: authority, fiction, history, politics and language. Particular attention will be given to how the Commedia presents itself as Dante's autobiography, and how the autobiographical narrative serves as a unifying thread for this supremely rich literary text. Supplementary readings will include Virgil's Aeneid and selections from Ovid's Metamorphoses. All readings and written work will be in English. Italian or Italian Studies credit will require reading Italian texts in the original language and writing about their themes in Italian. This course may be taken for graduate credit, but additional work and meetings with the instructor will be required.
Taught by: Brownlee
One-term course offered either term
Also Offered As: ITAL 333
Activity: Seminar
1 Course Unit

COML 334 A Survey of Sanskrit, Pakrit, and Classical Tamil Literature in Translation
This course will cover most of the genres of literature in South Asia's classical languages through close readings of selections of primary texts in English translation. Special focus will be given to epics, drama, lyric poetry, satirical works, and religious literature.
Taught by: Patel
Course not offered every year
Also Offered As: SAST 334
Activity: Seminar
1 Course Unit

COML 341 Masculinity in French Literature
Why was a portrait depicting the Renaissance king Francois I as half-man, half-woman made with royal approval, and moreover intended to represent the king as the perfect embodiment of the ideal qualities of a male sovereign? And why, in what is now regarded as the official portrait of Louis XIV, does the king prominently display his silk stockings and high heels with diamond-encrusted buckles? These are just two examples of the questions that lead us to the point of departure for this course: the idea that masculinity is not a fixed essence that has existed since time immemorial, but rather a flexible concept that changes across and even within historical periods.
Taught by: Francis
Also Offered As: FREN 341, GSWS 343
Activity: Seminar
1 Course Unit

COML 343 Nineteenth Century European Intellectual History
Starting with the dual challenges of Enlightenment and Revolution at the close of the eighteenth century, this course examines the emergence of modern European thought and culture in the century from Kant to Nietzsche. Themes to be considered include Romanticism, Utopian Socialism, early Feminism, Marxism, Liberalism, and Aestheticism. Readings include Kant, Hegel, Burke, Marx, Mill, Wollstonecraft, Darwin, Schopenhauer, and Nietzsche.
Taught by: Breckman
Course usually offered in fall term
Also Offered As: HIST 343
Activity: Lecture
1 Course Unit

COML 344 20th Century European Intellectual History
European intellectual and cultural history from 1870 to 1950. Themes to be considered include aesthetic modernism and the avant-garde, the rebellion against rationalism and positivism, Social Darwinism, Second International Socialism, the impact of World War One on European intellectuals, psychoanalysis, existentialism, and the ideological origins of fascism. Figures to be studied include Nietzsche, Freud, Woolf, Sartre, Camus, and Heidegger.
Taught by: Breckman
Course usually offered in spring term
Also Offered As: HIST 344
Activity: Lecture
1 Course Unit

COML 350 Introduction to Criticism
This course includes both a general survey of classic writings in Western aesthetics as well as readings on the major trends in literary criticism in the twentieth century. A recurring theme will be the literary canon and how it reflects or influences values and interpretative strategies. Among the topics covered are feminist literary criticism, structuralism and poststructuralism, Marxist criticism, and psychological criticism.
Authors include Plato, Aristotle, Hume, Kant, Hegel, T.S. Eliot, Bakhtin, Sontag, Barthes, Foucault, Derrida, Virginia Woolf, de Beauvoir, Showalter, Cixous, Gilbert and Guber, Kolodny, Marx, Benjamin, and Freud.
Course not offered every year
Also Offered As: GSWS 350
Activity: Seminar
1 Course Unit

COML 353 Arabic Literature and Literary Theory
This course will explore different critical approaches to the interpretation and analysis of Arabic literature from pre-Islamic poetry to the modern novel and prose-poem. The course will draw on western and Arabic literary criticism to explore the role of critical theory not only in understanding and contextualizing literature but also in forming literary genres and attitudes. Among these approaches are: Meta-poetry and inter-Arts theory, Genre theory, Myth and Archetype, Poetics and Rhetoric, and Performance theory.
Course usually offered in fall term
Also Offered As: COML 505, NELC 434
Activity: Lecture
1 Course Unit

COML 355 Topics in Modernism
This course explores an aspect of literary modernism intensively; specific course topics will vary from year to year.
One-term course offered either term
Also Offered As: ENGL 359, GRMN 249, RUSS 252
Activity: Seminar
1 Course Unit

COML 357 Myth In Society
In this course we will explore the mythologies of selected peoples in the Ancient Near East, Africa, Asia, and Native North and South America and examine how the gods function in the life and belief of each society. The study of mythological texts will be accompanied, as much as possible, by illustrative slides that will show the images of these deities in art and ritual.
Taught by: Ben-Amos
Course not offered every year
Also Offered As: ANTH 226, FOLK 229, NELC 249
Activity: Lecture
1 Course Unit
COML 359 Seminar Modern Hebrew Literature
This course is for students who are interested in taking a literature course in Hebrew and are proficient in it. Grading is based primarily on students' literary understanding. This class is conducted in Hebrew and the texts are read in the original. There will be four 2-page written assignments over the course of the semester. The amount of material we cover depends on the pace of the class. The fiction and poetry studied is selected each year from works created during a period of over a hundred years of Modern Hebrew writings. The foci of the study range from national to personal issues. These topics and the specific periods represented change each year, drawing upon the classics, the pre State period, the 1948 war period and on to contemporary Israeli Literature. The content of this course changes from year to year and therefore students may take it for credit more than once.
For BA Students: Arts and Letters Sector
Taught by: Gold
Course usually offered in spring term
Also Offered As: CIMS 359, COLL 227, HEBR 359, JWST 359
Prerequisites: This class is conducted in Hebrew and the texts are read in the original. The syllabus serves solely as an outline. The amount of material we cover depends on the pace of the class. Additionally, the packet contains significantly more material than will be studied in class to compensate for the difficulty of obtaining Hebrew texts in America. The content of this course changes from year to year and therefore students may take it for credit more than once.
Activity: Seminar
1 Course Unit

COML 360 Introduction to Literary Theory
In this course, we will examine a broad corpus of texts from a range of modern literary-theoretical schools, including formalism, structuralism, deconstruction, reader-response theory, Marxism, psychoanalysis, feminism, and post-colonialism. Through detailed readings of these works, we will address such issues as: the nature of language and its relationship to reality; the problems of identity and ideology; the notions of cultural authority and difference; and the politics of literature and "theory." Secondary readings will be drawn from British, German, and French/Francophone literary traditions. Taught in English.
One-term course offered either term
Activity: Lecture
1 Course Unit

COML 361 Topics in the Novel
This course explores an aspect of the novel intensively, asking how novels work and what they do to us and for us. Specific course topics will vary from year to year.
Course not offered every year
Also Offered As: ENGL 360
Activity: Seminar
1 Course Unit

COML 372 Horror Cinema
The purpose of this course is to provide an introduction to the history and main themes of the supernatural/horror film from a comparative perspective. Films considered will include: the German expressionist masterworks of the silent era, the Universal classics of the 30's and the low-budget horror films produced by Val Lewton in the 40's for RKO in the US, the 1950's color films of sex and violence by Hammer studios in England, Italian Gothic horror or giallo (Mario Brava) and French lyrical macabre (Georges Franju) in the 60's, and on to contemporary Gore. In an effort to better understand how the horror film makes us confront our worst fears and our most secret desires alike, we will look at the genre's main iconic figures (Frankenstein, Dracula, Dr. Jekyll and Mr. Hyde, etc.) as well as issues of ethics, gender, sexuality, violence, spectatorship through a variety of critical lenses (psychoanalysis, socio-historial and cultural context, aesthetics,...).
Taught by: Met
Course not offered every year
Also Offered As: CIMS 382, FREN 382
Activity: Lecture
1 Course Unit

COML 378 Topics in Literature and Society
This course explores an aspect of Postcolonial literature intensively specific course topics vary from year to year.
Course not offered every year
Also Offered As: AFRC 293, ENGL 293, GSWS 226
Activity: Seminar
1 Course Unit

COML 380 The Bible in Translation
This course introduces undergraduates and graduate students to one specific Book of the Hebrew Bible. "The Bible in Translation" involves an in-depth reading of a biblical source against the background of contemporary scholarship. Depending on the book under discussion, this may also involve a contextual reading with other biblical books and the textual sources of the ancient Near East. No prerequisites are required.
Taught by: Cranz
One-term course offered either term
Also Offered As: JWST 255, NELC 250, NELC 550, RELS 224
Activity: Seminar
1 Course Unit

COML 382 Italian Literature of the 20th Century
Topics vary, covering a range of genres and authors.
Course not offered every year
Also Offered As: CIMS 379, ITAL 380
Activity: Seminar
1 Course Unit
COML 383 Topics in Literary Theory
This is a course on the history of literary theory, a survey of major debates about literature, poetics, and ideas about what literary texts should do, from ancient Greece to examples of modern European thought. The first half of the course will focus on early periods: Greek and Roman antiquity, especially Plato and Aristotle; the medieval period (including St. Augustine, Dante, and Boccaccio), and the early modern period (such as Philip Sidney and Giambattista Vico). We'll move into modern and 20th century by looking at the literary (or "art") theories of some major philosophers, artists, and poets: Kant, Hegel, Shelley, Marx, the painter William Morris, Freud, and the critic Walter Benjamin. We'll end with a look at Foucault's work. The point of this course is to consider closely the Western European tradition which generated questions that are still with us, such as: what is the "aesthetic"; what is "imitation" or mimesis; how are we to know an author's intention; and under what circumstances should literary texts ever be censored.
Taught by: Copeland
Course not offered every year
Also Offered As: CLST 396, ENGL 394
Activity: Seminar
1 Course Unit
Notes: Benjamin Franklin Seminar

COML 384 Holocaust in Italian Literature and Film
Course not offered every year
Also Offered As: CIMS 387, ITAL 384
Activity: Seminar
1 Course Unit
Notes: Holocaust in Italian Literature and Film

COML 385 Japanese Theatre
Japan has one of the richest and most varied theatrical traditions in the world. In this course, we will examine Japanese theatre in historical and comparative contexts. The readings and discussions will cover all areas of the theatrical experience (script, acting, stage, design, costumes, music, audience). Audio-visual material will be used whenever appropriate and possible. Requirements include short writing assignments, presentations, and one research paper. Reading knowledge of Japanese and/or previous course-work in literature/theatre will be helpful, but not required. The class will be conducted in English, with all English materials.
Taught by: Kano
Course usually offered in fall term
Also Offered As: EALC 255, FOLK 485, THAR 485
Activity: Seminar
1 Course Unit

COML 390 Introduction to Spanish American Literature
Topics vary.
Course usually offered in fall term
Also Offered As: LALS 396, SPAN 390
Prerequisite: SPAN 219
Activity: Seminar
1 Course Unit

COML 391 Topics Film Studies
This topic course explores aspects of Cinema Studies intensively. Specific course topics vary from year to year. See the COML website at <http://complit.upenn.edu/> for a description of the current offerings.
Course not offered every year
Also Offered As: AFRC 392, ARTH 389, CIMS 392, ENGL 392, SLAV 392
Activity: Seminar
1 Course Unit

COML 392 Topics in Postcolonial Lit
This course explores an aspect of Postcolonial literature intensively; specific course topics vary from year to year.
Course not offered every year
Also Offered As: ENGL 393, SAST 323
Activity: Seminar
1 Course Unit
Notes: Benjamin Franklin Seminar

COML 395 Topics in Cultural Studies
This course explores an aspect of cultural studies intensively; specific course topics vary from year to year.
Course not offered every year
Also Offered As: ENGL 395
Activity: Seminar
1 Course Unit

COML 411 Introduction to Written Culture, 14th - 16th Centuries
This is a topics course. Please see the Comparative Literature website for each semester's topic: http://ccat.sas.upenn.edu/Complit/.
One-term course offered either term
Also Offered As: ENGL 234, HIST 411
Activity: Seminar
1 Course Unit

COML 415 Medieval Islamic Art and Architecture
An introduction to the major architectural monuments and trends, as well as to the best-known objects of the medieval (seventh-to fourteenth-century) Islamic world. Attention will be paid to such themes as the continuity of late antique themes, architecture as symbol of community and power, the importance of textiles and primacy of writing. Suitable for students of literature, history, anthropology as well as art history.
Taught by: Holod
One-term course offered either term
Also Offered As: AAMW 435, ARTH 435, NELC 489
Activity: Lecture
1 Course Unit

COML 416 European Intellectual History in the 18th Century
A survey based solely on primary sources of the main currents of eighteenth-century European thought: the "Enlightenment;" deism; natural religion; skepticism; evangelical revival; political reform; utilitarianism; naturalism; and materialism. The course will focus on works widely-read in the eighteenth century and of enduring historical significance. There are no prerequisites, and one of the goals of the course is to make eighteenth-century thought accessible in its context to the twenty-first century.
Taught by: Kors
Course usually offered in spring term
Also Offered As: HIST 416
Activity: Lecture
1 Course Unit

COML 417 Later Islamic Art and Architecture
Istanbul, Samarkand, Isfahan, Cairo and Delhi as major centers of art production in the fourteenth to seventeenth centuries. Attention will be given to urban and architectural achievement as well as to the key monuments of painting and metalwork. The visual environment of the "gunpowder empires" is discussed.
Taught by: Holod
Course not offered every year
Also Offered As: AAMW 531, ARTH 436, NELC 436, RELS 440
Activity: Lecture
1 Course Unit
COML 418 Europe Intellectual History Since 1945
This course concentrates on French intellectual history after 1945, with some excursions into Germany. We will explore changing conceptions of the intellectual, from Sartre's concept of the 'engagement' to Foucault's idea of the 'specific intellectual'; the rise and fall of existentialism; structuralism and poststructuralism; and the debate over 'postmodernity.' Taught by: Breckman
Course usually offered in spring term
Also Offered As: HIST 418
Activity: Seminar
1 Course Unit

COML 419 European Intellectual History of the Seventeenth Century
A survey based solely on primary sources of the main currents of seventeenth-century European thought: the criticism of inherited systems and of the authority of the past; skepticism, rationalism; empiricism; and the rise of the new natural philosophy. We will study deep conceptual change as an historical phenomenon, examining works that were both profoundly influential in the seventeenth-century and that are of enduring historical significance. There are no prerequisites, and one of the goals of the course is to make seventeenth-century thought accessible in its context to the twenty-first-century student.
Taught by: Kors
Also Offered As: HIST 415
Activity: Lecture
1 Course Unit

COML 498 Honors Thesis
One-term course offered either term
Activity: Independent Study
1 Course Unit

COML 499 Independent Study
Supervised study for Seniors.
One-term course offered either term
Activity: Independent Study
1 Course Unit

COML 501 Basic Issues in the History of Literary Theory
Over the last three decades, the fields of literary and cultural studies have been reconfigured by a variety of theoretical and methodological developments. Bracing and often confrontational dialogues between theoretical and political positions as varied as Deconstruction, New Historicism, Cultural Materialism, Feminism, Queer Theory, Minority Discourse Theory, Colonial and Post-colonial Studies and Cultural Studies have, in particular, altered disciplinary agendas and intellectual priorities for students embarking on the /professional /study of literature. In this course, we will study key texts, statements and debates that define these issues, and will work towards a broad knowledge of the complex rewriting of the project of literary studies in process today. The reading list will keep in mind the Examination List in Comparative Literature we will not work towards complete coverage but will ask how crucial contemporary theorists engage with the longer history and institutional practices of literary criticism.
Course usually offered in fall term
Also Offered As: CLST 511, ENGL 600, GRMN 534, SLAV 500
Activity: Seminar
1 Course Unit

COML 502 Introduction to Old English Language and Literature
This is an accelerated study of the basic language of Anglo-Saxon England, together with a critical reading of a variety of texts, both prose and poetry.
Course not offered every year
Also Offered As: ENGL 501, GRMN 510, HIST 590
Activity: Seminar
1 Course Unit

COML 503 Italian Literary Theory
Course not offered every year
Also Offered As: ITAL 501
Activity: Seminar
1 Course Unit
Notes: This is a topics course. The topic may be “History and Language of Italy”

COML 504 Electronic Literary Studies Proseminar
This course is designed to introduce advanced undergraduate and graduate students to the range of new opportunities for literary research afforded by recent technological innovation.
Course not offered every year
Also Offered As: CIMS 505, ENGL 505
Activity: Seminar
1 Course Unit

COML 505 Arabic Literature and Literary Theory
This course will explore different critical approaches to the interpretation and analysis of Arabic literature from pre-Islamic poetry to the modern novel and prose-poem. The course will draw on western and Arabic literary criticism to explore the role of critical theory not only in understanding and contextualizing literature but also in forming literary genres and attitudes. Among these approaches are: Meta-poetry and inter-Arts theory, Genre theory, Myth and Archetype, Poetics and Rhetoric, and Performance theory.
Taught by: Fakhreddine
Course usually offered in fall term
Also Offered As: COML 353, NELC 434
Activity: Lecture
1 Course Unit

COML 506 Topics in Twentieth-Century Literature
This course treats some aspect of literary and cultural politics in the 20th-Century with emphasis varying by instructor.
Course not offered every year
Also Offered As: CIMS 500, ENGL 461, ENGL 492
Activity: Seminar
1 Course Unit

COML 507 Reading Sanskrit Literature
Readings of selected texts.
Taught by: Patel
Course not offered every year
Also Offered As: SAST 480
Activity: Seminar
1 Course Unit

COML 508 World Views in Collision
The impact of paradigm shifts on Italian and European culture.
Course not offered every year
Also Offered As: ITAL 562
Activity: Seminar
1 Course Unit
COML 509 Modernist Jewish Poetry
The premise of this course is to present Jewish modernism as an international phenomenon of the early 20th century.
Taught by: Hellerstein
One-term course offered either term
Also Offered As: GRMN 509, JWST 509, YDSH 509
Activity: Seminar
1 Course Unit

COML 510 Medieval Education: History, Practices, Texts
This course will cover various important aspects of education and intellectual culture from late antiquity (c. 400 A.D.) to the later Middle Ages (c. 1400 A.D.) across Europe. We will look especially at how the arts of language (grammar, rhetoric, dialectic) were formalized and "packaged" in in late antique/early medieval encyclopedias (e.g., Martianus Capella’s "Marriage of Mercury and Philology;" Cassiodorus’ "Institutes of Divine and Secular Learning;" Boethius and Augustine on rhetoric, Donatus and Priscian on grammar, Boethius on dialectic, Isidore of Seville on all the sciences), and at how later theorists and systematizers recombined and reconfigured knowledge systems for new uses (especially monastic education, including notably Hugh of St. Victor’s "Didascalicon"). We will also look at how the earlier and later Middle Ages differentiated between "primary" and "advanced" education, how children and childhood are represented in educational discourse, how women participate in (or are figured in) intellectual discourse (Eloise, Hildegard of Bingen, Christine de Pizan), how universities changed ideas of intellectual formation, and how vernacular learning in the later Middle Ages added yet another dimension to the representation of learning.
Taught by: Copeland
Course not offered every year
Also Offered As: ARTH 505, CIMS 502
Activity: Lecture
1 Course Unit

COML 521 Boccaccio
Boccaccio’s life and work in the context of Italian and European culture and society.
Taught by: Brownlee
Course not offered every year
Also Offered As: ITAL 537
Activity: Seminar
1 Course Unit

COML 522 Chaucer
An advanced introduction to Chaucer’s poetry and Chaucer criticism. Reading and discussion of the dream visions, Troilus and Criseyde, and selections from Canterbury Tales, from the viewpoint of Chaucer’s development as a narrative artist.
Taught by: Wallace
Course not offered every year
Also Offered As: ENGL 525, GSWS 524
Activity: Seminar
1 Course Unit

COML 523 The Trouble with Freud
For professionals in the field of mental care, Freud’s work is often regarded as outdated, if not problematic psychologists view his work as non-scientific, dependent on theses that cannot be confirmed by experiments. In the realm of literary and cultural theory, however, Freud’s work seems to have relevance still, and is cited often. How do we understand the gap between a medical/scientific reading of Freud’s work, and a humanist one? Where do we locate Freud’s relevance today? The graduate course will concentrate on Freud’s descriptions of psychoanalytic theory and practice, as well as his writings on literature and culture.
Taught by: Weissberg
Course not offered every year
Also Offered As: GRMN 526
Activity: Seminar
1 Course Unit
Notes: Reading and discussions in English.

COML 524 Petrarch
This course will study Petrarch’s lyric poetry with reference to its Italian roots (Sicilian school, dolce stil nuovo) and European posterity. Renaissance and Baroque Petrarchism as well as impingement on the Romantics.
Taught by: Brownlee
Course not offered every year
Also Offered As: ITAL 535
Activity: Seminar
1 Course Unit

COML 525 Theories: Gender, and Sexuality Studies
Theories in Gender and Sexuality: Objects, Ideas, Institutions foregrounds new works in feminist thinking which circumvent and resist stale modes of teaching, in learning and knowing difference and "the woman question." Our aim is to interrogate the normative directionality of feminist "waves" and additive and intersectional models of suturing gender and sexuality to minoritarian politics. We will conceptualize feminism as relational to studies of affect, object oriented ontology animality, feminist science, and aesthetics.
Course not offered every year
Also Offered As: GSWS 526
Activity: Seminar
1 Course Unit

COML 526 In Defiance of Babel: The Quest for a Universal Language
This is a course in intellectual history. It explores the historical trajectory, from antiquity to the present day, of the idea that there once was, and again could be, a universal and perfect language to explain and communicate the essence of human experience. The idea that the language spoken in the Garden of Eden was a language which perfectly expressed the essence of all possible objects and concepts has occupied the minds of scholars for more than two millennia. In defiance of the myth of the Tower of Babel and the confusion of languages, they strived to overcome divine punishment and discover the path back to harmonious existence.
Taught by: Verkholantsev
Course not offered every year
Also Offered As: ENGL 705, HIST 526, SLAV 526
Activity: Seminar
1 Course Unit
COML 528 Late Soviet to Non-Soviet Literature and Culture

The aims of this course are threefold: to introduce students to some signature literary and cultural texts from roughly the post-Stalin era to the present, to equip them with relevant theoretical approaches and concerns, and finally, to offer a space where they can develop their own research projects. A major theme will be the relations between "Russian" literature and history, in which literature is not only a mimesis of the historical process but often an active agent. Throughout, we will be particularly attentive to the periphery of literature. In the first place, this means an expanded geography, the inclusion of non-Russian Soviet and emigre writers before and after 1991, as well as an effort to theorize their structural position. Secondly, we will adopt the late Formalists' understanding of literary periphery as the genres, cultural forms, institutions, and phenomena that abutted the literary field and affected its processes. Depending on student interest, our attention to these objects of inquiry could be directed toward bardic song and the later lyric-centric Russian rock, samizdat and literary internet, thick journals and literary prizes, Soviet-era dissidence and today's protest culture.

Taught by: Platt & Djagalov  
Course not offered every year  
Also Offered As: RUSS 528  
Activity: Seminar  
1 Course Unit

COML 529 Black Cinema

This course treats some important aspect of African-American literature and culture. Some recent versions of the course have focused on the emergence of African-American women writers, on the relation between African-American literature and cultural studies, and on the Harlem Renaissance.

Course not offered every year  
Also Offered As: AFRC 526, ARTH 504, CIMS 530  
Activity: Seminar  
1 Course Unit

COML 531 Russian Awakenings: Western Mysticism and 19th-Century Russian Culture

This course will consider the western mystical legacy (from Jakob Bohme to Madame Blavatsky) in 19th-Century Russian literature and culture. From the late 18th to early 20th century, Russia witnessed several surges (or awakenings) of mysticism. As a rule, these mystical waves came from the West (usually through German intermediacy) and tended to coincide with critical historical junctures, such as the moral crisis at the end of the reign of Catherine the Great (the rise of Russian Free Masonry), the Russian victory over Napoleon and the establishment of a new European order (the emergence of Russian mystical/political circles of the 1810s), a deep ideological schism in the Russian intelligentsia in the 1860s (the rise of Russian spiritualism), and finally, the revolutionary period in the first decade of the 20th century.

Taught by: Vinitsky  
Course not offered every year  
Also Offered As: RUSS 541  
Activity: Seminar  
1 Course Unit

Notes: All readings will be available in English, although reading in the original is encouraged. Discussion will be in English.

COML 532 Late Soviet to Non-Soviet Literature and Culture

The aims of this course are threefold: to introduce students to some signature literary and cultural texts from roughly the post-Stalin era to the present, to equip them with relevant theoretical approaches and concerns, and finally, to offer a space where they can develop their own research projects. A major theme will be the relations between "Russian" literature and history, in which literature is not only a mimesis of the historical process but often an active agent. Throughout, we will be particularly attentive to the periphery of literature. In the first place, this means an expanded geography, the inclusion of non-Russian Soviet and emigre writers before and after 1991, as well as an effort to theorize their structural position. Secondly, we will adopt the late Formalists' understanding of literary periphery as the genres, cultural forms, institutions, and phenomena that abutted the literary field and affected its processes. Depending on student interest, our attention to these objects of inquiry could be directed toward bardic song and the later lyric-centric Russian rock, samizdat and literary internet, thick journals and literary prizes, Soviet-era dissidence and today's protest culture.

Taught by: Platt & Djagalov  
Course not offered every year  
Also Offered As: RUSS 528  
Activity: Seminar  
1 Course Unit

COML 533 Dante's Divine Comedy I

"Divine Comedy" in the context of Dante's medieval worldview and culture.  
Taught by: Brownlee, K.  
Course not offered every year  
Also Offered As: ITAL 531  
Activity: Seminar  
1 Course Unit

COML 534 The Hindi Nation and its Fragments

This course will trace the formation and contestation of a Hindi national public during the colonial and post-colonial periods, utilizing the post-colonial critical thought of writers in English like Partha Chatterjee, Gayatri Spivak, and Aijaz Ahmed, but also of critics writing in Hindi like Namvar Singh, Ashok Vajpevi, Rajendra Yadav, etc. Attention will be given to this manner in which the contours and character of this imagined community have been debated in the context of different literary, social, and political movements, with particular emphases given to aspects of gender, caste, and regional identity. Central to class discussions will be the question of what constitutes a languager literature, and consequently what relation those concepts can have to nation in a multilingual state such as India. Readings will be in translation.

Taught by: Williams  
Course offered spring; odd-numbered years  
Also Offered As: COML 226, SAST 227, SAST 527  
Activity: Seminar  
1 Course Unit

COML 535 The Hindi Nation and its Fragments

This course will trace the formation and contestation of a Hindi national public during the colonial and post-colonial periods, utilizing the post-colonial critical thought of writers in English like Partha Chatterjee, Gayatri Spivak, and Aijaz Ahmed, but also of critics writing in Hindi like Namvar Singh, Ashok Vajpevi, Rajendra Yadav, etc. Attention will be given to this manner in which the contours and character of this imagined community have been debated in the context of different literary, social, and political movements, with particular emphases given to aspects of gender, caste, and regional identity. Central to class discussions will be the question of what constitutes a languager literature, and consequently what relation those concepts can have to nation in a multilingual state such as India. Readings will be in translation.

Taught by: Williams  
Course offered spring; odd-numbered years  
Also Offered As: COML 226, SAST 227, SAST 527  
Activity: Seminar  
1 Course Unit

COML 536 Goethe's Novels

With each of his major novels, Goethe intervened decisively and provocatively in the genre and wider culture. This seminar will analyze three of Goethe's novels spanning his career: the epistolary novel The Sorrows of Young Werther; the novel of adultery Elective Affinities, and the "archival" novel Wilhelm Meisters Journeyman Years. Particular attention will be paid to the ways in which these novels address questions of modernization - technology and secularization, to name only two - through the lens of individuals who understand themselves in relation to artistic media. We will also consider seminal scholarship on the novels (e.g. Benjamin, Lukacs) in addition to recent critical approaches.

Course not offered every year  
Also Offered As: GRMN 535  
Activity: Seminar  
1 Course Unit

COML 537 Topics in Cultural History

An introduction to the practice and theory of epic in the early modern period. Specific texts vary with instructor.

Course not offered every year  
Also Offered As: ARTH 584, GRMN 541  
Activity: Seminar  
1 Course Unit
COML 539 Memory
In recent years, studies of memory (both individual and cultural) have rivaled those of history, and have produced alternative narratives of events. At the same time, research has also focused on the rupture of narrative, the inability to find appropriate forms of telling, and the experience of a loss of words. The notion of trauma (Greek for "wound") may stand for such a rupture. Many kinds of narratives, most prominently the recollections of Holocaust survivors, are instances in which memories are invoked not only to come to terms with traumatic events, but also to inscribe trauma in various ways. In this seminar, we will read theoretical work on memory and trauma, discuss their implication for the study of literature, art, and culture, read select examples from Holocaust survivors' autobiographies (i.e. Primo Levi, Elie Wiesel), and discuss visual art (i.e. Boltanski, Kiefer) and film (i.e. Resnais, Lanzmann, Spielberg).
Taught by: Weissberg
Course not offered every year
Also Offered As: GRMN 540
Activity: Seminar
1 Course Unit

COML 540 Topics in Renaissance Culture
Renaissance Italian society, art, intellectual and political history.
Course not offered every year
Also Offered As: ITAL 540
Activity: Seminar
1 Course Unit

COML 543 Shakespeare and His Contemporaries
Readings in the work of Shakespeare and other writers of the period. Specific texts vary with instructor.
Course not offered every year
Also Offered As: ENGL 535
Activity: Seminar
1 Course Unit

COML 546 The Novel and Marriage
Historians have argued that early novels helped shape public opinion on many controversial issues. And no subject was more often featured in novels than marriage. In the course of the 18th and the 19th centuries, at a time when marriage as an institution was being radically redefined, almost all the best known novels explored happy as well as unhappy unions, individuals who decided not to marry as well as those whose lives were destroyed by the institution. They showcased marriage in other words in ways certain to provoke debate. We will both survey the development of the modern novel from the late 17th to the early 20th century and study the treatment of marriage in some of the greatest novels of all time. We will begin with novels from the French and English traditions, the national literatures in which the genre first took shape, in particular Laclos' DANGEROUS Liaisons, Austen's PRIDE AND PREJUDICE, Bronte's JANE EYRE, Flaubert's MADAME BEOVRY. We will then turn to works from the other European traditions such as Goethe's ELECTIVE AFFINITIES and Tolstoy's ANNA KARENINA. We will begin the course by discussing the novel often referred to as the first modern novel, THE PRINCESS DE CLEVES. This was also the first novel centered on an exploration of questions central to the debate about marriage for over two centuries.
Taught by: DeJean
Course not offered every year
Also Offered As: ENGL 546, FREN 537, GSWS 536, HIST 537
Activity: Seminar
1 Course Unit
COML 558 Major Renaissance Writers
This course will look at Renaissance images of the Author, both in the visual arts (portraits in manuscripts, cycles of famous men, statuary, medals) and in the literary tradition, especially lives of the poets and defenses of poetry. Focusing on Homer, Virgil, and Ovid; Dante, Petrarch, Boccaccio and Renaissance women poets, it will reconstruct the author as an ideal figure, the inspired sage and prophet. We shall discuss legend and literary canon formation, considering how poets are analogous to saints in their cults and the folkloristic anecdotes that grow up around them. The figure of the poet as constructed by different historical eras will be studied with reference to theories of literature as they developed from the Middle Ages to the early modern period.
Course not offered every year
Also Offered As: ENGL 538
Activity: Seminar
1 Course Unit

COML 559 Topics in Philosophy and Literature
This a topics course. Please see the Comparative Literature website for the topic: http://ccat.sas.upenn.edu/Complit/.
Course usually offered in spring term
Also Offered As: GRMN 560
Activity: Seminar
1 Course Unit

COML 560 Studies in the 18th Century
Please check the Comp Lit website for the course descriptions.
Taught by: DeJean
Course not offered every year
Also Offered As: FREN 560
Activity: Seminar
1 Course Unit

Notes: This is a topics course.

COML 561 Modern British Literature
An introduction to British Literary Modernism. Specific emphasis will depend on instructor.
Course not offered every year
Also Offered As: ENGL 564
Activity: Seminar
1 Course Unit

COML 562 Topics in Criticism and Theory
Taught by: MacLeod
Course not offered every year
Also Offered As: ARTH 573, CIMS 515, ENGL 573, FREN 573, GRMN 573
Activity: Seminar
1 Course Unit
Notes: This course covers topics in literary criticism and theory. It's specific emphasis varying with instructor.

COML 563 Topics in Afro-American Literature
This course treats some important aspect of African-American literature and culture. Some recent versions of the course have focused on the emergence of African-American women writers, on the relation between African-American literature and cultural studies, and on the Harlem Renaissance.
Course not offered every year
Also Offered As: AFRC 570, ENGL 570
Activity: Seminar
1 Course Unit

COML 564 Topics in African Literature
This course is based on a selection of representative texts written in English, as well as a few texts in English translation. It involves, a study of themes relating to social change and the persistence of cultural traditions, followed by an attempt at sketching the emergence of literary tradition by identifying some of the formal conventions established writers in their use of old forms and experiments with new.
Taught by: Barnard
Course not offered every year
Also Offered As: AFRC 572, CIMS 572, ENGL 572
Activity: Seminar
1 Course Unit

COML 565 20th Century Poetry
Taught by: Bernstein
Course not offered every year
Also Offered As: ENGL 589
Activity: Seminar
1 Course Unit

COML 566 Topics in Literature and Society
This is a topics course which varies year to year.
Course not offered every year
Also Offered As: ENGL 593
Activity: Seminar
1 Course Unit

COML 567 Slavic Literary Theory in Western Context
This course will compare selected theoretical concepts advanced by Russian Formalists, Prague Structuralists, and the Bakhtin group (e.g., defamiliarization, aesthetic sign, dialogue) with similar or analogous notions drawn from Western intellectual tradition.
Taught by: Steiner, P.
Course not offered every year
Also Offered As: SLAV 575
Activity: Seminar
1 Course Unit

COML 568 Introduction to Bibliography
This course offers an introduction to the principles of descriptive and analytic bibliography and textual editing. The history of authorship, manuscript production, printing, publishing, and reading will be addressed as they inform an understanding of how a particular text came to be the way it is. Diverse theories of editing will be studied and put into practice with short passages. The course is generally suitable for students working in any historical period, but particular emphases specified in the current offerings on the English website. www.english.upenn.edu
Course offered fall; even-numbered years
Also Offered As: CIMS 592, ENGL 592
Activity: Seminar
1 Course Unit

COML 569 The Essay Film
This course not offered every year
Also Offered As: CIMS 592, ENGL 592
Activity: Seminar
1 Course Unit
COML 582 Topics in Aesthetics
This is a topics course. Please see the Comparative Literature website for descriptions.
Course usually offered in fall term
Also Offered As: ARTH 560, GRMN 580, PHIL 480
Activity: Seminar
1 Course Unit
Notes: This is a topics course.

COML 584 Topics in Jewish-German Culture
Reading and discussion course on selected topics in Jewish history. The instructors are visiting scholars at the Center for Advanced Judaic Studies.
Course not offered every year
Also Offered As: GRMN 581
Activity: Seminar
1 Course Unit

COML 586 Topics in Twentieth Century Art
This seminar will examine the ideas of a number of influential theorists in a variety of disciplines who have contributed to the ways in which we understand and evaluate art. A tentative and flexible list includes: Kant, Denis, Fry, Greenberg, Schapiro, de Bord, Derrida, Lacan, Kristeva, Baudrillard.
Taught by: Poggi
One-term course offered either term
Also Offered As: ARTH 586
Activity: Seminar
1 Course Unit

COML 589 Fantastic Literatures in 19th and 20th Centuries
This course will explore fantasy and the fantastic in short tales of 19th- and 20th-century French literature. A variety of approaches -- thematic, psychoanalytic, cultural, narratological -- will be used in an attempt to test their viability and define the subversive force of a literary mode that contributes to shedding light on the dark side of the human psyche by interrogating the "real," making visible the unseen and articulating the unsaid. Such broad categories as distortions of space and time, reason and madness, order and disorder, sexual transgressions, self and other will be considered. Readings will include "recits fantastiques" by Merime, Gautier, Nerval, Maupassant, Breton, Mandiargues, Jean Ray and others.
Course not offered every year
Also Offered As: FREN 582
Activity: Seminar
1 Course Unit

COML 590 Recent Issues in Critical Theory
This course is a critical exploration of recent literary and cultural theory, usually focusing on one particular movement or school, such as phenomenology, psychoanalysis, the Frankfurt School, or deconstruction.
Course not offered every year
Also Offered As: ENGL 590, GRMN 585, GSWS 589, LALS 590
Activity: Seminar
1 Course Unit

COML 592 Topics in Contemporary Theory
Course not offered every year
Also Offered As: CIMS 591, CIMS 592, ENGL 592
Activity: Seminar
1 Course Unit
Notes: This is a topics course.

COML 593 Modern and Contemporary Italian Culture
This is a topics course. One topic may be "Futurism, Classicism, Fascism" or "Philology and History." Please see the Comparative Literature website for the description.
Course not offered every year
Also Offered As: ITAL 581
Activity: Seminar
1 Course Unit

COML 594 Topics in Contemporary Art
Topics vary. Please see the Comparative Literature and Literary Theory website at http://ccat.sas.upenn.edu/Complit/.
Taught by: Silverman
Course not offered every year
Also Offered As: ARTH 594, ENGL 797
Activity: Seminar
1 Course Unit

COML 596 Introduction to Francophone Studies
An introduction to major literary movements and authors from five areas of Francophonie: the Maghreb, West Africa, Central Africa, the Caribbean and Quebec.
Course not offered every year
Also Offered As: FREN 590
Activity: Seminar
1 Course Unit

COML 597 Modern Drama
This course will survey several basic approaches to analyzing dramatic literature and the theatre. The dramatic event will be broken into each of its Aristotelian components for separate attention and analysis: Action (plot), Character, Language, Thought, Music and Spectacle. Several approaches to analysing the dramatic text will be studied: phenomenological, social-psychological, semiotic, and others.
Course not offered every year
Also Offered As: ENGL 597
Activity: Seminar
1 Course Unit

COML 599 Graduate Latin Poetry
Spring 2013: Exploration of selected themes in Vergil's works, with an emphasis on aspects that have been particularly important in recent research. Some of these include intertextuality within the epic tradition and between epic and tragedy; philosophical and particularly ethical approaches to literature; discourse theory as it relates to expressions of dissent.
Taught by: Farrell
Course not offered every year
Also Offered As: LATN 602
Activity: Seminar
1 Course Unit
COML 601 Topics Medieval Studies
An interdisciplinary course, it will utilize literary practices to "read" the ways specific texts produce sexuality at the same time as it will examine the relation between discourses and the material and political worlds in which those discourses are spoken. We will examine the role sexuality plays in the languages of Imperialism and in the sexualization of political rhetoric. The course will explore theoretical approaches to sexuality (and its discursive construction) proposed by Freud, Foucault, Sander Gilman, Gayle Rubin, Teresa de Lauretis, Mary Douglas, and examine a broad range of "primary materials" from eighteenth-century novels and pornography to nineteenth-century sexology to current feminist and political debates.
Taught by: Copeland
One-term course offered either term
Also Offered As: CLST 618, ENGL 524
Activity: Seminar
1 Course Unit

COML 602 Tools of the Trade
Theoretical and practical aspects of academic research.
Course not offered every year
Also Offered As: ITAL 602
Activity: Seminar
1 Course Unit

COML 605 Anthropology of Music
Topics may include the intellectual history of ethnomusicology, current readings in ethnomusicology, a consideration of theoretical principles based upon the reading and interpretation of selected monographs, and area studies.
One-term course offered either term
Also Offered As: ANTH 605, FOLK 605, MUSC 605
Activity: Seminar
1 Course Unit

COML 606 Ancient Literary Theory
Course not offered every year
Also Offered As: ENGL 705, GREK 602
Activity: Seminar
1 Course Unit

COML 607 Contemporary Drama
Sometimes taught as a survey of modern and contemporary drama, this course can also focus on a particular issue such as the politics of Western theatre, gender and performativity, or postmodernity in the dramatic arts.
Course not offered every year
Also Offered As: ENGL 776
Activity: Seminar
1 Course Unit
Notes: This is a topics course.

COML 608 Global France
Please see the Comparative Literature website for description.
Taught by: Richman
Course not offered every year
Also Offered As: FREN 609
Activity: Seminar
1 Course Unit

COML 609 Italian Literary Theory
Course not offered every year
Also Offered As: ITAL 601
Activity: Seminar
1 Course Unit

COML 618 Cultural History of Medieval Rus’ (800-1700)
COML 618 offers an overview of the literary, cultural, and political history of Medieval Rus’ from its origins up to the Petrine reign (early 18th century), the period that laid the foundation for the Russian Empire. The focus of the course is on the Kievian and Muscovite traditions but we also look at the cultural space of the Grand Duchy of Lithuania and Poland (the territory of today’s Belarus and Ukraine). The course takes a comparative and interdisciplinary approach to the evolution of the main cultural paradigms of Russian Orthodoxy viewed in a broader European context (vis-a-vis Byzantium and the Latin West). We learn about the worldview of medieval Orthodox Slavs by examining their religion, ritual, spirituality, art, music, literature, education, and popular culture. Classes are conducted in English. Readings are in Russian and English. English translations of primary sources are available for those with no or limited Russian competence.
Taught by: Verkholantsev
Course not offered every year
Also Offered As: CLST 628, ENGL 721
Activity: Seminar
1 Course Unit

COML 620 Semester in 18th Century Literature
This course varies in its emphases, but in recent years has explored the theory of narrative both from the point of view of eighteenth-century novelists and thinkers as well as from the perspective of contemporary theory. Specific attention is paid to issues of class, gender, and ideology.
Course usually offered in fall term
Also Offered As: ENGL 748, FREN 660
Activity: Seminar
1 Course Unit

COML 621 Topics in European History
Reading and Discussion course on selected topics in European History.
Taught by: Verkholantsev
Course not offered every year
Also Offered As: HIST 620, RUSS 618
Activity: Seminar
1 Course Unit

COML 622 Postmodernism
An advanced seminar on postmodernist culture. Recently offered as a study of relationship between poetry and theory in contemporary culture, with readings in poststructuralist, feminist, marxist, and postcolonial theory and in poets of the Black Mountain and Language groups.
Course not offered every year
Also Offered As: ENGL 774
Activity: Seminar
1 Course Unit
COML 623 Literary History and Aesthetics in South Asia
This seminar surveys the multiple components of literary culture in South Asia. Students will engage critically with selected studies of literary history and aesthetics from the past two millennia. In order to introduce students to specific literary cultures (classical, regional, contemporary) and to the scholarly practices that situate literature in broader contexts of culture and society, the course will focus both on the literary theories - especially from the nineteenth and twentieth centuries - that position South Asia's literary cultures within broader disciplinary frameworks that use literary documents to inform social, historical and cultural research projects. The aim is to open up contexts whereby students can develop their own research projects using literary sources.
Taught by: Patel
Also Offered As: SAST 623
Activity: Seminar
1 Course Unit

COML 625 Global Perspectives in French Studies
This course explores the literal and literary landscapes of 19th-century Paris and Philadelphia, paying particular attention to the ways in which the built environment is shaped by and shapes shifting ideologies in the modern age. Although today the luxury and excesses of the "City of Light" may seem worlds apart from the Quaker simplicity of the "City of Brotherly Love," Paris and Philadelphia saw themselves as partners and mutual referents during the 1800s in many areas, from urban planning to politics, prisons to paleontology. This interdisciplinary seminar will include readings from the realms of literature, historical geography, architectural history, and cultural studies as well as site visits to Philadelphia landmarks, with a view to uncovering overlaps and resonances among different ways of reading the City. We will facilitate in-depth research by students on topics relating to both French and American architectural history, literature, and cultural thought.
Taught by: Goulet/Wunsch
Course not offered every year
Also Offered As: FREN 620, HSPV 620
Activity: Seminar
1 Course Unit

COML 627 South Asia Literature as Comparative Literature
The extent to which the narrative reflexes of the novel can accommodate and express the nature of human work are explored primarily in a study of two nineteenth-century writers. Eliot and Hardy. Reading for the course also includes novels and short stories of other nineteenth-century writers (Dickens, Zola, tolstoy, Stowe, Melville), and background reading on the social and philosophic theory of work.
Taught by: Goulding
Course not offered every year
Also Offered As: SAST 627
Activity: Seminar
1 Course Unit

COML 628 Studies in Spanish Middle Ages
This is a topics course. Topics will vary from year to year.
Course not offered every year
Also Offered As: SPAN 630
Activity: Seminar
1 Course Unit

COML 630 Introduction to Medieval Literature
Topics vary. Previous topics include The Grail and the Rose, Literary Genres and Transformations, and Readings in Old French Texts. Please see the department's website for current course description:
One-term course offered either term
Also Offered As: FREN 630, ITAL 630
Activity: Seminar
1 Course Unit
Notes: This is a topics course.

COML 631 Medieval Allegory
For the Middle Ages, allegory represents a nexus of literary history and textual theory, hermeneutics and theology, intellectual history and education, and theories of history and the transmission of culture. Through medieval allegorical practices we see some of the deepest continuities with ancient hermeneutical thought and also some of the most radical ruptures with the ancient past. Allegory, in other words, was as crucial and charged a term for medieval culture as for contemporary thought. Allegory is at once a trope, that is, a specific and delimited form, and an all-encompassing interpretive system. It will be the purpose of this seminar to try to articulate the connections between that particular form and that general system by examining medieval allegory in its various literary and philosophical contexts. Our focus will be the 12th through the early 15th centuries in both the vernacular and Latin, with attention to late antique philosphical and theological foundations. We will also incorporate readings from various modern perspective on the history and theory of allegory.
Taught by: Copeland
Course not offered every year
Also Offered As: CLST 630, ENGL 715
Activity: Seminar
1 Course Unit

COML 632 Dante's Commedia
A close reading of the Inferno, Purgatorio and the Paradiso which focuses on a series of interrelated problems raised by the poem: authority, representation, history, politics, and language. Particular attention will be given to Dante's use of Classical and Christian model texts: Ovid's Metamorphoses, Virgil's Aeneid, and the Bible. Dante's rewritings of model authors will also be studied in the context of the medieval Italian and Provencal love lyric.
Taught by: Brownlee
One-term course offered either term
Also Offered As: ITAL 631
Activity: Seminar
1 Course Unit
COML 634 Reading Modernity
In this course we will examine Modernism and the avant-garde as concepts in literature, theater, and criticism. Both terms in the seminar title will be significant to our work, as we ask not only how to define and debate "modernity" today, but also how to understand various notions of "reading" and cultural analysis that emerge during the period and live on in various ways today. In addition, we will take account of important technological, social, and economic developments marking modernity, focusing our attention on the ways in which they intersect and interact with cultural production, cultural politics, and perception itself. Readings will include key texts by representatives authors, including Benjamin, Kafka, Barthes, Kracauer, Brecht, Adorno, Baudelaire, Eliot, Woolf, and others. The final section of the course is concerned with contemporary debates surrounding Modernism's relation to Fascism and the juxtaposition of Modernism and Postmodernism.
Course offered spring; even-numbered years
Also Offered As: GRMN 672
Activity: Seminar
1 Course Unit

COML 637 Shakespeare
An advanced seminar, usually focused on Shakespeare, treating the literature and culture of the late 16th- and early 17th-centuries.
Course not offered every year
Also Offered As: ENGL 735
Activity: Seminar
1 Course Unit

COML 638 Topics: Medieval Culture
Course not offered every year
Also Offered As: FREN 638, MUSC 710
Activity: Seminar
1 Course Unit
Notes: Topics will vary each term.

COML 640 Studies in the Spanish Renaissance
Topics of discussion will vary from semester to semester. Selections from the works of Santillana, Mena, Rojas, Garcilaso, Juan and Alfonso del Valdes, Leon Hebreo, Juan de la Cruz, Luis de Leon, and the "preceptistas." Please see the Comparative Literature website for the current topic, http://ccat.sas.upenn.edu
Course not offered every year
Also Offered As: SPAN 640
Activity: Seminar
1 Course Unit

COML 641 Studies in Italian Renaissance
Renaissance Italian society, art, intellectual and political history. Advanced level course.
Course not offered every year
Also Offered As: ITAL 640
Activity: Seminar
1 Course Unit

COML 642 Drama of the Twentieth Century
Based on a discussion of the relationship of drama (text) and theater (performance), the course examines the development of realistic and antirealistic currents in modern German drama. From Wedekind and Expressionism to Piscator's political theater, Brecht's epic theater and beyond (Hovarth, Fleisser, Frisch, Duerrenmatt, Handke).
Course not offered every year
Also Offered As: GRMN 642
Activity: Seminar
1 Course Unit

COML 643 Studies in the Renaissance
Topics vary. Previous topics have included Rabelais and M. de Navarre, Montaigne, and Renaissance and Counter-Renaissance. Please see department's website for current course description:
Course not offered every year
Also Offered As: FREN 640
Activity: Seminar
1 Course Unit

COML 651 Studies in 17th Century
Topics of discussion will vary from semester to semester. One possible topic is "The Royal Machine: Louis XIV and the Versailles Era." We will examine certain key texts of what is known as the Golden Age of French literature in tandem with a number of recent theoretical texts that could be described as historical. Our goal will be to explore the basis of "the new historicism," a term that is designed to cover a variety of critical systems that try to account for the historical specificity and referentiality of literary texts.
One-term course offered either term
Also Offered As: FREN 650, GRMN 651
Activity: Seminar
1 Course Unit

COML 654 History, Memory, Trauma
This course will be devoted to study of the theory and practice of representation of the past in major European traditions during the modern era, with special emphasis on three topics of broad concern: revolution, genocide, and national becoming. The object of inquiry will be construed broadly, to include all manner of historiographic, artistic, filmic, literary and rhetorical representation of the past. Each of the three segments of the course will begin with examination of important theoretical readings in conjunction with case studies in major European traditions that have been among the central foci of this theoretical work French Revolutionary history, Holocaust, English nationalism).
Next we will add analogous Russian cases to the picture (Russian Revolution, Gulag memory, Ivan the Terrible and Peter the Great as national myths). Finally, at the conclusion of each segment students will bring theoretical tools to bear on the national traditions and contexts relevant to their own work. Our readings in the theory and philosophy of historiography will include works by Anderson, Caruth, Guha, Hegel, LaCapra, Putnam, Ricoeur, White and others.
Taught by: Platt
Course not offered every year
Also Offered As: SLAV 655
Activity: Seminar
1 Course Unit

COML 656 Theories of Myth
Theories of myth are the center of modern and post-modern, structural and post-structural thought. Myth has served as a vehicle and a metaphor for the formulation of a broad range of modern theories. In this course we will examine the theoretical foundations of these approaches to myth focusing on early thinkers such as Vico, and concluding with modern 20th century scholars in several disciplines that make myth the central idea of their studies.
Taught by: Ben-Amos
Course not offered every year
Also Offered As: FOLK 629, NELC 683, RELS 605
Activity: Seminar
1 Course Unit
COML 669 Nineteenth Century Studies
Topics may include "Modernity and Early Nineteenth-Century French Culture," "Lit and Culture in fin-de-Siecle." Course not offered every year
Also Offered As: FREN 670
Activity: Seminar
1 Course Unit
Notes: This is a topics course.

COML 670 German Literary Criticism
Topics will vary. In the past, courses have concentrated on Walter Benjamin's work, and "The Frankfurt School and After." Course not offered every year
Also Offered As: ARTH 670, GRMN 670
Activity: Seminar
1 Course Unit

COML 674 Topics in Aesthetic Theory
This is a topics course. The topics may be "Benjamin and Arendt," "Walter Benjamin," "Kant to Frankfurt School," "Literature and Visuality," or "Imagination and Ideology," or "Modernity Style/Fashion." Taught by: Weissberg/MacLeod
Course offered spring; odd-numbered years
Also Offered As: ARTH 674, GRMN 674
Activity: Seminar
1 Course Unit

COML 676 Topics in Feminist Theory
The seminar will provide a survey of recent feminist theories, and a discussion of literary texts focusing on issues of gender, race, and class. The reading list will include essays by French, English, and American theorists as well as novels by Bachmann, Wolf, and Jelinek.
Taught by: Weissberg
Course offered fall; odd-numbered years
Also Offered As: GRMN 676
Activity: Seminar
1 Course Unit

COML 680 Topics: Literature and Film
This is a topics course. Please see the Comparative Literature website for description.
Course not offered every year
Also Offered As: CIMS 682, GSWS 682, ITAL 682
Activity: Seminar
1 Course Unit

COML 682 Seminar on Literary Theory
Topics vary from year to year.
Course not offered every year
Also Offered As: ENGL 571, SPAN 682
Activity: Seminar
1 Course Unit

COML 683 Topics in Comparative Literature and Theory
Seminars on modernism are usually taught within a single geographic area, cultural tradition, period, language, medium, and disciplinary framework. Yet modernism was a border-crossing phenomenon, and it may productively be studied as such. A recent turn toward global and transnational paradigms is one of the few traits shared by modernist studies across multiple disciplines. "Modernisms Across Borders" one of the topics studied, will take advantage of this commonality among diverse sites of inquiry, treating modernism as a transborder phenomenon while also probing the limitations and still-latent potential of such an approach.
Taught by: Platt
Course not offered every year
Also Offered As: ARTH 783, SLAV 683
Activity: Seminar
1 Course Unit

COML 685 Literary Criticism and Theory in Japanese Literature
While the focus of this seminar will shift from year to year, the aim is to enable students to gain 1) a basic understanding of various theoretical approaches to literature, 2) familiarity with the histories and conventions of criticism, literary and otherwise, in Japan; 3) a few theoretical tools to think in complex ways about some of the most interesting and controversial issues of today, such as nationalism, imperialism, colonialism, postmodernism, and feminism, with particular focus on Japan's position in the world. The course is primarily intended for graduate students but is also open to advanced undergraduates with permission of the instructor. The course is taught in English, and all of the readings will be available in English translation. An optional discussion section may be arranged for those students who are able and willing to read and discuss materials in Japanese.
Taught by: Kano
Course not offered every year
Also Offered As: EALC 755
Activity: Seminar
1 Course Unit

COML 687 The Spanish Connection
Topics vary from year to year.
Course not offered every year
Also Offered As: SPAN 687
Activity: Seminar
1 Course Unit

COML 688 Twentieth Century Art: 1945-Now
Many people experience the art of our time as bewildering, shocking, too ordinary (my kid could do that), too intellectual (elitist), or simply not as art. Yet what makes this art engaging is that it raises the question of what art is or can be, employs a range of new materials and technologies, and addresses previously excluded audiences. It invades non-art spaces, blurs the boundaries between text and image, document and performance, asks questions about institutional frames (the museum, gallery, and art journal), and generates new forms of criticism. Much of the "canon" of what counts as important is still in flux, especially for the last twenty years. And the stage is no longer centered only on the United States and Europe, but is becoming increasingly global. The course will introduce students to the major movements and artists of the post-war period, with emphasis on social and historical context, critical debates, new media, and the changing role of the spectator/participant.
Taught by: Poggi/Silverman
One-term course offered either term
Activity: Recitation
1 Course Unit
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<tr>
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<td>COML 691</td>
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<td>Also Offered As: LALS 690, SPAN 690</td>
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<td>Notes: This is a topics course. One topic may be &quot;Literature and the Arts in the Age of Globalization.&quot;</td>
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<td>COML 692</td>
<td>Colonial Literature of Spanish America</td>
<td>Study of the historical context of the colonial period in Spanish America and of major works in prose and poetry.</td>
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<td>COML 694</td>
<td>Spanish and Latin American Cinema</td>
<td>Topics vary from year to year.</td>
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<td>COML 696</td>
<td>Postcolonial Theory in Francophone Contexts</td>
<td>This seminar will introduce students to key texts and influential figures coming from, focusing on, or relevant to Francophone postcolonial contexts. Following a brief review of Anglophone postcolonial criticism, readings for the course will fall under three categories: Authors from the 1940s to present who have focused exclusively on (post)colonial issues pertaining to Africa, the Caribbean and/or postcolonial France; contemporary European, African and North American literary critics; humanities scholars whose work would not necessarily be labeled &quot;postcolonial&quot; but is nevertheless relevant to postcolonial criticism.</td>
<td>Seminar</td>
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<td>Course not offered every year</td>
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<td>Also Offered As: AFST 696, FREN 696</td>
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<td>Activity: Seminar</td>
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<td>COML 697</td>
<td>Studies in Latin American Culture</td>
<td>This is a topics course. The topic will vary each semester.</td>
<td>Seminar</td>
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<td>Course not offered every year</td>
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<td>Also Offered As: SPAN 697</td>
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<td>Activity: Seminar</td>
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<tr>
<td>COML 700</td>
<td>African Literature and Society</td>
<td>An advanced seminar in anglophone African literature, possibly including a few works in translation.</td>
<td>Seminar</td>
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<td>One-term course offered either term</td>
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<td>Also Offered As: ENGL 775</td>
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<td>Activity: Seminar</td>
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<td>COML 708</td>
<td>Cultural and Literary Theory of Africa and the African Diaspora</td>
<td>This course introduces students to the theoretical strategies underlying the construction of coherent communities and systems of representation and how those strategies influence the uses of expressive culture over time.</td>
<td>Seminar</td>
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<td>Course not offered every year</td>
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<td>Also Offered As: AFRC 708, ENGL 775, FREN 700</td>
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<td>Activity: Seminar</td>
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<td>COML 710</td>
<td>Political Economy and Social History of Africa and the African Diaspora</td>
<td>This course provides the opportunity for students to investigate the relationship between the emergence of African peoples as historical subjects and their location within specific geopolitical and economic circumstances.</td>
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<td>Taught by: Hanchard</td>
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<td>Course not offered every year</td>
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<td>Also Offered As: AFRC 710, LALS 710</td>
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<td>Activity: Seminar</td>
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<td>COML 714</td>
<td>Medieval Literature</td>
<td>This is a topics course. The topic may be &quot;Women and Writing, 1220-1689,&quot; &quot;Denationalizing the English Middle Ages,&quot; or &quot;Anglo-French Literatures.&quot; or &quot;Gloss and Commentary.&quot;</td>
<td>Seminar</td>
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<td>Course not offered every year</td>
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<td>Also Offered As: CLST 610, ENGL 715, FREN 635</td>
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<td>Activity: Seminar</td>
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<td>COML 715</td>
<td>Seminar in Ethnomusicology</td>
<td>Topics in Ethnomusicology.</td>
<td>Seminar</td>
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<td>Taught by: Muller</td>
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<td>Course usually offered in fall term</td>
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<td>Also Offered As: FOLK 715, GSWS 705, MUSC 705</td>
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<td>Activity: Seminar</td>
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<td>COML 720</td>
<td>Studies in Renaissance Music</td>
<td>Seminar on selected topics in the music of the Renaissance.</td>
<td>Seminar</td>
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<td>One-term course offered either term</td>
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<td>Also Offered As: MUSC 720</td>
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<td>Activity: Seminar</td>
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<td>COML 725</td>
<td>Topics in Chaucer</td>
<td>Please see the Comparative Literature and Literary Theory website for topics: <a href="http://ccat.sas.upenn.edu/Complit/">http://ccat.sas.upenn.edu/Complit/</a>.</td>
<td>Seminar</td>
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<td>Taught by: Wallace</td>
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<td>Course not offered every year</td>
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<td>Also Offered As: ENGL 725</td>
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<td>Activity: Seminar</td>
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<td>COML 730</td>
<td>Topics in 16th-Century History and Culture</td>
<td>This is an advanced course treating topics in 16th Century history and culture particular emphasis varying with instructor.</td>
<td>Seminar</td>
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<td>Course not offered every year</td>
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<td>Also Offered As: ENGL 730</td>
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<td>Activity: Seminar</td>
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<td>COML 734</td>
<td>Renaissance Drama</td>
<td>This is a topics course. For Spring 2015, the topic is Genre and Performative Media.</td>
<td>Seminar</td>
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<td>Taught by: Bushnell</td>
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<td>Course not offered every year</td>
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<td>Also Offered As: ENGL 734</td>
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<td>Activity: Seminar</td>
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COML 736 Renaissance Studies
This is an advanced topics course treating some important issues in contemporary Renaissance studies.
Course not offered every year
Also Offered As: ENGL 736
Activity: Seminar
1 Course Unit
Notes: This is a topics course.

COML 750 Romanticism in Italy
This course is an advanced seminar on writings of the Romantic period, not restricted to English Romanticism.
Course not offered every year
Also Offered As: ENGL 750
Activity: Seminar
1 Course Unit

COML 755 Victorian Literature
An advanced seminar in Victorian Fiction.
Course not offered every year
Also Offered As: ENGL 754
Activity: Seminar
1 Course Unit

COML 761 British Modernism
This course treats one or more of the strains of British modernism in fiction, poetry, or the arts.
Course not offered every year
Also Offered As: ENGL 761
Activity: Seminar
1 Course Unit

COML 766 Topics in 20th Century English Literature
Topics vary from year to year. An advanced seminar treating a specific topic on Literature and Culture.
Course not offered every year
Also Offered As: ENGL 765
Activity: Seminar
1 Course Unit
Notes: This is a topics course. If the title is "Modernism and the Philosophy of Egocentrism," the following description applies.

COML 767 Modernism
An interdisciplinary and international examination of modernism, usually treating European as well as British and American modernists. The topics may be "The Hard and Soft in Modernism," "The Technical Sublime," "Global Literature and Theory," or "Effects of Modernity."
Course not offered every year
Also Offered As: ENGL 773
Activity: Seminar
1 Course Unit

COML 769 Feminist Theory
Specific topic varies. The seminar will bring together the study of early modern English literature and culture with histories and theories of gender, sexuality and race. Contact with 'the East' (Turkey, the Moluccas, North Africa and India) and the West (the Americas and the Caribbean) reshaped attitudes to identity and desire. How does this history allow us to understand, and often interrogate, modern theories of desire and difference? Conversely, how do postcolonial and other contemporary perspectives allow us to re-read this past?
Course not offered every year
Also Offered As: ENGL 769, GSWS 769
Activity: Seminar
1 Course Unit

COML 773 Afro-American Autobiography
An advanced seminar in African-American literature and culture.
Course not offered every year
Also Offered As: AFRC 770, ENGL 770
Activity: Seminar
1 Course Unit

COML 778 Twentieth Century Aesthetics
This course explores notions that have conditioned 20th century attitudes toward beauty: among them, ornament, form, fetish, the artifact "women", the moves to 20th century fiction, art manifestos, theory, and such phenomena as beauty contests and art adjudications.
Course not offered every year
Also Offered As: ENGL 778, GSWS 778
Activity: Seminar
1 Course Unit

COML 780 Seminar in Theory
Seminar on selected topics in music theory and analysis.
Course offered spring; odd-numbered years
Also Offered As: MUSC 780
Activity: Seminar
1 Course Unit

COML 786 Topics in 20th Century Art
Topics vary from year to year.
Taught by: Poggi
Course not offered every year
Also Offered As: ARTH 786, ITAL 685
Activity: Seminar
1 Course Unit

COML 787 Topics in Contemporary Art
Topics vary each semester.
Taught by: Silverman
One-term course offered either term
Also Offered As: ARTH 794, ENGL 778
Activity: Seminar
1 Course Unit

COML 790 Recent Issues in Critical Theory
Course varies with instructor.
Course not offered every year
Also Offered As: ENGL 790, GRMN 690, GSWS 790
Activity: Seminar
1 Course Unit
Notes: This is a topics course.

COML 791 Topics in 20th Century Culture
Usually focusing on non-fictional texts, this course varies in its emphasis depending on the instructor.
Course not offered every year
Also Offered As: ENGL 797
Activity: Seminar
1 Course Unit

COML 795 Poetics
Topics in poetics will vary in its emphasis depending on the instructor.
Course not offered every year
Also Offered As: ENGL 795
Activity: Seminar
1 Course Unit
COML 998 Independent Study and Research
Designed to allow students to pursue a particular research topic under the close supervision of an instructor.
One-term course offered either term
Activity: Independent Study
1 Course Unit

COML 999 Independent Reading and Research
May be taken for multiple course credit to a maximum of two for the M.A. and four for the Ph.D. Designed to allow students to broaden and deepen their knowledge of literary theory, a national literature, and/or an area of special interest.
One-term course offered either term
Activity: Independent Study
1 Course Unit

Computer and Information Science (CIS)

CIS 099 Undergraduate Research/Independent Study
An opportunity for the student to become closely associated with a professor (1) in a research effort to develop research skills and techniques and/or (2) to develop a program of independent in-depth study in a subject area in which the professor and student have a common interest. The challenge of the task undertaken must be consistent with the student's academic level. To register for this course, the student must submit a detailed proposal, signed by the independent study supervisor, to the SEAS Office of Academic Programs (111 Towne) no later than the end of the "add" period.
One-term course offered either term
Activity: Independent Study
1 Course Unit
Notes: A maximum of 2 c.u. of CIS 099 may be applied toward the B.A.S. or B.S.E. degree requirements.

CIS 105 Computational Data Exploration
The primary goal of this course is to introduce computational methods of interacting with data. In this course, students will be introduced to the IPython programming environment. They will learn how to gather data, store it in appropriate data structures and then either write their own functions or use libraries to analyze and then display the salient information in that data. Data will be drawn from a variety of domains, including but not limited to travel, entertainment, politics, economics, and software design. This course assumes some previous programming experience, at the level of a high school computer science course or CIS110. (If you got at least 4 in the AP Computer Science A or AB exam, you will do great.) No specific programming language background is assumed: basic experience with any language (for instance Java, C, C++, VB, Python, Perl, or Scheme) is fine. If you have never programmed before, you should take CIS 110 first.
One-term course offered either term
Activity: Lecture
1 Course Unit
Notes: This counts as a Formal Reasoning course for College students.

CIS 106 Visualizing the Past.
Most people's information about the Past is drawn from coffee table picture books, popular movies, video games, documentaries about discoveries of "ancient, mysterious, and lost" civilizations, and tours often lead by guides of limited or even dubious credentials. How are these ideas presented, formed, and circulated? Who creates and selects the information presented in this diverse media? Are these presentations accurate? Do they promote or hurt scientific explanations? Can the artistic, aesthetic, and scientific realms be bridged to effectively promote and interpret the past? How can modern technologies be applied to do a better job at presenting what is difficult to experience firsthand? This class will focus on case studies, c and methods of how archaeology and the past are created, presented and used in movies, museums, games, the internet, and art. Each year, the studio-seminar focuses on a project. In addition to exploring general concepts of archaeology and the media, students will work in teams to produce an interactive, digital media exhibit using the latest modeling visualization programs for presenting the sacred landscape of the Inca capitalof Cuzco, Peru. Cuzco is one of the most important UNESCO World Heritage sites and visited by nearly a million tourists a year. Potential class projectinclude fly-throughs of architectural and landscape renderings, simulations of astronomy and cosmology, modeling of human behavior within architectural and landscape settings, and study artifacts in the Penn Museum.
One-term course offered either term
Also Offered As: ANTH 258
Activity: Lecture
1 Course Unit

CIS 110 Introduction to Computer Programming
Introduction to Computer Programming is the first course in our series introducing students to computer science. In this class you will learn the fundamentals of computer programming in Java, with emphasis on applications in science and engineering. You will also learn about the broader field of computer science and algorithmic thinking, the fundamental approach that computer scientists take to solving problems.
One-term course offered either term
Activity: Lecture
1 Course Unit
Notes: See the CIS 110 website for information about registration in recitations and permission to register for closed sections of CIS 110. Counts as a Formal Reasoning course for College students.

CIS 120 Programming Languages and Techniques I
A fast-paced introduction to the fundamental concepts of programming and software design. This course assumes some previous programming experience, at the level of a high school computer science class or CIS110. (If you got at least 4 in the AP Computer Science A or AB exam, you will do great.) No specific programming language background is assumed: basic experience with any language (for instance Java, C, C++, VB, Python, Perl, or Scheme) is fine. If you have never programmed before, you should take CIS 110 first.
One-term course offered either term
Activity: Lecture
1 Course Unit
Notes: This counts as a Formal Reasoning course for College students.
CIS 121 Programming Languages and Techniques II
This is a course about Algorithms and Data Structures using the JAVA programming language. We introduce the basic concepts about complexity of an algorithm and methods on how to compute the running time of algorithms. Then, we describe data structures like stacks, queues, maps, trees, and graphs, and we construct efficient algorithms based on these representations. The course builds upon existing implementations of basic data structures in JAVA and extends them for the structures like trees, studying the performance of operations on such structures, and the efficiency when used in real-world applications. A large project introducing students to the challenges of software engineering concludes the course.
Course usually offered in spring term
Prerequisites: CIS 120, CIS 160
Activity: Lecture
1 Course Unit

CIS 125 Technology and Policy
Have you ever wondered why sharing music and video generates such political and legal controversies? Is information on your PC safe and should law enforcement be able to access information you enter on the Web? Will new devices allow tracking of your every move and every purchase? CIS 125 is focused on developing an understanding of existing and emerging technologies, along with the political, societal and economic impacts of these technologies. The technologies are spread across a number of engineering areas and each of them raise issues that are of current concern or are likely to be a future issue.
Also Offered As: EAS 125
Activity: Lecture
1 Course Unit

CIS 140 Introduction to Cognitive Science
How do minds work? This course surveys a wide range of answers to this question from disciplines ranging from philosophy to neuroscience. The course devotes special attention to the use of simple computational and mathematical models. Topics include perception, learning, memory, decision making, emotion and consciousness.
Course usually offered in fall term
Also Offered As: COGS 001, LING 105, PHIL 044, PPE 140, PSYC 207
Activity: Lecture
1 Course Unit
Notes: This counts as a Formal Reasoning course for College students.

CIS 160 Mathematical Foundations of Computer Science
What are the basic mathematical concepts and techniques needed in computer science? This course provides an introduction to proof principles and logics, functions and relations, induction principles, combinatorics and graph theory, as well as a rigorous grounding in writing and reading mathematical proofs.
Course usually offered in spring term
Corequisite: CIS 120
Activity: Lecture
1 Course Unit

CIS 190 C++ Programming
This course will provide an introduction to programming in C++ and is intended for students who already have some exposure to programming in another language such as Java. C++ provides the programmer with a greater level of control over machine resources and are commonly used in situations where low level access or performance are important. This course will illuminate the issues associated with programming at this level and will cover issues such as explicit memory management, pointers, the compilation process and debugging. The course will involve several programming projects which will provide students with the experience they need to program effectively in these languages. This course assumes programming experience equivalent to CIS 110, CIS 120 or ESE 112.
One-term course offered either term
Prerequisite: CIS 240
Activity: Lecture
0.5 Course Units

CIS 191 Using and Understanding Unix and Linux
Unix, in its many forms, runs much of the world's computer infrastructure, from cable modems and cell phones to the giant clusters that power Google and Amazon. This half-credit course provides a thorough introduction to Unix and Linux. Topics will range from critical basic skills such as examin and editing files, compiling programs and writing shell scripts, to higher level topics such as the architecture of Unix and its programming model. The material learned is applicable to many classes, including CIS 240, CIS 331, CIS 341, CIS 371, and CIS 380.
One-term course offered either term
Prerequisite: CIS 110 or equivalent
Activity: Lecture
0.5 Course Units

CIS 192 Python Programming
Python is an elegant, concise, and powerful language that is useful for tasks large and small. Python has quickly become a popular language for getting things done efficiently in many in all domains: scripting, systems programming, research tools, and web development. This course will provide an introduction to this modern high-level language using hands-on experience through programming assignments and a collaborative final application development project.
One-term course offered either term
Prerequisite: CIS 120 or ESE 112
Activity: Lecture
0.5 Course Units

CIS 193 C# Programming
C# is the premier programming language for the .NET framework. Over the last decade, the language has evolved to meet the needs of a variety of programming styles while supporting the ever-growing capabilities of the .NET runtime and libraries. This course provides a thorough introduction to the C# language and the .NET framework, building on the skills gained in the introductory programming courses (CIS 110, CIS 120, or ESE 112). In addition to providing the student with a solid background in C#, this course also explores topics that the .NET platform exposes such as object oriented design, .NET runtime internals, and others based on class interest. A series of short, weekly homework assignments reinforces the concepts introduced in class and a group-based final project of the students' design allows them to apply their C# knowledge toward a substantial problem.
One-term course offered either term
Prerequisite: CIS 110
Activity: Lecture
0.5 Course Units
CIS 194 Haskell
Haskell is a high-level, purely functional programming language with a strong static type system and elegant mathematical underpinnings. It is being increasingly used in industry by organizations such as Facebook, AT&T, and NASA, along with several financial firms. We will explore the joys of function programming, using Haskell as a vehicle. The aim of the course will be to allow you to use Haskell to easily and conveniently write practical programs. All are welcome, including those with no programming experience. Evaluation will be based on regular homework assignments and class participation.
One-term course offered either term
Activity: Lecture
0.5 Course Units

CIS 195 iPhone Application Development
This project-oriented course is centered around application development on the iOS platform, Apple’s mobile operating system developed for the iPhone and other Apple mobile devices. The first half of the course will involve fundamentals of iPhone development, where students learn the Objective-C programming language for iOS, an object-oriented C dialect with Smalltalk-style messaging, as well as efficient memory management and event-based programming on the iOS platform. In the second half of the course, students work in teams to conceptualize and develop a significant iPhone application. Creativity and originality are highly encouraged.
One-term course offered either term
Prerequisites: CIS 120 and CIS 240. Students should come with a strong understanding of the fundamentals of programming, especially the C language and memory management.
Activity: Lecture
0.5 Course Units

CIS 196 Ruby on Rails Web Development
This course will teach the fundamentals of developing web applications using Ruby on Rails, a rapid-development web framework developed by 37signals. The topics covered will start with Ruby, the language that powers Rails, and include all topics required to develop and deploy production-ready web applications with Rails. During the entire course, students will be working on a project of their own choosing which will develop as they learn additional concepts. Upon completion of the course, this application will be deployed and accessible to the public. Students will be encouraged to continue building their applications even after the course given support from the Philadelphia Ruby community.
Activity: Lecture
0.5 Course Units

CIS 197 JavaScript
This course provides an introduction to modern web development frameworks, techniques, and practices used to deliver robust client side applications on the web. The emphasis will be on developing JavaScript programs that run in the browser. Topics covered include the JavaScript language, web browser internals, the Document Object Model (DOM), HTML5, client-side app architecture and compile-to-JS languages like (CoffeeScript, TypeScript, etc.). This course is most useful for students who have some programming and web development experience and want to develop moderate JavaScript skills to be able to build complex, interactive applications in the browser.
One-term course offered either term
Activity: Lecture
0.5 Course Units

CIS 198 Rust Programming
Rust is a new, practical, community-developed systems programming language that “runs blazingly fast, prevents almost all crashes, and eliminates data races.” Rust derives from a rich history of languages to create a multi-paradigm (imperative/functional), low-level language that focuses on high-performance, zero-cost safety guarantee in concurrent programs. It has begun to gain traction in industry even before official 1.0 release in May 2015, showing a recognized need for a new low-level systems language. In this course, we will cover what makes Rust so unique and apply it to practical systems programming problems. Topics covered will include traits and generics; memory safety (move semantics, borrowing, and lifetimes); Rust’s rich macro system; closures; and concurrency. Evaluation is based on regular homework assignments as well as a final project and class participation.
One-term course offered either term
Activity: Lecture
0.5 Course Units

CIS 240 Introduction to Computer Systems
You know how to program, but do you know how computers really work? How do millions of transistors come together to form a complete computing system? This bottom-up course begins with transistors and simple computer hardware structures, continues with low-level programming using primitive machine instructions, and finishes with an introduction to the C programming language. This course is a broad introduction to all aspects of computer systems architecture and serves as the foundation for subsequent computer systems courses, such as Digital Systems Organization and Design (CIS 371), Computer Operating Systems (CIS 380), and Compilers and Interpreters (CIS 341).
Course usually offered in fall term
Prerequisite: CIS 110 or equivalent
Activity: Lecture
1 Course Unit

CIS 261 Discrete Probability, Stochastic Processes, and Statistical Inference
The purpose of this course is to provide a 1 CU educational experience which tightly integrates the theory and applications of discrete probability, discrete stochastic processes, and discrete statistical inference in the study of computer science. The intended audience for this class is both those students who are CS majors as well as those intending to be CS majors. Specifically, it will be assumed that the students will know: Set Theory, Mathematical Induction, Number Theory, Functions, Equivalence Relations, Partial-Order Relations, Combinatorics, and Graph Theory at the level currently covered in CIS 160. This course could be taken immediately following CIS 160. Computation and Programming will play an essential role in this course. The students will be expected to use the Maple programming environment in homework exercises which will include: numerical and symbolic computations, simulations, and graphical displays.
Course usually offered in fall term
Prerequisite: CIS 160
Activity: Lecture
1 Course Unit
CIS 262 Automata, Computability, and Complexity
This course explores questions fundamental to computer science such as which problems cannot be solved by computers, can we formalize computing as a mathematical concept without relying upon the specifics of programming languages and computing platforms, and which problems can be solved efficiently. The topics include finite automata and regular languages, context-free grammars and pushdown automata, Turing machines and undecidability, tractability and NP-completeness. The course emphasizes rigorous mathematical reasoning as well as connections to practical computing problems such as test processing, parsing, XML query languages, and program verification.
Course usually offered in fall term
Prerequisite: CIS 160
Activity: Lecture
1 Course Unit

CIS 320 Introduction to Algorithms
How do you optimally encode a text file? How do you find shortest paths in a map? How do you design a communication network? How do you route data in a network? What are the limits of efficient computation? This course gives a comprehensive introduction to design and analysis of algorithms, and answers along the way to these and many other interesting computational questions. You will learn about problem-solving; advanced data structures such as universal hashing and red-black trees; advanced design and analysis techniques such as dynamic programming and amortized analysis; graph algorithms such as minimum spanning trees and network flows; NP-completeness theory; and approximation algorithms.
Course usually offered in spring term
Prerequisites: CIS 120, 121, 160, 262
Activity: Lecture
1 Course Unit

CIS 330 Design Principles of Information Systems
Introduction to database management systems and principles of design. The Entity-Relationship model as a modeling tool. The relational model: formal languages, the industry standard SQL, relational design theory, query optimization. Storing and querying XML data. Recursive queries, Views and data integration. Overview of system level issues: physical data organization, indexing techniques, and transactions. Connecting databases to the Web. Course work requires programming in several different query languages, several written homeworks and a team project.
Course usually offered in fall term
Prerequisites: CIS 121 and CIS 160
Activity: Lecture
1 Course Unit

CIS 334 Advanced Topics in Algorithms
Can you check if two large documents are identical by examining a small number of bits? Can you verify that a program has correctly computed a function without ever computing the function? Can students compute the average score on an exam without ever revealing their scores to each other? Can you be convinced of the correctness of an assertion without ever seeing the proof? The answer to all these questions is in the affirmative provided we allow the use of randomization. Over the past few decades, randomization has emerged as a powerful resource in algorithm design. This course would focus on powerful general techniques for designing randomized algorithms as well as specific representative applications in various domains, including approximation algorithms, cryptography and number theory, data structure design, online algorithms, and parallel and distributed computation.
Course not offered every year
Prerequisite: CIS 320
Activity: Lecture
1 Course Unit

CIS 341 Compilers and Interpreters
You know how to program, but do you know how to implement a programming language? In CIS341 you’ll learn how to build a compiler. Topics covered include: lexical analysis, grammars and parsing, intermediate representations, syntax-directed translation, code generation, type checking, simple dataflow and control-flow analyses, and optimizations. Along the way, we study objects and inheritance, first-class functions (closures), data representation and runtime-support issues such as garbage collection. This is a challenging, implementation-oriented course in which students build a full compiler from a simple, typed object-oriented language to fully operational x86 assembly. The course projects are implemented using OCaml, but no knowledge of OCaml is assumed.
Course not offered every year
Prerequisites: Two semesters of programming courses, e.g., CIS 120, CIS 121, and CIS 240
Activity: Lecture
1 Course Unit

CIS 350 Software Design/Engineering
You know how to write a “program”. But how do you create a software “product” as part of a team, with customers that have expectations of functionality and quality? This course introduces students to various tools (source control, automated build systems, programming environments, test automation, etc.) and processes (design, implementation, testing, and maintenance) that are used by professionals in the field of software engineering. Topics will include: software development lifecycle; agile and test-driven development; source control and continuous integration; requirements analysis; object-oriented design and testability; mobile and/or web application development; software testing; refactoring ; and software quality metrics.
Course not offered every year
Prerequisite: CIS 121
Activity: Lecture
1 Course Unit
CIS 371 Computer Organization and Design
This is the second computer organization course and focuses on computer hardware design. Topics covered are: (1) basic digital system design including finite state machines, (2) instruction set design and simple RISC assembly programming, (3) quantitative evaluation of computer performance, (4) circuits for integer and floating-point arithmetic, (5) datapath and control, (6) micro-programming, (7) pipelining, (8) storage hierarchy and virtual memory, (9) input/output, (10) different forms of parallelism including instruction level parallelism, data-level parallelism using both vectors and message-passing multi-processors, and thread-level parallelism using shared memory multiprocessors. Basic cache coherence and synchronization.
Course usually offered in spring term
Prerequisite: CIS 240
Activity: Lecture
1 Course Unit

CIS 380 Computer Operating Systems
This course surveys methods and algorithms used in modern operating systems. Concurrent distributed operation is emphasized. The main topics covered are as follows: process synchronization; interprocess communication; concurrent/distributed programming languages; resource allocation and deadlock; virtual memory; protection and security; distributed operation; distributed data; performance evaluation.
Course usually offered in fall term
Prerequisite: CIS 240
Activity: Lecture
1 Course Unit

CIS 390 Robotics: Planning Perception
This introductory course will present basic principles of robotics with an emphasis to computer science aspects. Algorithms for planning and perception will be studied and implemented on actual robots. While planning is a fundamental problem in artificial intelligence and decision making, robot planning refers to finding a path from A to B in the presence of obstacles and by complying with the kinematic constraints of the robot. Perception involves the estimation of the robots motion and path as well as the shape of the environment from sensors. In this course, algorithms will be implemented in Python on mobile platforms on ground and in the air. No prior experience with Python is needed but we require knowledge of data structures, linear algebra, and basic probability.
Course not offered every year
Prerequisites: CIS 121 and MATH 240 or equivalent
Activity: Lecture
1 Course Unit

CIS 398 Quantum Computer and Information Science
The purpose of this course is to introduce undergraduate students in computer computer science and engineering to quantum computers (QC) and quantum information science (QIS). This course is meant primarily for juniors and seniors in Computer Science. No prior knowledge of quantum mechanics (QM) is assumed. Enrollment is by permission of the instructor.
One-term course offered either term
Prerequisites: PHYS 151, MATH 240, MATH 312, MATH 314, CIS 160 and CIS 262
Activity: Lecture
1 Course Unit

CIS 400 Senior Project
Design and implementation of a significant piece of work: software, hardware or theory. In addition, emphasis on technical writing and oral communication skills. Students must have an abstract of their Senior Project, which is approved and signed by a Project Adviser, at the end of the second week of Fall classes. The project continues during two semesters; students must enroll in CIS 401 during the second semester. At the end of the first semester, students are required to submit an intermediate report and give a class presentation describing their project and progress. Grades are based on technical writing skills (as per submitted report), oral presentation skills (as per class presentation) and progress on the project. These are evaluated by the Project Adviser and the Course Instructor.
Course usually offered in spring term
Prerequisite: CIS 400, senior standing or permission of instructor
Activity: Lecture
1 Course Unit

CIS 401 Senior Project
Continuation of CIS 400. Design and implementation of a significant piece of work: software, hardware or theory. Students are required to submit a final written report and give a final presentation and demonstration of their project. Grades are based on the report, the presentation and the satisfactory completion of the project. These are evaluated by the Project Adviser and the Course Instructor.
Course usually offered in spring term
Prerequisites: CIS 400, senior standing or permission of instructor
Activity: Lecture
1 Course Unit

CIS 419 Introduction to Machine Learning
Machine learning has been essential to the success of many recent technologies, including autonomous vehicles, search engines, genomics, automated medical diagnosis, image recognition, and social network analysis, among many others. This course will introduce the fundamental concepts and algorithms that enable computers to learn from experience, with an emphasis on their practical application to real problems. This course will introduce supervised learning (decision trees, logistic regression, support vector machines, Bayesian methods, neural networks and deep learning), unsupervised learning (clustering, dimensionality reduction), and reinforcement learning. Additionally, the course will discuss evaluation methodology and recent applications of machine learning, including large scale learning for big data and network analysis.
One-term course offered either term
Also Offered As: CIS 519
Activity: Lecture
1 Course Unit

CIS 421 Artificial Intelligence
This course investigates algorithms to implement resource-limited knowledge-based agents which sense and act in the world. Topics include, search, machine learning, probabilistic reasoning, natural language processing, knowledge representation and logic. After a brief introduction to the language, programming assignments will be in Python.
Also Offered As: CIS 521
Prerequisites: CIS 121, ESE 301 or STAT 430 recommended
Activity: Lecture
1 Course Unit
Course: CIS 430 Introduction to Human Language Technology
This course is an automatic summarization that can help alleviate the information overload problem caused by the unprecedented amount of online textual information. The building of a summarization system requires good understanding of the properties of human language and the use of various natural language tools. In this course we will build several summarization systems of increasing complexity and sophistication. In the process we will learn about various natural language processing tools and resources such as part of speech tagging, chunking, parsing, Wordnet, and machine learning toolkits. We will also cover probability and statistics concepts used in summarization, but also applicable to a wide range of other language-related tasks.
Course usually offered in fall term
Prerequisite: CIS 121
Activity: Lecture
1 Course Unit

Course: CIS 441 Embedded Software for Life-Critical Applications
The goal of this course is to give students greater design and implementation experience in embedded software development and to teach them how to model, design, verify, and validate safety critical systems in a principled manner. Students will learn the principles, methods, and techniques for building life-critical embedded systems, ranging from requirements and models to design, analysis, optimization, implementation, and validation. Topics will include modeling and analysis methods and tools, real-time programming paradigms and languages, distributed real-time systems, global time, time-triggered communications, assurance case, software architecture, evidence-based certification, testing, verification, and validation. The course will include a series of projects that implements life-critical embedded systems (e.g., pacemaker, infusion pumps, closed-loop medical devices).
One-term course offered either term
Also Offered As: CIS 541
Activity: Lecture
1 Course Unit

Course: CIS 450 Database and Information Systems
This course provides an introduction to the broad field of database and information systems, covering a variety of topics relating to structured data, ranging from data modeling to logical foundations and popular languages, to system implementations. We will study the theory of relational and XML data design, the basics of query languages; efficient storage of data, execution of queries and query optimization; transactions and updates; web-database development; and “big data” and NoSQL systems. The course assumes mathematical and programming experience equivalent to CIS160 and CIS121.
Course usually offered in fall term
Also Offered As: CIS 550
Prerequisites: CIS 121, 160
Activity: Lecture
1 Course Unit

Course: CIS 455 Internet and Web Systems
This course focuses on the challenges encountered in building Internet and web systems: scalability, interoperability (of data and code), security and fault tolerance, consistency models, and location of resources, services, and data. We will examine how XML standards enable information exchange; how web services support cross-platform interoperability (and what their limitations are); how to build high-performance application servers; how “cloud computing” services work; how to perform Akamai-like content distribution; and how to provide transaction support in distributed environments. We will study techniques for locating machines, resources, and data (including directory systems, information retrieval, indexing, ranking, and web search); and we will investigate how different architectures support scalability (and the issues they face). We will also examine ideas that have been proposed for tomorrow’s Web, and we will see some of the challenges, research directions, and potential pitfalls. An important goal of the course is not simply to discuss issues and solutions, but to provide hands-on experience with a substantial implementation project. This semester’s project will be a peer-to-peer implementation of a Googel-style search engine, including distributed, scalable crawling; indexing with ranking; and even PageRank. As a side-effect of the material of this course you will learn about some aspects of large-scale software development assimilating large APIs.
One-term course offered either term
Also Offered As: CIS 555
Prerequisites: Familiarity with threads and concurrency, strong Java programming skills.
Activity: Lecture
1 Course Unit

Course: CIS 460 Interactive Computer Graphics
This course focuses on programming the essential mathematical and geometric concepts underlying modern computer graphics. Using 3D interactive implementations, it covers fundamental topics such as mesh data structures, transformation sequences, rendering algorithms, and curve interpolation for animation. Students are also introduced to two programming languages widely used in the computer graphics industry: C++ and GLSL. The curriculum is heavily project-based, and culminates in a group project focused on building an interactive first-person world exploration application using the various real-time interaction and rendering algorithms learned throughout the semester.
Course usually offered in fall term
Also Offered As: CIS 560
Prerequisites: CIS 120, CIS 121 and CIS 240 are useful pre- or co-
requisites
Activity: Lecture
1 Course Unit

Course: CIS 461 Advanced Computer Graphics
This course is designed to provide a comprehensive overview to computer graphics techniques in 3D modeling, image synthesis, and rendering. Topics cover: geometric transformations, geometric algorithms, software systems, 3D object models (surface, volume and implicit), visible surface algorithms, image synthesis, shading, mapping, ray tracing, radiosity, global illumination, sampling, anti-aliasing, Monte Carlo path tracing, and photon mapping.
One-term course offered either term
Also Offered As: CIS 561
Prerequisites: A working knowledge of C++ programming is required (one year programming experience in general). Knowledge of vector geometry is useful.
Activity: Lecture
1 Course Unit
CIS 462 Computer Animation
This course covers core subject matter common to the fields of robotics, character animation and embodied intelligent agents. The intent of the course is to provide the student with a solid technical foundation for developing, animating and controlling articulated systems used in interactive computer game virtual reality simulations and high-end animation applications. The course balances theory with practice by "looking under the hood" of current animation systems and authoring tools and exams the technologies and techniques used from both a computer science and engineering perspective. Topics covered include: geometric coordinate systems and transformations; parametric curves and surfaces; forward and inverse kinematics; dynamic systems and control; computer simulation; keyframe, motion capture and procedural animation; behavior-based animation and control; facial animation; smart characters and intelligent agents.
One-term course offered either term
Also Offered As: CIS 562
Prerequisites: Previous exposure to major concepts in linear algebra (i.e. vector matrix math), curves and surfaces, dynamical systems (e.g. 2nd order mass-spring-damper systems) and 3D computer graphics has also been assumed in the preparation of the course materials.
Activity: Lecture
1 Course Unit

CIS 477 Mathematical Methods/Techniques for Linguistics and Natural Language Processing
Basic concepts of set theory, relations and functions, properties of relations. Basic concepts of algebra. Grammars, languages, and automata- finite state grammars, regular expressions, context-free and context-sensitive grammars, unrestricted grammars, finite automata, pushdown automata and other related automata, Turing machines, Syntax and semantics of grammar formalisms. Strong generative capacity of grammars, Grammers as deductive systems, parsing as deduction. Relevance of formal grammars to modeling biological sequences. The course will deal with these topics in a very basic and introductory manner--ideas of proofs and not detailed proofs, and more importantly with plenty of linguistic examples to bring out the linguistic relevance of these topics. The course will deal with these topics in a very basic and introductory manner--ideas of proofs and not detailed proofs, and more importantly with plenty of linguistic examples to bring out the linguistic relevance of these topics.
Course not offered every year
Prerequisite: PHIL 006 or instructor's permission
Activity: Lecture
1 Course Unit

CIS 480 Real-Time and Embedded Systems
Ever increasing availability of inexpensive processors connected by a communication network has motivated the development of numerous concepts and paradigms for distributed real-time embedded systems. The primary objectives of this course are to study the principles and concepts of real-time embedded computing and to provide students hands-on experience in developing embedded applications. This course covers the concepts and theory necessary to understand and program embedded real-time systems. This includes concepts and theory for real-time system design, analysis, and certification; programming and operating systems for embedded systems; and concepts, technologies, and protocols for distributed embedded real-time systems. The course will cover a variety of existing systems and technologies, e.g., real-machines, architectural description language, formal methods and logical-time programming paradigms, and certification. The course requires active student participation in-group projects. Each group will be responsible for the design and implementation of a life-critical embedded system such as a pacemaker. The group projects are intended to complement the learning of principles and concepts through the application of theory in practice and the development of experimental skills in building embedded applications.
Course not offered every year
Prerequisites: CIS 380, some network programming experience is desirable
Activity: Lecture
1 Course Unit

CIS 482 Logic In Computer Science
Logic has been called the calculus of computer science as it plays a fundamental role in computer science, similar to that played by calculus in the physical sciences and traditional engineering disciplines. Indeed, logic is useful in areas of computer science as disparate as architecture (logic gates), software engineering (specification and verification), programming languages (semantics, logic programming), databases (relational algebra and SQL), artificial intelligence (automated theorem proving), algorithms (complexity and expressiveness), and theory of computation (general notions of computability). CIS 482 provides the students with a thorough introduction to mathematical logic, covering in depth the topics of syntax, semantics, decision procedures, formal proof systems, and soundness and completeness for both propositional and first-order logic. The material is taught front computer science perspective, with an emphasis on algorithms, computational complexity, and tools. Projects will focus on problems in circuit design, specification and analysis and protocols, and query evaluation in databases.
One-term course offered either term
Also Offered As: CIS 582
Prerequisite: CIS 160
Activity: Lecture
1 Course Unit

CIS 497 DMD Senior Project
The goal of this course is to provide an opportunity for seniors to define, design and execute a project of their own choosing that demonstrates the technical skill and abilities that you have acquired during your 4 years as undergraduates. Evaluation is based on selecting an interesting topic, completing appropriate research on the state of the art in that area, communicating your objectives in writing and in presentations, accurately estimating what resources will be reqto complete your chosen task, coding necessary functionality, and executing your plan.
One-term course offered either term
Prerequisite: Senior Standing or Permission of the Instructor
Activity: Lecture
1 Course Unit
CIS 500 Software Foundations
This course introduces basic concepts and techniques in the foundational study of programming languages. The central theme is the view of programs and programming languages as mathematical objects for which precise claims may be made and proved. Particular topics include operational techniques for formal definition of language features, type systems and type safety properties, polymorphism, constructive logic, and the Coq proof assistant. This course is appropriate as an upper-level undergraduate CIS elective. Undergraduates who have satisfied the prerequisites are welcome to enroll. No permission from the instructor is needed.
One-term course offered either term  
Prerequisites: CIS 121, 160, and CIS 262 (or equivalents); plus substantial mathematical maturity (at least two additional undergraduate courses in math or theoretical CS). Undergraduate-level coursework in programming languages, compilers, functional programming, or logic is helpful but not required.
Activity: Lecture  
1 Course Unit

CIS 501 Computer Architecture
This course is an introductory graduate course on computer architecture with an emphasis on a quantitative approach to cost/performance design tradeoffs. The course covers the fundamentals of classical and modern uniprocessor design: performance and cost issues, instruction sets, pipelining, superscalar, out-of-order, and speculative execution mechanisms, caches, physical memory, virtual memory, and I/O. Other topics include: static scheduling, VLIW and EPIC, software speculation, long (SIMD) and short (multimedia) vector execution, multithreading, and an introduction to shared memory multiprocessors.
One-term course offered either term  
Prerequisites: Knowledge of computer organization and basic programming skills  
Activity: Lecture  
1 Course Unit

CIS 502 Analysis of Algorithms
An investigation of paradigms for design and analysis of algorithms. The course will include dynamic programming, flows and combinatorial optimization algorithms, linear programming, randomization and a brief introduction to intractability and approximation algorithms. The course will include other advanced topics, time permitting.
One-term course offered either term  
Prerequisites: Data Structures and Algorithms at the undergraduate level. Programming experience (CIT 594 or equivalent) is helpful but not necessary.  
Activity: Lecture  
1 Course Unit

CIS 503 Software Systems
This course provides an introduction to fundamental concepts of distributed systems, and the design principles for building large scale computational systems. Topics covered include communication, concurrency, programming paradigms, naming, managing shared state, caching, synchronization, reaching agreement, fault tolerance, security, middleware, and distributed applications. This course is appropriate as an upper-level undergraduate CIS elective.
One-term course offered either term  
Prerequisites: Undergraduate-level knowledge of Operating Systems and Networking, programming experience (CIT 594 or equivalent)  
Activity: Lecture  
1 Course Unit

CIS 504 Theory of Computation
This course is about mathematical and algorithmic techniques used for geometric modeling and geometric design, using curves and surfaces. There are many applications in computer graphics as well as in robotics, vision, and computational geometry. Such techniques are used in 2D and 3D drawing and plot, object silhouettes, animating positions, product design (cars, planes, buildings), topographic data, medical imagery, active surfaces of proteins, attribute maps (color, texture, roughness), weather data, art, etc. Three broad classes of problems will be considered: approximating curved shapes, using smooth curves or surfaces. Interpolating curved shapes, using smooth curves or surfaces. Rendering smooth curves or surfaces.
Course not offered every year  
Also Offered As: CIS 410  
Prerequisites: Basic knowledge of linear algebra, calculus, and elementary geometry. CIS 560 is not required.  
Activity: Lecture  
1 Course Unit

CIS 505 Fundamentals of Linear Algebra and Optimization
This course provides firm foundations in linear algebra and basic optimization techniques. Emphasis is placed on teaching methods and tools that are widely used in various areas of computer science. Both theoretical and algorithmic aspects will be discussed.
One-term course offered either term  
Prerequisites: Undergraduate course in linear algebra, calculus  
Activity: Lecture  
1 Course Unit

CIS 506 Computer and Information Science (CIS)
CIS 518 Topics in Logic: Finite Model Theory and Descriptive Complexity
This course will examine the expressive power of various logical languages over the class of finite structures. The course begins with an exposition of some of the fundamental theorems about the behavior of first-order logic in the context of finite structures, in particular, the Ehrenfeucht-Fraisse Theorem and the Trakhtenbrot Theorem. The first of these results is used to show limitations on the expressive power of first-order logic over finite structures while the second result demonstrates that the problem of reasoning about finite structures using first-order logic is surprisingly complex. The course then proceeds to consider various extensions of first-order logic including fixed-point operators, generalized quantifiers, infinitary languages, and higher-order languages. The expressive power of these extensions will be studied in detail and will be connected to various problems in the theory of computational complexity. This last motif, namely the relation between descriptive and computational complexity, will be one of the main themes of the course.
One-term course offered either term
Also Offered As: MATH 571, PHIL 412
Activity: Seminar
1 Course Unit

CIS 519 Introduction to Machine Learning
Machine learning has been essential to the success of many recent technologies, including autonomous vehicles, search engines, genomics, automated medical diagnosis, image recognition, and social network analysis, among many others. This course will introduce the fundamental concepts and algorithms that enable computers to learn from experience, with an emphasis on their practical application to real problems. This course will introduce supervised learning (decision trees, logistic regression, support vector machines, Bayesian methods, neural networks and deep learning), unsupervised learning (clustering, dimensionality reduction), and reinforcement learning. Additionally, the course will discuss evaluation methodology and recent applications of machine learning, including large scale learning for big data and network analysis.
One-term course offered either term
Also Offered As: CIS 419
Prerequisite: CIS 121 or permission of the instructor
Activity: Lecture
1 Course Unit

CIS 520 Machine Learning
This course covers the foundations of statistical machine learning. The focus is on probabilistic and statistical methods for prediction and clustering in high dimensions. Topics covered include linear and logistic regression, SVMs, PCA and dimensionality reduction, EM and HMMs, and deep learning.
Course usually offered in fall term
Prerequisites: Elementary probability, calculus, and linear algebra. Basic programming experience.
Activity: Lecture
1 Course Unit

CIS 521 Artificial Intelligence
This course investigates algorithms to implement resource-limited knowledge-based agents which sense and act in the world. Topics include, search, machine learning, probabilistic reasoning, natural language processing, knowledge representation and logic. After a brief introduction to the language, programming assignments will be in Python.
One-term course offered either term
Also Offered As: CIS 421
Prerequisites: CIS 121, ESE 301 or STAT 430 recommended
Activity: Lecture
1 Course Unit

CIS 526 Machine Translation
Google translate can instantly translate between any pair of over fifty human languages (for instance, from French to English). How does it do that? Why does it make the errors that it does? And how can you build something better? Modern translation systems like Google Translate and Bing Translator learn how to translate by reading millions of words of already translated text, and this course will show you how they work. The course covers a diverse set of fundamental building blocks from linguistics, machine learning, algorithms, data structures, and formal language theory, along with their application to a real and difficult problem in artificial intelligence.
One-term course offered either term
Activity: Lecture
1 Course Unit

CIS 530 Computational Linguistics
Computational approaches to the problem of understanding and producing natural language text and speech, including speech processing, syntactic parsing, semantic interpretation, discourse meaning, and the role of pragmatics and world knowledge. The course will examine both rule-based and corpus-based techniques. It is recommended that students have some knowledge of logic, basic linguistics, and/or programming.
Course usually offered in fall term
Activity: Lecture
1 Course Unit

CIS 535 Introduction to Bioinformatics
The course covers methods used in computational biology, including the statistical models and algorithms used and the biological problems which they address. Students will learn how tools such as BLAST work, and will use them to address real problems. The course will focus on sequence analysis problems such as exon, motif and gene finding, and on comparative methods but will also cover gene expression and proteomics.
Course usually offered in fall term
Also Offered As: BIOL 535, GCB 535
Prerequisites: The course will assume a solid knowledge of modern biology. An advanced undergraduate course such as BIOL 421 or a graduate course in biology such as BIOL 527 (Advanced Molecular Biology and Genetics), BIOL 540 (Genetic Systems, or equivalent, is a prerequisite.
Activity: Lecture
1 Course Unit
CIS 537 Biomedical Image Analysis
This course covers the fundamentals of advanced quantitative image analysis that apply to all of the major and emerging modalities in biological/biomaterials imaging and in vivo biomedical imaging. While traditional image processing techniques will be discussed to provide context, the emphasis will be on cutting edge aspects of all areas of image analysis (including registration, segmentation, and high-dimensional statistical analysis). Significant coverage of state-of-the-art biomedical research and clinical applications will be incorporated to reinforce the theoretical basis of the analysis methods.
One-term course offered either term
Also Offered As: BE 537
Prerequisites: Mathematics through multivariate calculus (MATH 241), programming experience, as well as some familiarity with linear algebra, basic physics, and statistics.
Activity: Lecture
1 Course Unit

CIS 540 Principles of Embedded Computation
This course is focused on principles underlying design and analysis of computational elements that interact with the physical environment. Increasingly, such embedded computers are everywhere, from smart cameras to medical devices to automobiles. While the classical theory of computation focuses on the function that a program computes, to understand embedded computation, we need to focus on the reactive nature of the interaction of a component with its environment via inputs and outputs, the continuous dynamics of the physical world, different ways of communication among components, and requirements concerning safety, timeliness, stability, and performance. Developing tools for approaching design, analysis, and implementation of embedded systems in a principled manner is an active research area. This course will attempt to give students a coherent introduction to this emerging area. This course is appropriate as an upper-level undergraduate CIS elective.
Course usually offered in fall term
Prerequisites: This course assumes mathematical maturity, commensurate with either ESE 210 (Introduction to Dynamical Systems), or CIS 262 (Introduction to Theory of Computation). It is suitable for students who have an undergraduate degree in computer science, or computer engineering, or electrical engineering. It is also suitable for Penn undergraduates in CIS or CE as an upper-level elective.
Activity: Lecture
1 Course Unit

CIS 541 Embedded Software for Life-Critical Applications
The goal of this course is to give students greater design and implementation experience in embedded software development and to teach them how to model, design, verify, and validate safety critical systems in a principled manner. Students will learn the principles, methods, and techniques for building life-critical embedded systems, ranging from requirements and models to design, analysis, optimization, implementation, and validation. Topics will include modeling and analysis methods and tools, real-time programming paradigms and languages, distributed real-time systems, global time, time-triggered communications, assurance case, software architecture, evidence-based certification, testing, verification, and validation. The course will include a series of projects that implements life-critical embedded systems (e.g., pacemaker, infusion pumps, closed-loop medical devices).
One-term course offered either term
Also Offered As: CIS 441
Activity: Lecture
1 Course Unit

CIS 542 Embedded Systems Programming
This course explores techniques for writing correct and efficient embedded code. Topics include C/C++ idioms, data abstraction, elementary data structures and algorithms, environment modeling, concurrency, hard real time, and modular program reasoning.
One-term course offered either term
Prerequisite: C fluency
Activity: Lecture
1 Course Unit

CIS 549 Wireless Mobile Communication
This course covers generations of wireless mobile network standards and systems, basic differences and their evolution, charting the development of mobile telecommunications systems from 3G, to today's state-of-the-art wireless technology 4G LTE, and the next generation wireless technology 5G.
One-term course offered either term
Prerequisites: ESE 407 or CIS 505, 551 or 553 or permission of the instructor
Activity: Lecture
1 Course Unit

CIS 550 Database and Information Systems
This course provides an introduction to the broad field of database and information systems, covering a variety of topics relating to structured data, ranging from data modeling to logical foundations and popular languages, to system implementations. We will study the theory of relational and XML data design; the basics of query languages; efficient storage of data, execution of queries and query optimization; transactions and updates; web-database development; and "big data" and NoSQL systems. The course assumes mathematical and programming experience equivalent to CIS160 and CIS121.
Course usually offered in fall term
Also Offered As: CIS 450
Prerequisites: CIS 121, 160
Activity: Lecture
1 Course Unit

CIS 551 Computer and Network Security
This is an introduction to topics in the security of computer systems and communication on networks of computers. The course covers four major areas: fundamentals of cryptography, security for communication protocols, security for operating systems and mobile programs, and security for electronic commerce. Sample specific topics include: passwords and offline attacks, DES, RSA, DSA, SHA, SSL, CBC, IPSec, SET, DDoS attacks, biometric authentication, PKI, smart cards, S/MIME, privacy on the Web, viruses, security models, wireless security, and sandboxing. Students will be expected to display knowledge of both theory and practice through written examinations and programming assignments.
Course usually offered in spring term
Prerequisites: CIS 553 or equivalent is required; CIS 500 recommended.
Activity: Lecture
1 Course Unit
CIS 552 Advanced Programming
The goals of this course are twofold: (1) to take good programmers and turn them into excellent ones, and (2) to introduce them to a range of modern software engineering practices, in particular those embodied in advanced functional programming languages.
One-term course offered either term
Prerequisites: Four courses involving significant programming and a discrete mathematics or modern algebra course. Enrollment by permission of the instructor only.
Activity: Lecture
1 Course Unit

CIS 553 Networked Systems
This course provides an introduction to fundamental concepts in the design and implementation of networked systems, their protocols, and applications. Topics to be covered include: Internet architecture, network applications, addressing, routing, transport protocols, network security, and peer-to-peer networks. The course will involve written assignments, examinations, and programming assignments. Students will work in teams to design and implement networked systems in layers, from routing protocols, transport protocols, to peer-to-peer networks.
One-term course offered either term
Prerequisites: CIS 121 or equivalent, or permission of the instructor
Activity: Lecture
1 Course Unit

CIS 554 Programming Paradigms
Achieving mastery in a new programming language requires more than just learning a new syntax; rather, different languages support different ways to think about solving problems. Not all programming languages are inherently procedural or object-oriented. The intent of this course is to provide a basic understanding of a wide variety of programming paradigms, such as logic programming, functional programming, concurrent programming, rule-based programming, and others.
One-term course offered either term
Prerequisite: CIS 121 or CIT 594 or equivalent
Activity: Lecture
1 Course Unit

CIS 555 Internet and Web Systems
This course focuses on the challenges encountered in building Internet and web systems: scalability, interoperability (of data and code), security and fault tolerance, consistency models, and location of resources, services, and data. We will examine how XML standards enable information exchange; how web services support cross-platform interoperability (and what their limitations are); how to build high-performance application servers; how "cloud computing" services work; how to perform Akamai-like content distribution; and how to provide transaction support in distributed environments. We will study techniques for locating machines, resources, and data (including directory systems, information retrieval indexing, ranking, and web search); and we will investigate how different architectures support scalability (and the issues they face). We will also examine ideas that have been proposed for tomorrow's Web, and we will see some of the challenges, research directions, and potential pitfalls. An important goal of the course is not simply to discuss issues and solutions, but to provide hands-on experience with a substantial implementation project. This semester's project will be a peer-to-peer implementation of a Google-style search engine, including distributed, scalable crawling; indexing with ranking; and even PageRank. As a side-effect of the material of this course you will learn about some aspects of large-scale software development assimilating large APIs, thinking about modularity, reading other people's code, managing versions, debugging, etc.
One-term course offered either term
Also Offered As: CIS 455
Prerequisites: Familiarity with threads and concurrency, strong Java programming skills.
Activity: Lecture
1 Course Unit

CIS 556 Cryptography
This course is a graduate-level introduction to cryptography, both theory and applications. Topics covered include symmetric cryptography, message authentication, public-key cryptography, digital signatures, cryptanalysis, cryptographic security, and secure channels, as well as a selection of more advanced topics such as zero-knowledge proofs, secure multiparty computation, privacy-enhancing technologies, or lattice-based cryptography.
One-term course offered either term
Prerequisites: CIS 262, 320 or equivalent
Activity: Lecture
1 Course Unit

CIS 557 Programming for the Web
This course will focus on web programming. The first half will focus on the basics of the internet and the Web, HTML and CSS, and basic and advanced Ruby. The second half will focus on Rails. Teams (of size 2-3) will build a web application in the second half of the semester as the class project. Through Rails, we'll explore the "culture" of web programming such as agile methodology, testing, key aspects of software engineering, using web services and APIs, and deploying to the cloud.
Prerequisites: CIS 121, CIT 594, or equivalent, or permission of the instructor
Activity: Lecture
1 Course Unit
CIS 558 Computer Analysis and Modeling of Biological Signals and Systems
A graduate course intended to introduce the use of signal and image processing tools for analyzing and modeling biological systems. We present a series of fundamental examples drawn from areas of speech analysis/synthesis, computer vision, and modeling of biological perceptual systems. Students learn the material through lectures and via a set of computer exercises developed in MATLAB.
Course usually offered in spring term
Also Offered As: LING 525
Prerequisite: Undergraduate-level knowledge of linear algebra
Activity: Lecture
1 Course Unit

CIS 559 Programming and Problem Solving
This course develops students problem solving skills using techniques that they have learned during their CS training. Over the course of the semester, students work on group projects in which they use programming techniques to solve open-ended problems, e.g. optimization, simulation, etc. There are no "correct" answers to these problems; rather, the focus is on the four steps of the problem solving process: algorithmic thinking; programming; analysis; and communication.
One-term course offered either term
Prerequisites: Proficiency in Java. CIS 320 or CIS 502, or equivalent
Activity: Lecture
1 Course Unit

CIS 560 Interactive Computer Graphics
This course focuses on programming the essential mathematical and geometric concepts underlying modern computer graphics. Using 3D interactive implementations, it covers fundamental topics such as mesh data structures, transformation sequences, rendering algorithms, and curve interpolation for animation. Students are also introduced to two programming languages widely used in the computer graphics industry: C++ and GLSL. The curriculum is heavily project-based, and culminates in a group project focused on building an interactive first-person world exploration application using the various real-time interaction and rendering algorithms learned throughout the semester.
Course usually offered in fall term
Also Offered As: CIS 460
Prerequisites: CIS 120 (CIS 120 and CIS 240 are useful pre- or corequisites)
Activity: Lecture
1 Course Unit

CIS 561 Advanced Computer Graphics
This course is designed to provide a comprehensive overview to computer graphics techniques in 3D modeling, image synthesis, and rendering. Topics cover: geometric transformations, geometric algorithms, software systems, 3D object models (surface, volume and implicit), visible surface algorithms, image synthesis, shading, mapping, ray tracing, radiosity, global illumination, sampling, anti-aliasing, Monte Carlo path tracing, and photon mapping.
One-term course offered either term
Also Offered As: CIS 461
Prerequisites: A working knowledge of C++ programming is required (one year programming experience in general). Knowledge of vector geometry is useful.
Activity: Lecture
1 Course Unit

CIS 562 Computer Animation
This course covers core subject matter common to the fields of robotics, character animation and embodied intelligent agents. The intent of the course is to provide the student with a solid technical foundation for developing, animating and controlling articulated systems used in interactive computer games, virtual reality simulations and high-end animation applications. The course balances theory with practice by "looking under the hood" of current animation systems and authoring tools and exams the technologies and techniques used from both a computer science and engineering perspective. Topics covered include: geometric coordinate systems and transformations; quaternions; parametric curves and surfaces; forward and inverse kinematics; dynamic systems and control; computer simulation; keyframe, motion capture and procedural animation; behavior-based animation and control; facial animation; smart characters and intelligent agents.
One-term course offered either term
Also Offered As: CIS 462
Prerequisites: Previous exposure to major concepts in linear algebra (i.e. vector matrix math), curves and surfaces, dynamical systems (e.g. 2nd order mass-spring-damper systems) and 3D computer graphics has also been assumed in the preparation of the course materials.
Activity: Lecture
1 Course Unit

CIS 563 Physically Based Animation
This course introduces students to common physically based simulation techniques for animation of fluids and gases, rigid and deformable solids, cloth, explosions, fire, smoke, virtual characters, and other systems. Physically based simulation techniques allow for creation of extremely realistic special effects for movies, video games and surgical simulation systems. We will learn state-of-the-art techniques that are commonly used in current special effects and animation studios and in video games community. To gain hands-on experience, students will implement basic simulators for several systems. The topics will include: Particle Systems, Mass spring systems, Deformable Solids & Fracture, Cloth, Explosions & Fire, Smoke, Fluids, Deformable active characters, Simulation and control of rigid bodies, Rigid body dynamics, Collision detection and handling, Simulation of articulated characters, Simulated characters in games. The course is appropriate for both upper level undergraduate and graduate students.
One-term course offered either term
Prerequisites: Students should have a good knowledge of object-oriented programming (C++) and basic familiarity with linear algebra and physics. Background in computer graphics is required (CIS 461 or CIS 561).
Activity: Lecture
1 Course Unit

CIS 564 Game Design and Development
The intent of the course is to provide students with a solid theoretical understanding of the core creative principles, concepts, and game play structures/schemas underlying most game designs. The course also will examine game development from an engineering point of view, including: game play mechanics, game engine software and hardware architectures, user interfaces, design documents, playtesting and production methods.
One-term course offered either term
Prerequisites: Basic understanding of 3D graphics and animation principles, prior exposure to scripting and programming languages such as Python, C and C++
Activity: Lecture
1 Course Unit
CIS 565 GPU Programming and Architecture
This course examines the architecture and capabilities of modern GPUs. The graphics processing unit (GPU) has grown in power over recent years, to the point where many computations can be performed faster on the GPU than on a traditional CPU. GPUs have also become programmable, allowing them to be used for a diverse set of applications far removed from traditional graphics settings. Topics covered include architectural aspects of modern GPUs, with a special focus on their streaming parallel nature, writing programs on the GPU using high level languages like Cg and BrookGPU, and using the GPU for graphics and general purpose applications in the area of geometry modeling, physical simulation, scientific computing and games. Students are expected to have a basic understanding of computer architecture and graphics, and should be proficient in OpenGL and C/C++. This course is appropriate as an upper-level undergraduate CIS elective.
One-term course offered either term
Prerequisites: CIS 460 or CIS 560, and familiarity with computer hardware/systems. The hardware/systems requirement may be met by CIS 501; or CIT 593 and 595; or CIS 240 (with CIS 371 recommended); or equivalent coursework.
Activity: Lecture
1 Course Unit

CIS 568 Game Design Practicum
The objective of the game design practicum is to provide students with hands on experience designing and developing 3D computer games. Working in teams of three or four, students will brainstorm an original game concept, write a formal game design document then develop a fully functional prototype consisting of a playable level of the game. In addition to creation of original art and animation assets for the game, technical features to be designed and implemented include a novel game mechanic and/or user interaction model, game physics (i.e. particle systems and rigid body dynamics), character animation, game AI (i.e. movement control, path planning, decision making, etc.), sound effects and effects and background music, 2D graphical user interface (GUI) design and optional multiplayer networking capabilities. Consistent with standard industry practices, game code and logic will be written using C++ and popular scripting languages such as Python and Lua. State-of-the-art game and physics engine middleware also will be used to expose students to commercial-grade software, production methodologies and art asset pipelines. As a result of their game development efforts, students will learn first hand about the creative process, design documentation, object-oriented software design and engineering, project management (including effective team collaboration and communication techniques), design iteration through user feedback and play-testing, and most importantly, what makes a game fun to play.
One-term course offered either term
Prerequisites: CIS 462/CIS 562, 562, CIS 461/CIS 562, or CIS 460/CIS 560
Corequisite: CIS 564
Activity: Lecture
1 Course Unit

CIS 570 Modern Programming Language Implementation
This course is a broad introduction to advanced issues in compilers and run-time systems for several classes of programming languages, including imperative, object-oriented, and functional. Particular attention is paid to the structures, analyses, and transformations used in program optimization.
Course not offered every year
Prerequisites: CIS 500. An undergraduate course in compiler construction (CIS 341 or equivalent) is helpful but not required.
Activity: Lecture
1 Course Unit

CIS 571 Recursion Theory
The course covers the basic theory of recursive and recursively enumerable sets and the connection between this theory and a variety of decision problems of interest in a computational setting. The course will then proceed to an exposition of recursion theoretic reducibilities. Elementary results about degrees of unsolvability are established. The theory of arithmetical, analytical, and projective hierarchies will be presented. The study of functionals at this point will provide an entry into the computationally important subject of recursion at higher types. Basic parts of the theory of inductive definitions and monotone operators will be presented. If time and interest permit, this theory will be applied to the analysis of the semantical paradoxes. The course will conclude with an investigation of the lower levels of the analytical and projective hierarchies. Applications to the degrees of unsolvability of various logical systems will be presented, connections between the hierarchies and predicative formal systems will be established, and the relation between the theory of the projective hierarchy and topics in classical descriptive set theory will be indicated.
Course usually offered in fall term
Activity: Seminar
1 Course Unit

CIS 572 Set Theory
This course is an introduction to set theory. It will begin with a study of Zermelo-Fraenkel set theory (ZF) as a partial description of the cumulative hierarchy of sets. Elementary properties of cardinal and ordinal numbers will be developed in ZF. The inner model of constructible sets will be used to establish the relative consistency of the axiom of choice and the generalized continuum hypothesis with ZF. The method of forcing will be introduced to establish the independence of the continuum hypothesis from ZF and other independence results. Large cardinals and their bearing on the resolution of questions about the continuum will be considered.
One-term course offered either term
Activity: Seminar
1 Course Unit

CIS 573 Software Engineering
Writing a "program" is easy. Developing a "software product", however, introduces numerous challenges that make it a much more difficult task. This course will look at how professional software engineers address those challenges, by investigating best practices from industry and emerging trends in software engineering research. Topics will focus on software maintenance issues, including: test case generation and test suite adequacy; code analysis verification and model checking; debugging and fault localization; refactoring and regression testing; and software design and quality.
Course usually offered in fall term
Prerequisites: CIT 594 or CIS 350, or equivalent; proficiency in Java
Activity: Lecture
1 Course Unit
CIS 580 Machine Perception
An introduction to the problems of computer vision and other forms of machine perception that can be solved using geometrical approaches rather than statistical methods. Emphasis will be placed on both analytical and computational techniques. This course is designed to provide students with an exposure to the fundamental mathematical and algorithmic techniques that are used to tackle challenging image based modeling problems. The subject matter of this course finds application in the fields of Computer Vision, Computer Graphics and Robotics. Some of the topics to be covered include: Projective Geometry, Camera Calibration, Image Formation, Projective, Affine and Euclidean Transformations, Computational Stereopsis, and the recovery of 3D structure from multiple 2D images. This course will also explore various approaches to object recognition that make use of geometric techniques, these would include alignment based methods and techniques that exploit geometric invariants. In the assignments for this course, students will be able to apply the techniques to actual computer vision problems. This course is appropriate as an upper-level undergraduate CIS elective. Course usually offered in fall term
Prerequisites: A solid grasp of the fundamentals of linear algebra. Some knowledge of programming in C and/or Matlab
Activity: Lecture
1 Course Unit

CIS 581 Computer Vision & Computational Photography
This is an introductory course to Computer Vision and Computational Photography. This course will explore three topics: 1) image morphing, 2) image matching and stitching, and 3) image recognition. This course is intended to provide a hands-on experience with interesting things to do on images/videos. The world is becoming image-centric. Cameras are now found everywhere, in our cell phones, automobiles, even in medical surgery tools. Computer vision technology has led to latest innovations in areas such as Hollywood movie production, medical diagnosis, biometrics, and digital library. This course is suited for students from all Engineering backgrounds, who have the basic knowledge of linear algebra and programming, and a lot of imagination.
Course not offered every year
Activity: Lecture
1 Course Unit

CIS 582 Logic in Computer Science
Logic has been called the calculus of computer science as it plays a fundamental role in computer science, similar to that played by calculus in the physical sciences and traditional engineering disciplines. Indeed, logic is useful in areas of computer science as disparate as architecture (logic gates), software engineering (specification and verification), programming languages (semantics, logic programming), databases (relational algebra and SQL), artificial intelligence (automatic theorem proving), algorithms (complexity and expressiveness), and theory of computation (general notions of computability). CIS 582 provides students with a thorough introduction to mathematical logic, covering in depth the topics of syntax, semantics, decision procedures, formal proof systems, and soundness and completeness for both propositional and first-order logic. The material is taught from a computer science perspective, with an emphasis on algorithms, computational complexity, and tools. Projects will focus on problems in circuit design, specification and analysis of protocols, and query evaluation in databases.
One-term course offered either term
Also Offered As: CIS 482
Prerequisite: CIS 160 or CIT 592 or equivalent
Activity: Lecture
1 Course Unit

CIS 597 Master's Thesis Research
For students working on an advanced research leading to the completion of a Master's thesis.
One-term course offered either term
Activity: Masters Thesis
1 Course Unit

CIS 599 Independent Study for Masters Students
For master's students studying a specific advanced subject area in computer and information science. Involves coursework and class presentations. A CIS 599 course unit will invariably include formally gradable work comparable to that in a CIS 500-level course. Students should discuss with the faculty supervisor the scope of the Independent Study, expectations, work involved, etc.
One-term course offered either term
Activity: Independent Study
1 Course Unit

CIS 601 Advanced Topics in Computer Architecture
This course will focus on research topics in computer architecture, and include reading and presenting research papers and an optional project. The content will differ with each offering, covering topics such as multicore programmability, datacenter and warehouse-scale computing, security, energy-efficient architectures, etc.
One-term course offered either term
Prerequisite: CIS 501 or strong performance in CIS 371
Activity: Lecture
1 Course Unit

CIS 610 Advanced Geometric Methods in Computer Science
The purpose of this course is to present some of the advanced geometric methods used in geometric modeling, computer graphics, computer vision, etc. The topics may vary from year to year, and will be selected among the following subjects (nonexhaustive list): Introduction to projective geometry with applications to rational curves and surfaces, control points for rational curves, rectangular and triangular rational patches, drawing closed rational curves and surfaces; Differential geometry of curves (curvature, torsion, osculating planes, the Frenet frame, osculating circles, osculating spheres); Differential geometry of surfaces (first fundamental form, normal curvature, second fundamental form, geodesic curvature, Christoffel symbols, principal curvatures, Gaussian curvature, mean curvature, the Gauss map and its derivative dN, the Dupin indicatrix, the Theorema Egregium equations of Codazzi-Mainadi, Bonnet's theorem, lines of curvatures, geodesic torsion, asymptotic lines, geodesic lines, local Gauss-Bonnet theorem).
Course usually offered in spring term
Also Offered As: MATH 676
Prerequisite: CIS 510 or coverage of equivalent material
Activity: Lecture
1 Course Unit
CIS 613 Nonlinear Control Theory
The course studies issues in nonlinear control theory, with a particular emphasis on the use of geometric principles. Topics include: controllability, accessibility, and observability, for nonlinear systems; Forbenius' theorem; feedback and input/output linearization for SISO and MIMO systems; dynamic extension; zero dynamics; output tracking and regulation; model matching disturbance decoupling; examples will be taken from mechanical systems, robotic systems, including those involving nonholonomic constraints, and active control of vibrations.
Course not offered every year
Also Offered As: ESE 617, MEAM 613
Prerequisites: A sufficient background to linear algebra (ENM 510, 511 or equivalent) and a course in linear control theory (MEAM 513 or equivalent), or written permission of the instructor.
Activity: Lecture
1 Course Unit

CIS 620 Advanced Topics in Artificial Intelligence
Discussion of problems and techniques in Artificial Intelligence (AI): Knowledge Representation, Natural Language Processing, Constraint Systems, Machine Learning; Applications of AI.
Course usually offered in spring term
Prerequisite: CIS 520 or equivalent
Activity: Seminar
1 Course Unit

CIS 625 Computational Learning Theory
This course is an introduction to Computational Learning Theory, a field which attempts to provide algorithmic, complexity-theoretic and statistical foundations to modern machine learning. The focus is on topics in computational learning theory for researchers and students in artificial intelligence, neural networks, theoretical computer science, and statistics.
One-term course offered either term
Prerequisites: Prior courses in algorithms, complexity and statistics would be helpful but are not necessary.
Activity: Seminar
1 Course Unit

CIS 630 Advanced Topics in Natural Language Processing
Different topics selected each offering; e.g., NL generation, question-answering, information extraction, machine translation, restricted grammar formalisms, computational lexical semantics, etc.
One-term course offered either term
Prerequisite: CIS 530 or equivalent or permission of instructor
Activity: Seminar
1 Course Unit

CIS 635 Advanced Computational Biology
Discussion of special research topics.
Course usually offered in full term
Also Offered As: BIOL 537, GCB 537
Prerequisite: Biol 536 or permission of the instructor
Activity: Seminar
1 Course Unit

CIS 639 Statistical approaches to Natural Language Understanding
This course examines the recent development of corpus-based techniques in natural language processing, focusing on both statistical and primarily symbolic learning techniques. Particular topics vary from year to year.
One-term course offered either term
Activity: Seminar
1 Course Unit

CIS 640 Advanced Topics in Software Systems
Different topics selected for each course offering.
Course usually offered in spring term
Prerequisite: CIS 505 or equivalent
Activity: Seminar
1 Course Unit

CIS 650 Advanced Topics in Databases
Advanced topics in databases: distributed databases, integrity constraints, failure, concurrency control, relevant relational theory, semantics of data models, the interface between programming of languages and databases. New topics are discussed each year.
Course usually offered in spring term
Prerequisite: CIS 550
Activity: Seminar
1 Course Unit

CIS 660 Advanced Topics in Computer Graphics and Animation
The goal of the course is to review state-of-the-art research in the fields of computer graphics and animation as well as provide students with working knowledge of how to convert theory to practice by developing an associated graphics/animation authoring tool. The course is comprised of primers, lectures, student presentations and the authoring tool group project. Each student will be responsible for presenting one primer and at least two SIGGRAPH papers to the class. Working in teams of two, students will design and develop an authoring tool that that facilitates the creation of a new type of user interaction, animation/simulation capability or 3D graphics special effect. Research papers published in the SigGraph Conference proceedings will provide the basis for the features/functionality/special effects that can be selected for implementation in the authoring tool. Each group will analyze the need and user requirements for the tool they plan to develop, prepare a formal software design document, construct a project work plan, develop the authoring tool functionality and user interface, test the design and demonstrate the authoring of associated content. A plug-in to standard authoring tools such as Maya or Houdini must also be developed to enable importing of appropriate assets and/or exporting of results.
Course usually offered in spring term
Prerequisite: CIS 560 or permission of the instructor
Activity: Seminar
1 Course Unit

CIS 670 Advanced Topics in Programming Languages
The details of this course change from year to year, but its purpose is to cover theoretical topics related to programming languages. Some central topics include: denotational vs operational semantics, domain theory and category theory, the lambda calculus, type theory (including recursive types, generics, type inference and modules), logics of programs and associated completeness and decidability problems, specification languages, and models of concurrency. The course requires a degree of mathematical sophistication.
One-term course offered either term
Prerequisite: CIS 500
Activity: Seminar
1 Course Unit
CIS 673 Computer-Aided Verification
This course introduces the theory and practice of formal methods for the design and analysis of concurrent and embedded systems. The emphasis is on the underlying logical and automata-theoretic concepts, the algorithmic solutions, and heuristics to cope with the high computational complexity. Topics: Models and semantics of reactive systems; Verification algorithms; Verification techniques. Topics may vary depending on instructor.
One-term course offered either term
Prerequisites: Basic knowledge of algorithms, data structures, automata theory, propositional logic, operating systems, communication protocols, and hardware (CIS 262, CIS 380, or permission of the instructor).
Activity: Lecture
1 Course Unit

CIS 677 Advanced Topics in Algorithms and Complexity
This course covers various aspects of discrete algorithms. Graph-theoretic algorithms in computational biology, and randomization and computation; literature in dynamic graph algorithms, approximation algorithms, and other areas according to student interests.
Course usually offered in fall term
Prerequisite: Consent of the instructor
Activity: Lecture
1 Course Unit

CIS 680 Advanced Topics in Machine Perception
Graduate seminar in advanced work on machine perception as it applies to robots as well as to the modeling of human perception. Topics vary with each offering.
Course usually offered in spring term
Prerequisites: A previous course in machine perception or knowledge of image processing, experience with an operating system and language such as Unix and C, and aptitude for mathematics.
Activity: Seminar
1 Course Unit

CIS 682 Friendly Logics
The use of logical formalisms in Computer Science is dominated by a fundamental conflict: expressiveness vs. algorithmic tractability. Database constraint logics, temporal logics and description logics are successful compromises in this conflict: (1) they are expressive enough for practical specifications in certain areas, and (2) there exist interesting algorithms for the automated use of these specifications. Interesting connections can be made between these logics because temporal and description logics are modal logics, which in turn can be seen, as can database constraint logics, as certain fragments of first-order logic. These connections might benefit research in databases, computer-aided verification and AI. Discussion includes other interesting connections, eg., with SLD-resolution, with constraint satisfaction problems, with finite model theory and with automata theory.
One-term course offered either term
Activity: Lecture
1 Course Unit

CIS 700 Special Topics
One time course offerings of special interest. Equivalent to a CIS 5XX level course.
Course not offered every year
Activity: Lecture
1 Course Unit

CIS 800 PhD Special Topics
One-time course offerings of special interest. Equivalent to CIS seminar course. Offerings to be determined.
One-term course offered either term
Activity: Lecture
1 Course Unit

CIS 895 Teaching Practicum
Enrollment for students participating in Teaching Practicum.
One-term course offered either term
Activity: Lecture
1 Course Unit

CIS 899 Doctoral Independent Study
For doctoral students studying a specific advanced subject area in computer and information science. The Independent Study may involve coursework, presentations, and formally gradable work comparable to that in a CIS 500 or 600 level course. The Independent Study may also be used by doctoral students to explore research options with faculty, prior to determining a thesis topic. Students should discuss with the faculty supervisor the scope of the Independent Study, expectations, work involved, etc. The Independent Study should not be used for ongoing research towards a thesis, for which the CIS 999 designation should be used.
One-term course offered either term
Activity: Independent Study
1 Course Unit

CIS 990 Masters Thesis
For master's students who have taken ten course units and need only to complete the writing of a thesis or finish work for incompletes in order to graduate. CIS 990 carries full time status with zero course units and may be taken only once.
Activity: Masters Thesis
1 Course Unit

CIS 995 Dissertation
For Ph.D. candidates working exclusively on their dissertation research, having completed enrollment for a total of ten semesters (fall and spring). There is no credit or grade for CIS 995.
Activity: Dissertation
1 Course Unit

CIS 996 Research Seminar
Introduction to research being conducted in the department. Mandatory for firstyear doctoral students. Taken as fifth course for no credit at no cost.
One-term course offered either term
Activity: Lecture
1 Course Unit

CIS 999 Doctoral Independent Study
For doctoral students studying a specific advanced subject area in computer and information science. The Independent Study may involve coursework, presentations, and formally gradable work comparable to that in a CIS 500 or 600 level course. The Independent Study may also be used by doctoral students to explore research options with faculty, prior to determining a thesis topic. Students should discuss with the faculty supervisor the scope of the Independent Study, expectations, work involved, etc. The Independent Study should not be used for ongoing research towards a thesis, for which the CIS 999 designation should be used.
One-term course offered either term
Activity: Independent Study
1 Course Unit

CIS 999 Thesis/Dissertation Research
For students pursuing advanced research to fulfill PhD dissertation requirements.
One-term course offered either term
Activity: Independent Study
1 Course Unit
Computer and Information Technology (CIT)

CIT 590 Programming Languages and Techniques
Introduction to fundamental concepts of programming and computer science for students who have little or no experience in these areas. Principles of modern object-oriented programming languages: abstraction, types, polymorphism, encapsulation, and inheritance. Basic algorithmic techniques and informal complexity analysis. Graphical user interfaces. Substantial programming assignments in Python and Java. This course is for students who do not have an academic background in computer science and who are not pursuing the Master’s in Computer Information Technology and who are not graduate students in the CIS Department.
One-term course offered either term
Activity: Lecture
1 Course Unit

CIT 591 Introduction to Software Development
Introduction to fundamental concepts of programming and computer science. Principles of modern object-oriented programming languages: abstraction, types, polymorphism, encapsulation, inheritance, and interfaces. This course will also focus on best practices and aspects of software development such as software design, software testing, pair programming, version control, and using IDEs. Substantial programming assignments.
One-term course offered either term
Activity: Lecture
1 Course Unit

CIT 592 Mathematical Foundations of Computer Science
This course introduces you to math concepts that form the backbone of the majority of computer science. Topics covered include sets, functions, permutations and combinations, discrete probability, expectation, mathematical Induction and graph theory. The goal of the course is to ensure that students are comfortable enough with the math required for most of the CIS electives. CIS 502 and CIT596 heavily rely on concepts taught in this course.
One-term course offered either term
Activity: Lecture
1 Course Unit

CIT 593 Introduction to Computer Systems
This course provides an introduction to fundamental concepts of computer systems and computer architecture. You will learn the C programming language and an instruction set (machine language) as a basis for understanding how computers represent data, process information, and execute programs. The course also focuses on the Unix environment and includes a weekly hands-on lab session.
One-term course offered either term
Activity: Lecture
1 Course Unit

CIT 594 Data Structures and Software Design
This course will focus on data structures, software design, and advanced Java. The course starts off with an introduction to data structures and basics of the analysis of algorithms. Important data structures covered will include arrays, lists, stacks, queues, trees, hash maps, and graphs. The course will also focus on software design and advanced Java topics such as software architectures, design patterns, networking, multithreading, and graphics. We will use Java for the entire course.
One-term course offered either term
Prerequisite: CIT 591 or consent of the instructor
Activity: Lecture
1 Course Unit

CIT 595 Computer Systems Programming
This course builds on your knowledge of C and focuses on systems programming for Linux, specifically the libraries that programmers use for threading and concurrency, synchronization, inter-process communication, and networking. The course also introduces the C++ programming language, and covers important concepts in modern operating systems, including processes, scheduling, caching, and virtual memory. After completing this course, you will have the requisite knowledge and experience for systems-focused CIS graduate-level electives.
One-term course offered either term
Prerequisites: CIT 591 or equivalent
Activity: Lecture
1 Course Unit

CIT 596 Algorithms and Computation
This course focuses primarily on the design and analysis of algorithms. We will begin with sorting and searching algorithms and then spend most of the course on graph algorithms. In order to study graph algorithms, general algorithm design patterns like dynamic programming and greedy algorithms will be introduced. A section of this course is also devoted to understanding NP-Completeness.
One-term course offered either term
Prerequisite: CIT 592 or equivalent
Activity: Lecture
1 Course Unit

Criminology (CRIM)

CRIM 100 Criminology
This introductory course examines the multi-disciplinary science of law-making, law-breaking, and law-enforcing. It reviews theories and data predicting where, when, by whom and against whom crimes happen. It also addresses the prevention of different offense types by different kinds of offenders against different kinds of people. Police, courts, prisons, and other institutions are critically examined as both preventing and causing crime. This course meets the general distribution requirement.
For BA Students: Society Sector
One-term course offered either term
Also Offered As: SOCI 233
Activity: Lecture
1 Course Unit
CRIM 200 Criminal Justice
This course examines how the criminal justice system responds to crime in society. The course reviews the historical development of criminal justice agencies in the United States and Europe and the available scientific evidence on the effect these agencies have on controlling crime. The course places an emphasis on the functional creation of criminal justice agencies and the discretionary role decision makers in these agencies have in deciding how to enforce criminal laws and whom to punish. Evidence on how society measures crime and the role that each major criminal justice agency plays in controlling crime is examined from the perspective of crime victims, police, prosecutors, jurors, judges, prison officials, probation officers and parole board members. Using the model of social policy evaluation, the course asks students to consider how the results of criminal justice could be more effectively delivered to reduce the social and economic costs of crime.
For BA Students: Society Sector
One-term course offered either term
Also Offered As: SOCI 200
Activity: Lecture
1 Course Unit

CRIM 250 Statistics for the Social Sciences I
Statistical techniques and quantitative reasoning are essential tools for properly examining questions in the social sciences. This course introduces students to the concepts of probability, estimation, confidence intervals, and statistical inference. The course has an applied focus and will show students how to use the statistical concepts and methods to answer social science questions. The course will require the use of R, a free, open source statistical analysis program. This course has been approved for the quantitative data analysis requirement (QDA).
Taught by: Ridgeway
Course usually offered in fall term
Activity: Lecture
1 Course Unit

CRIM 251 Statistics for the Social Sciences II
This course is meant to be a second course in applied statistics and data analysis on the criminal justice applications and criminal justice data. The general linear model (regression and analysis of variance) is the primary statistical topic with some discussion of smoothers and logistic regression when there is time. With modern data analysis computer packages, actual computations have become trivial. In this course, therefore, the focus will be on what to compute and how to interpret the results. The emphasis is on the intelligent use of statistics. This is not a math course, or a course in mathematical statistics. The statistical programming language R will be taught in concert with the other course material, and all assignments will need to be undertaken in R.
Course usually offered in spring term
Prerequisite: CRIM 250
Activity: Lecture
1 Course Unit

CRIM 260 Crime and Human Development
One of the central research problems in criminology is the relationship between human development and the likelihood of committing crime. This course will examine the tools for measuring the onset of crime, its persistence, intermittency, and desistence. These tools include the study of birth cohorts of everyone born in a certain time and place, life course studies of juvenile delinquents and non-delinquents, trajectory analysis of people studied from pre-school through middle age, and interviews with 70 year old former delinquents who reflect on how their life-course affected the crimes they committed. This course will also examine the research findings that have been produced using these tools. Students will be asked to consider what these findings imply for major theories of crime causation as well as policies for crime prevention.
One-term course offered either term
Activity: Lecture
1 Course Unit

CRIM 270 Biopsychosocial Crim
Is there a “natural-born killer”? Why don’t psychopaths have a conscience? And is it morally wrong for us to punish those who are biologically-wired for a life of crime? This interdisciplinary biosocial course argues that answers to these inscrutable questions can be found in the fledging field of neurocriminality. This new sub-discipline brings together the social, clinical, and neurosciences to help us better understand, predict, and prevent future crime. We will explore the biosocial bases to crime and violence, analyze controversial neuroethical, legal and philosophical issues surrounding neurocriminality, and take a field trip to prison. This interdisciplinary course presents perspectives from the fields of psychology, neuroscience, criminology, sociology, law, business, public health, psychiatry, anthropology, neuroimaging, behavioral criminology, forensics, nutrition, and pediatrics. It is suitable for those without a background in biology or criminology. It is particularly relevant for majors in Criminology, Psychology, Nursing, and Biological Basis of Behavior.
Course usually offered in fall term
Activity: Lecture
1 Course Unit

CRIM 280 Neighborhood Dynamics of Crime
Crime varies in time, space and populations as it reflects ecological structures and the routine social interactions that occur in daily life. Concentrations of crime can be found among locations, with antisocial activities like assaults and theft occurring at higher rates because of the demographic make-up of people (e.g. adolescents) or conflicts (e.g. competing gangs), for reasons examined by ecological criminology. Variation in socio-demographic structures (age, education ratios, and the concentration of poverty) and the physical environment (housing segregation, density of bars, street lighting) predicts variations between neighborhoods in the level of crime and disorder. Both ethnographic and quantitative research methods are used to explore the connections between the social and physical environment of areas and antisocial behavior.
Course usually offered in spring term
Also Offered As: SOCI 380, URBS 280
Activity: Seminar
1 Course Unit
CRIM 300 Law and Criminal Justice
This course explores constitutional criminal procedure or the law of the Fourth, Fifth, and Sixth Amendments to the United States Constitution. Topics included the laws and rules associated with search and seizure, arrest, interrogation, the exclusionary rule, and deprivation of counsel. Social science evidence that supports or raises questions about legal doctrine will be examined. No prerequisites are required.
One-term course offered either term
Activity: Lecture
1 Course Unit

CRIM 402 Criminal Justice Data Analytics
This course covers the tools and techniques to acquire, organize, link and visualize complex data in order to answer questions about crime and the criminal justice system. The course is organized around key questions about police shootings, victimization rates, benchmarking justice system performance, identifying crime hotspots, calculating the cost of crime, and finding out what happens to crime when it rains. On the way to answer these questions, the course will cover topics including data sources, basic programming techniques, SQL, text mining, regular expressions, and geocoding. The course will use R, an open-source, object scripting language with a large set of available add-on packages.
One-term course offered either term
Also Offered As: CRIM 602
Activity: Lecture
1 Course Unit

CRIM 410 Research Seminar in Experiments in Crime and Justice
This seminar focuses on examining data from experiments in criminology including: randomized controlled trials of criminal justice policies, "natural" experiments in crime, and other quasi-experimental studies. A series of experiments conducted by Penn scholars and elsewhere will be examined. This seminar also guides criminology majors in writing a research proposal for their thesis. Students will learn about how to formulate a research question, develop a review of the literature, and how to apply necessary empirical methods. The final paper for this course will be a research proposal that can serve as the basis for the student's senior thesis and to satisfy the senior capstone requirement. Readings will come from the disciplines of criminology, sociology, psychology, economics, and urban planning.
Course usually offered in fall term
Also Offered As: CRIM 610, SOCI 410
Prerequisites: Any statistics or research methods courses leading to familiarity with Excel, SPSS, R, Stata, SAS, Matlab, or NumPy.
Activity: Seminar
1 Course Unit

CRIM 474 Modern Regression
This course covers supervised learning: various forms of nonparametric regression and machine learning. It assumes at least one solid course in conventional linear regression, although that framework is discarded the first week of class. Intuitive explanations for key statistical concepts are provided with little dependence on formal mathematics. Grades are based on research reports in which modern statistical procedures are applied to real and challenging datasets. Some might call these exercises "analytics". All class demonstrations are done with the programming language R, and R is required for the research reports.
Course usually offered in spring term
Also Offered As: STAT 474, STAT 974
Activity: Lecture
1 Course Unit

CRIM 535 Introduction to Quantitative Methods for Policy Analysis
This course is an introduction to the basic mathematical tools and ideas that support quantitative policy analysis. By the end of the semester, students will be able to identify and explain measures of central tendency and variation for categorical and continuous variables; describe the statistical relationship between two variables; conduct and explain "foundational" statistical tests, including hypothesis testing and linear regression analysis; manipulate data sets and write simple statistical programs in Stata.
One-term course offered either term
Activity: Lecture
1 Course Unit

CRIM 600 Pro-Seminar in Criminology
This course provides an overview of the leading criminological theories of crime. The central focus is on the major theories of crime developed over the past century from the disciplines of economics, psychology, and sociology. The course will focus on the application of social science research as a way to evaluate theories of crime. Special attention is devoted to the issues of measurement of crime and what is known from the available empirical data. In addition, the course will focus on how these theoretical perspectives relate to public policy responses to crime.
Course usually offered in fall term
Also Offered As: SOCI 680
Activity: Seminar
1 Course Unit

CRIM 601 Pro-Seminar in Criminal Justice
This course examines the scholarship on the causes and consequences of the development of the criminal justice system. The primary focus of the course is on the historical development and contemporary impact of key actors in the criminal justice system, such as the police, courts, and corrections, on society. The course will examine the social and economic effect of criminal justice policies and practices. The course emphasizes evidence from the available social science research in the United States, with some reference to research in other European nations.
Course usually offered in spring term
Also Offered As: SOCI 681
Prerequisite: CRIM 600
Activity: Seminar
1 Course Unit

CRIM 602 Criminal Justice Data Analytics
This course covers the tools and techniques to acquire, organize, link and visualize complex data in order to answer questions about crime and the criminal justice system. The course is organized around key questions about police shootings, victimization rates, benchmarking justice system performance, identifying crime hotspots, calculating the cost of crime, and finding out what happens to crime when it rains. On the way to answer these questions, the course will cover topics including data sources, basic programming techniques, SQL, text mining, regular expressions, and geocoding. The course will use R, an open-source, object oriented scripting language with a large set of available add-on packages.
One-term course offered either term
Also Offered As: CRIM 402
Activity: Lecture
1 Course Unit
CRIM 603 Research Methods 2/Crime Analysis
This course provides an overview of the application of social science research methods and data analysis to criminology. The course will place an emphasis on diagnostic and analytic tools for the data analysis. Students will learn basic statistical techniques for the analysis of social science data and how to interpret results as part of the rigorous practice of evidence-based Criminology. M.S. Studentw will perform semester-long, data-based crime analysis project using employment to address a specific research question. Student projects culminate with an oral class presentation and the submission of a written thesis.
Course usually offered in fall term
Activity: Seminar
1 Course Unit

CRIM 604 Criminology in Practice
In this capstone course speakers from the University of Pennsylvania and other academic institutions and from non-profit research organizations discuss their research, while speakers from government and criminal justice policy and practice settings -the consumer of research- share their insights. Members of the cohort interact with all guest speakers.
Two terms. student must enter first term.
Activity: Seminar
1 Course Unit

CRIM 634 Evidence-Based Crime Prevention
This course considers the use of evidence to identify effective crime prevention policies. The course will teach students to think critically about what constitutes convincing evidence, use benefit-cost analysis in comparing policy alternatives, and write effective policy memos that can translate research into practice. We will develop these skills by studying the effects of different policy approaches to crime prevention including incarceration, policing, gun control, drug regulation, and place-based interventions, as well as education, social programs, and labor market policies. Emphasis will be on the methodological challenges to identifying "what works" and the empirical methods to overcome those challenges.
Course usually offered in fall term
Activity: Lecture
1 Course Unit

CRIM 671 Violence: A Clinical Neuroscience Approach
Developed for both Psychology and Criminology graduates in particular, this interdisciplinary course outlines a clinical neuroscience approach to understanding violence in which the tools of neuroscience- neuroanatomy, neurophysiology, neurocognition, neuroendocrinology, neuropharmacology, molecular and behavioral genetics- are used to help inform the etiology and treatment of violence. Clinical components include psychopathy, proactive and reactive aggression, homicide, domestic violence, conduct disorder, oppositional defiant disorder, antisocial personality disorder, crime, and delinquency as well as their comorbid conditions (schizophrenia, drug abuse, hyperactivity). The interaction between social, psychological, and neurobiological processes in predisposing to violence will be highlighted, together with neurodevelopmental perspectives on violence focusing on prospective longitudinal and brain imaging research. Key implications for the criminal justice system, neuroethics, forensics psychology, and intervention will also be outlined.
Course usually offered in fall term
Also Offered As: PSYC 671
Activity: Lecture
1 Course Unit

CRIM 700 Advanced Pro-Seminar in Criminology
This second year doctoral course is a weekly discussion group designed to help students integrate their coursework from different disciplines around the behavior and operation of criminal law systems. It focuses on preparation for the doctoral comprehensive examination, detailed critiques of published research reports, and colloquia by leading guest lecturers presenting new research results. Students preparing for dissertation research on the behavior of criminal law will report on their developing research ideas.
Course usually offered in fall term
Also Offered As: SOCI 700
Activity: Seminar
1 Course Unit

CRIM 701 Advanced Pro-Seminar in Criminal Justice
This second year doctoral course is a weekly discussion group designed to help students integrate their coursework from different disciplines around the behavior and operation of criminal law systems. It focuses on preparation for the doctoral comprehensive examination, detailed critiques of published research reports, and colloquia by leading guest lecturers presenting new research results. Students preparing for dissertation research on the behavior of criminal law will report on their developing research ideas.
Course usually offered in spring term
Activity: Seminar
1 Course Unit

CRIM 800 Thesis Research Project
One-term course offered either term
Activity: Independent Study
1 Course Unit

CRIM 999 Independent Study and Research
Primarily for advanced students who work with individual faculty upon permission. Intended to go beyond existing graduate courses in the study of specific problems or theories or to provide work opportunities in areas not covered by existing courses.
One-term course offered either term
Activity: Independent Study
1 Course Unit
Notes: Both terms.

Demography (DEMG)

DEMG 524 Advanced Topics in the Sociology of the Family
The course will review a series of theoretical issues in the sociology of the family and examine major empirical studies in which theoretical advances have been made. Special attention will be given to work that has a historical and comparative perspective. Opportunities will be provided for original research on the family.
Course not offered every year
Also Offered As: SOCI 524
Activity: Seminar
1 Course Unit
DEM 535 Quantitative Methods in Sociology I
This course is an introduction to the practice of statistics in social and behavioral sciences. It is open to beginning graduate students and—with the permission of the instructor—advanced undergraduates. Topics covered include the description of social science data, in graphical and non-graphical form; correlation and other forms of association, including cross-tabulation; bivariate regression; an introduction to probability theory; the logic of sampling; the logic of statistical inference and significance tests. There is a lecture twice weekly and a mandatory "lab." Taught by: Allison, Smith
Course usually offered in fall term
Also Offered As: SOCI 535
Prerequisite: Basic algebra
Activity: Lecture
1 Course Unit

DEM 536 Quantitative Methods in Sociology II
As the second part of a two-semester sequence, this graduate course focuses on regression analysis as used in social science research. In particular, we discuss features and assumptions of linear regression and logistic regression models. We learn how to apply regression models to real social science data using Stata and how to interpret the results. Taught by: Allison, Kohler, Park, Schnittker, Smith
Course usually offered in spring term
Also Offered As: SOCI 536
Prerequisite: SOCI 535 or permission of instructor
Activity: Lecture
1 Course Unit

DEM 604 Methodology of Social Research
This course will give students familiarity with the common research methods social scientists use to conduct research. Ethnographic, interview, survey, experimental and historical/comparative research methods will be covered. Four themes will be explored: 1) the basics of solid research design, 2) the various advantages and disadvantages of each method, 3) when the use of a method is appropriate or inappropriate for the research question, and 4) how to evaluate researchers' claims on the basis of the evidence they present. These themes will be explored by reading examples of and conducting exercises designed to give students hands-on experience in each of the methods. Students will conduct the exercises on a topic of their choice, which together will culminate in their final paper. The course is required and restricted to second year students in sociology and demography. Taught by: Smith, Wilde, Zuberi
Course usually offered in spring term
Also Offered As: SOCI 604
Activity: Lecture
1 Course Unit

DEM 607 Introduction to Demography
A nontechnical introduction to fertility, mortality and migration and the interrelations of population with other social and economic factors. Course usually offered in fall term
Also Offered As: SOCI 607
Activity: Lecture
1 Course Unit

DEM 609 Basic Methods of Demography
The course is designed to introduce students to basic concepts of demographic measurement and modeling used to study changes in population size and composition. The course covers basic measures of mortality, fertility and migration; life table construction; multiple decrement life tables; stable populations; population projections; and age patterns of vital events. Students will learn to apply demographic methods through a series of weekly problem sets. Taught by: Elo, Guillot, Smith
Course usually offered in fall term
Also Offered As: SOCI 609
Activity: Lecture
1 Course Unit

DEM 611 STRUCT. EQUATION MODEL
Statistical modeling with multiple equations and latent variables. The first part of the course will focus on linear models that could be estimated with any of the well-known SEM programs (e.g., LISREL, EQS, or Amos). Both Mplus and SAS will be used exclusively in this part of the course. The second part will focus on Mplus models for variables that are categorical, count, or censored. Maximum likelihood methods for missing data will also be covered. Taught by: Allison
Course not offered every year
Also Offered As: SOCI 611
Activity: Lecture
1 Course Unit

DEM 612 CATEGORICAL DATA ANALYSIS
This course deals with techniques for analyzing multivariate data which the dependent variable is a set of categories (a dichotomy or polytomy). Topics will include linear probability models, logit (logistic) regression models, probit models, logit analysis of contingency tables, cumulative logit and probit (for ordinal data), multinomial logit, conditional logit (discrete choice), unobserved heterogeneity, log-linear models, square tables, response-based sampling, and repeated measures. Methods will be illustrated using the Stata System. There will be several assignments using Stata to analyze data provided by the instructor. Taught by: Allison
Course not offered every year
Also Offered As: SOCI 612
Activity: Lecture
1 Course Unit

DEM 613 Event History Analysis
An applications-oriented course on statistical methods for the analysis of longitudinal data on the occurrence of events, also known as survival analysis, failure-time analysis, hazard analysis or duration analysis. Emphasis on regression-like models in which the risk of event occurrence is a function of a set of explanatory variables. Topics include accelerated failure-time models, hazard models, censoring, Cox regression models, time-dependent covariates, competing risks, repeated events, unobserved heterogeneity, discrete-time methods. Taught by: Allison
Also Offered As: SOCI 613
Prerequisite: SOCI 536 or equivalent
Activity: Lecture
1 Course Unit
DEMG 622 Fertility
The biological, social and demographic factors explaining the levels, trends and differentials in human fertility. Data, measures, and methods used in the context of the more and the less developed countries, with an emphasis on the historical and current course of the fertility transition.
Taught by: Smith, Kohler, H
Course not offered every year
Also Offered As: SOCI 622
Activity: Seminar
1 Course Unit

DEMG 630 Advanced Special Topics
Topics vary from semester to semester. Course titles include: Race, Colonialism & Methods; Mistakes, Errors, Accidents & Disasters, Graduate Research Practicum, Sociology of Violence: Gangs & Organized Crime.
Course not offered every year
Also Offered As: SOCI 630
Activity: Seminar
1 Course Unit

DEMG 633 Population Processes I
This is one of two courses that serve as an introduction to core areas of demography and important developments in the field. Population Processes I introduces students to broad set of issues in health, mortality, and aging. Readings cover overviews of major topics as well as recent approaches to the subject. Attention is focused on description and explanation of variation in health across time, space and social groups. One consequence of mortality decline is population aging. We will cover some of its implications for individuals, families and societies.
Taught by: Elo, Guillot, Parrado, Schnittker
Course usually offered in fall term
Also Offered As: SOCI 633
Activity: Seminar
1 Course Unit

DEMG 634 Population Processes II
Population Processes II is part of a two-course sequence designed to introduce students to the core areas of demography (fertility, mortality, and migration) and recent developments in the field. PP II is divided into two parts. The first focuses on family demography and the biological, social and demographic factors explaining levels, trends, and differentials in human fertility transition with an emphasis on the historical and current course of fertility transition in developed and developing countries. The second part of the course provides a comprehensive review of theories and research on international migration. Readings examine patterns and processes of global migration during the classic age from 1800-1914 as well as during the postwar period from 1945 to the present. The course also covers a history and evaluation of immigration policies around the world, and devotes significant attention to theoretical and empirical perspectives on immigrant adaptation, including the relationship between gender and migration.
Taught by: Flippen, Harknett, Kohler, Parrado, Smith
Course usually offered in spring term
Also Offered As: SOCI 634
Activity: Seminar
1 Course Unit

DEMG 643 Social Stratification
This is an advanced level graduate seminar where we will review contemporary research on social stratification and mobility. We will examine empirical and theoretical studies not only in the US but also in other countries to address how the pattern of social stratification varies across societies and over time. The main topics to be discussed are social mobility, occupational attainment, educational inequality, gender and race, and family processes and stratification. We will also examine studies that address how national contexts mediate social stratification. Advanced undergraduate students will be admitted with permission.
Taught by: Jacobs, Park
Also Offered As: SOCI 643
Activity: Lecture
1 Course Unit

DEMG 662 Panel Data Analysis
Also Offered As: SOCI 662
Activity: Lecture
1 Course Unit

DEMG 670 Family Data
This two semester course will engage each graduate student in an analysis project with qualitative and quantitative components, using a linked qualitative longitudinal data set. Students will use survey data from the baseline and 12 month wave of the Fragile Families study (described at http://crcw.princeton.edu/fragilefamilies/), a national survey of unwed and married parents who have just had a child (with unmarried parents over sampled) They will also use transcripts and coded data from the TLC3 study, which involved qualitative couple and individual interviews conducted with a subset of 75 of the couples in the FF survey in 3 waves: about 3 months after the birth and then again 12 and 24 months after the birth. Most of these are low-income, unmarried, cohabiting parents. The goal of the course is for each student to use these two data sets, and the analytic techniques and literature covered in the course, to write a paper that can be submitted for publication. The spring will also include lots of tips on how to construct a publishable paper. Students should only enroll in this course if they plan to take the spring sequel course as well.
Course not offered every year
Also Offered As: SOCI 670
Activity: Seminar
1 Course Unit

DEMG 677 International Migration
A comprehensive review of theories and research on international migration. The course introduces the basic precepts of neoclassical economics, the new economics of labor migration, segmented labor market theory, world systems theory, social capital theory and the theory of cumulative causation. Readings examine patterns and processes of global migration during the classic age from 1800-1914 as well as during the postwar period from 1945 to the present. The course also covers a history and evaluation of immigration policies around the world, and devotes signification attention to theoretical and empirical perspectives on immigrant adaptation. Within this larger topic, we will also discuss internal migration and urbanization; the relationship between gender and migration; the spatial distribution of immigrants within the United States, immigrant communities, and ethnic enclaves; and the undocumented population in the United States.
Taught by: Flippen
Course not offered every year
Also Offered As: SOCI 677
Activity: Seminar
1 Course Unit
DEMG 707 Second-Year Research Seminar I
This course is intended to hone the skills and judgment in order to conduct independent research in sociology and demography. We will discuss the selection of intellectually strategic research questions and practical research designs. Students will get experience with proposal writing, the process of editing successive drafts of manuscripts, and the oral presentation of work in progress as well as finished research projects. The course is designed to be the context in which master’s papers and second year research papers are written. This is a required course for second year graduate students in Demography. Others interested in enrolling in only one of the courses may do so with the permission of the Chair of the Graduate Group in Demography. Course usually offered in fall term
Also Offered As: SOCI 707
Activity: Seminar
1 Course Unit

DEMG 708 Second-Year Research Seminar II
Demography 708 is the second part of a two-course sequence designed to introduce and familiarize second year students with current norms for academic research, presentation and publishing in the field of Demography. In DEMG 708 students are expected to finalize the analyses and to complete their second year research paper. This is a required course for second year demography students. Others interested in enrolling in the course may do so with the permission of the Chair of the Graduate Group in Demography. Course usually offered in spring term
Also Offered As: SOCI 708
Activity: Seminar
1 Course Unit

DEMG 731 Advanced Demographic Methods
This course considers a variety of procedures for measuring and modeling demographic processes. We will consider both deterministic (drawn from classic demographic methods, stable population theory, and the like) and stochastic (drawn from statistics) perspectives and methods, including their integration. Pre-requisites: DEMG 609 and SOCI 536 (or its equivalent).
Taught by: Smith
Course not offered every year
Also Offered As: SOCI 731
Prerequisites: DEMG 609 and SOCI 536 (or its equivalent)
Activity: Seminar
1 Course Unit

DEMG 777 Special Topics in Demography
Special Topics in Demography
Course not offered every year
Also Offered As: SOCI 777
Activity: Seminar
1 Course Unit

DEMG 796 Demographic, Economic, and Social Interrelations
The course investigates economic and social determinants of fertility, mortality, and migration, and it discusses the effects of population variables on economic and social conditions, including economic and social development. Topics discussed in the course include: How do economic changes affect marriage, divorce, and child bearing decisions? How do households make decisions about transfers and requests? How can economic and sociological approaches be combined in explanatory models of demography change? How does immigration to the US affect the ethnic composition of the population, the earnings of native workers, taxes on natives, and the macro-economy? What causes the aging of populations, and how will population aging affect the economies of industrial nations, and in particular, pension programs like Social Security? What accounts for the rise in women’s participation in the labor force over the past century? How are family composition and poverty interrelated? Does rapid population growth slow economic development with low income countries? In addition to these topics, the course also covers selected methods not included in DEMG 535, DEMG 536 or DEMG 609.
Taught by: Kohler
Course offered spring; even-numbered years
Also Offered As: SOCI 796
Activity: Lecture
1 Course Unit

DEMG 999 Independent Study
Primarily for advanced students who work with individual instructors upon permission. Intended to go beyond existing graduate courses in the study of specific problems or theories or to provide work opportunities in areas not covered by existing courses. One-term course offered either term
Activity: Independent Study
1 Course Unit

Dutch Language (DTCH)

DTCH 101 Elementary Dutch I
A first semester language course covering the core Dutch grammar and vocabulary with the goal of providing the corner stone for developing overall linguistic proficiency in Dutch.
For BA Students: Language Course
Taught by: Naborn
Course usually offered in fall term
Also Offered As: DTCH 501
Activity: Lecture
1 Course Unit

DTCH 102 Elementary Dutch II
Continuation of DTCH 101.
For BA Students: Language Course
Taught by: Naborn
Course usually offered in spring term
Also Offered As: DTCH 502
Activity: Lecture
1 Course Unit
DTCH 103 Intermediate Dutch I
A third semester Dutch language course. The emphasis lies on vocabulary expansion through the use of audio-taped materials and readings. Grammar is expanded beyond the basics and focuses on compound sentences, features of text coherence and idiomatic language usage.
For BA Students: Language Course
Taught by: Naborn
Course usually offered in fall term
Also Offered As: DTCH 503
Prerequisites: Dutch 102 or equivalent.
Activity: Lecture
1 Course Unit

DTCH 104 Intermediate Dutch II
For BA Students: Last Language Course
Taught by: Naborn
Course usually offered in spring term
Also Offered As: DTCH 504
Prerequisites: Dutch 103 or equivalent.
Activity: Lecture
1 Course Unit

DTCH 105 Advanced Dutch I - Cultural History of the Netherlands & Flanders
This course combines a Dutch language course with a content-based course on Dutch history and literature. Units on linguistic aspects of the language are added as review and refinement. The course also serves as an introduction to writing papers in Dutch.
Taught by: Naborn
Course not offered every year
Also Offered As: DTCH 505
Prerequisites: Dutch 104 or equivalent.
Activity: Lecture
1 Course Unit

DTCH 106 Advanced Dutch II
Continuation of Dutch 105. The emphasis lies on literary and other writings from the 20th Century.
Taught by: Naborn
Course not offered every year
Also Offered As: DTCH 506
Prerequisites: Dutch 105 or equivalent.
Activity: Lecture
1 Course Unit

DTCH 230 Topics in Dutch Studies.
Topics vary annually.
Course not offered every year
Also Offered As: ARTH 263, CIMS 252, COML 229, GRMN 230
Activity: Lecture
1 Course Unit
Notes: Taught in English

DTCH 262 Topics in North Baroque
Course not offered every year
Also Offered As: ARTH 362
Activity: Seminar
1 Course Unit

DTCH 300 Advanced Topics in Dutch Studies
Topics vary.
Course not offered every year
Also Offered As: COML 330, DTCH 509, GRMN 330, PHIL 280
Activity: Seminar
1 Course Unit

DTCH 501 Elementary Dutch I
A first semester Dutch language course covering the core Dutch grammar and vocabulary with the goal of providing the corner stone for developing overall linguistic proficiency in Dutch.
For BA Students: Language Course
Taught by: Naborn
Course usually offered in fall term
Also Offered As: DTCH 101
Activity: Lecture
1 Course Unit

DTCH 502 Elementary Dutch II
Continuation of DTCH 501.
For BA Students: Language Course
Taught by: Naborn
Course usually offered in spring term
Also Offered As: DTCH 102
Activity: Lecture
1 Course Unit

DTCH 503 Intermediate Dutch I
A third semester Dutch language course. The emphasis lies on vocabulary expansion through the use of audio-taped materials and readings. Grammar is expanded beyond the basics and focuses on compound sentences, features of text coherence and idiomatic language usage.
For BA Students: Language Course
Taught by: Naborn
Course usually offered in fall term
Also Offered As: DTCH 103
Prerequisites: Dutch 102 or equivalent.
Activity: Lecture
1 Course Unit

DTCH 504 Intermediate Dutch II
For BA Students: Last Language Course
Taught by: Naborn
Course usually offered in spring term
Also Offered As: DTCH 104
Activity: Lecture
1 Course Unit

DTCH 505 Advanced Dutch I - Cultural History of the Netherlands & Flanders
This course combines a Dutch language course with a content-based course on Dutch history and literature. Units on linguistic aspects of the language are added as review and refinement. The course also serves as an introduction to writing papers in Dutch.
Taught by: Naborn
Course not offered every year
Also Offered As: DTCH 105
Prerequisites: Dutch 104 or equivalent.
Activity: Lecture
1 Course Unit
DTCH 506 Advanced Dutch II
Continuation of DTCH 505. The emphasis lies on literary and other writings from the 20th Century.
Taught by: Naborn
Course not offered every year
Also Offered As: DTCH 106
Prerequisites: DTCH 505 or equivalent.
Activity: Lecture
1 Course Unit

DTCH 507 Dutch for Reading Knowledge
This course is designed for undergraduates, graduate students and faculty who want to be able to read Dutch. Of particular interest to historians and art historians, people interested in international business and law, religious studies, social policy, and literature. Emphasis on reading skills; structures of grammar and pronunciation are taught as needed. Text selection will be tailored to individual student needs. No knowledge of Dutch required.
Taught by: Naborn
Course not offered every year
Activity: Lecture
1 Course Unit
Notes: No knowledge of Dutch required.

DTCH 509 Adv Topics Dutch Studies
Topics vary annually.
Also Offered As: DTCH 330, GRMN 330, PHIL 280
Activity: Seminar
1 Course Unit
Notes: Taught in English.

East Asian Languages & Civilization (EALC)

EALC 001 Introduction to Chinese Civilization
Survey of the civilization of China from prehistoric times to 1912.
For BA Students: History and Tradition Sector
Taught by: Goldin, Atwood, Smith, Cheng
Course usually offered in fall term
Activity: Lecture
1 Course Unit

EALC 002 Introduction to Japanese Civilization
Survey of the civilization of Japan from prehistoric times to the present.
For BA Students: History and Tradition Sector
Course usually offered in spring term
Activity: Lecture
1 Course Unit
Notes: Fulfills Cross-Cultural Analysis

EALC 003 Introduction to Korean Civilization
This gateway course surveys the history of Korea from early times to the present. We will study the establishment of various sociopolitical orders and their characteristics alongside major cultural developments. Covered topics include: state formation and dissolution; the role of ideology and how it changes; religious beliefs and values; agriculture, commerce, and industry; changing family relations; responses to Western imperialism; and Korea’s increasing presence in the modern world as well as its future prospects. Students will also be introduced to various interpretive approaches in the historiography.
For BA Students: History and Tradition Sector
Taught by: Park
Also Offered As: HIST 098
Activity: Lecture
1 Course Unit

EALC 007 East Asia: Past and Present
This course surveys the history of East Asia from early times to the present. We will study the establishment of various sociopolitical orders and their characteristics alongside major cultural developments. Covered topics include: state formation and dissolution; the role of ideology and how it changes; religious beliefs and values; agriculture, commerce, and industry; changing family relations; responses to imperialism; and East Asia’s growing stature in the modern world as well as future prospect. Although a main focus will be on understanding how the regions we now know as China, Japan, and Korea emerged with their respective identities, the course will also give attention to various groups that are rarely noticed in the contemporary world but nonetheless historically important, such as the Tibetans, Khitans, Jurchens, Mongols, and Manchus.
Taught by: Park
Also Offered As: HIST 005
Activity: Lecture
1 Course Unit

EALC 008 East Asian Religions
This course introduces religious traditions in China, Japan, and Taiwan from ancient to contemporary times, with emphases on their sociopolitical contexts, visual and material dimensions, and entanglement with gender, sexuality, and the body. We will examine the history of Confucianism, Daoism, Buddhism, Shinto, as well as the practices, thoughts, and institutions that do not fall squarely into those categories. We will pay attention to the relationship between textual and oral traditions, and that between canons, rituals, and popular practices from both historical and anthropological perspectives.
Taught by: Cheng H
Course usually offered in fall term
Also Offered As: RELS 172
Activity: Lecture
1 Course Unit

EALC 013 Art and Civilization in East Asia
Survey of the major artistic traditions of East Asia from Neolithic times through the 18th century. Will serve as an introduction to upper level lecture courses that deal with the arts and civilizations of China, Korea, and Japan. Students study and handle objects during weekly session in the Museum.
For BA Students: Arts and Letters Sector
Taught by: Davis,Steinhardt
Two terms. student may enter either term.
Also Offered As: ARTH 103, VLST 233
Activity: Lecture
1 Course Unit
EALC 015 Introduction to Buddhism
This course seeks to introduce students to the diversity of doctrines held and practices performed by Buddhists in Asia. By focusing on how specific beliefs and practices are tied to particular locations and particular times, we will be able to explore in detail the religious institutions, artistic, architectural, and musical traditions, textual production and legal and doctrinal developments of Buddhism over time and within its socio-historical context. Religion is never divorced from its place and its time. Furthermore, by geographically and historically grounding the study of these religions we will be able to examine how their individual ethic, cosmological and soteriological systems effect local history, economics, politics, and material culture. We will concentrate first on the person of the Buddha, his many biographies and how he has been followed and worshipped in a variety of ways from Lhasa, Tibet to Phrae, Thailand. From there we touch on the foundational teachings of the Buddha with an eye to how they have evolved and transformed over time. Finally, we focus on the practice of Buddhist ritual, magic and ethics in monasteries and among aly communities in Asia and even in the West. This section will confront the way Buddhists have thought of issues such as "Just-War," Women's Rights and Abortion. While no one quarter course could provide a detailed presentation of the beliefs and practices of Buddhism, my hope is that we will be able to look closely at certain aspects of these religions by focusing on how they are practiced in places like Nara, Japan or Vietnam, Laos.
Taught by: McDaniel
One-term course offered either term
Also Offered As: RELS 173, SAST 142
Activity: Lecture
1 Course Unit

EALC 034 What is Taoism?
In this course, we will attempt to answer the question, "What is Daoism?" The bulk of the readings will consist of English translations of primary texts that have at one time or another been labeled as "Daoist," in order to sort out the different senses of the term, and consider what common features, if any, are shared by these influential texts. The course begins with the Laozi, the one text affirmed by virtually all "Daoist" traditions as foundational. The readings include several other "Daoist" texts, covering a period of roughly one thousand years, and will conclude with a survey of meditation and longevity techniques, practices which sometimes have no textual basis whatsoever. Drawing on various kinds of "Daoist" sources, we hope to answer the question that serves as the title of this course. No knowledge of Chinese is presumed. Graduate students may not enroll in this course.
Taught by: Goldin
Course usually offered in fall term
Activity: Lecture
1 Course Unit

EALC 041 Late Imperial China
From an Eurasian empire ruled by Mongols to an ethnically defined Han Chinese Ming dynasty, then again to a multi-ethnic empire ruled by a minority group of Manchus, the disruptions and transformations in the very idea of "China" in the past seven centuries defy our modern notion of China as a unitary nation with the world's longest continuous cultural tradition. How to understand the continuities and discontinuities of the last three imperial dynasties of China will be the central focus of our survey. How did these different ethnic groups adjust to each other's way of life? Did complicated cultural interaction prompt different visions of empires? How did the meaning of "Chinese change over this time period? How did international politics shape the fate of Chinese empires? With no assumption of prior knowledge, lectures open with an overview of Chinese society before the eve of the Mongolian invasion, and then trace the changing visions of ethnic and social orders in the subsequent regimes ruled by three different ethnic groups (Mongolian, Han Chinese, and Manchurian). We will examine and compare bureaucratic operations, cultural ideals, domestic and international policies from above as well as the daily life experiences from below. The course will conclude with an analysis of the collapse of the imperial order at the beginning of the twentieth century, after it was severely challenged by a semi-Christian Utopian movement from within and global drug trade imperialist attacks from without.
Taught by: Fei
One-term course offered either term
Also Offered As: HIST 096
Activity: Lecture
1 Course Unit

EALC 055 Monsters of Japan
Godzilla! Mothra! Rodan! Totoro! Pikachu! If you know who they are, join us to discover the deeper meanings of monstrosity in Japan. If you don't know who they are, learn the literal, metaphorical, and cinematic implications of these giant (and not so giant) beasts. Watch Tokyo go down in flames, and discuss what that means for New York and Philadelphia! Explore the history, literature, and films of Japanese monsters in this undergraduate seminar.
Taught by: Chance, F
Course usually offered in spring term
Also Offered As: CIMS 055
Activity: Seminar
1 Course Unit
EALC 064 Sushi & Ramen: Making Japanese Food Global
Who defines Japanese food? Is it the chef at a top establishment in Tokyo, a home cook in Osaka, a tea master in Kyoto, the ancient capital? Or is it the midwestern American who thinks sushi means raw fish? Is it the person who scarfs cup noodles, or the devotee of artisan ramen stock? Perhaps it is the Japanese government, which in 2006 sent undercover agents abroad to guard against inferior Japanese food outlets. In this class we will consider how Japanese food came to be defined in distinction to Western and Chinese foods beginning in the nineteenth century, and how Japanese food became a global cuisine. Among our questions: What makes a dish Japanese? How did Portuguese or Spanish frying habits (tempura) and Chinese lamian (ramen) become hallmarks? How traditional is the diet of rice and fish, and in what ways does it interact with the environment? How did Buddhist vegetarians justify sukiyaki? What relationship does food have to the longevity of Japanese today? How does gender affect Japanese food cultures? What are the origins of Iron Chef and bento? We will survey the Philadelphia Japanese food scene and learn to make our own sushi. Some controversies we will discuss include the consumption of whale meat in Japan. We will also investigate Japanese government controls of food to combat obesity and to make food safe, after the Fukushima nuclear catastrophe. Materials include essays, films, novellas, menus, and cookbooks.
Taught by: Chance, L.
Course not offered every year
Activity: Seminar
1 Course Unit
Notes: Freshmen Seminar

EALC 069 Japanese Popular Culture
Today, Japanese manga, anime, J-pop, and film have a global audience. But these exports can only be truly understood in light of longstanding domestic anxieties about sex, violence, gender, and “the kids these days.” More recent concerns about the country’s declining birthrate, weakening geopolitical position, and vulnerability to natural and anthropogenic disaster also deeply influence Japanese media products. This course explores some of these anxieties through critical examinations of manga, anime, video games, television, music, and fashion in Japan. Film screenings include work by directors Kon Satoshi, Otomo Katsuhiro, Takahata Isao, Miyazaki Hayao; Itami Juzo, and Takita Yojiro; manga excerpts include work by Tezuka Osamu, Urasawa Naoki, and Yazawa Ai. Secondary readings include scholarship in anthropology, history, sociology, literature, film studies and religious studies.
For BA Students: Arts and Letters Sector
Course not offered every year
Activity: Lecture
1 Course Unit
Notes: Freshmen Seminar

EALC 071 Modern Japanese History
This course will survey the major political, economic, social and intellectual trends in the making of modern Japan. Special emphasis will be given to the turbulent relationship between state and society from 1800 to the present.
For BA Students: History and Tradition Sector
Taught by: Dickinson
Course usually offered in spring term
Also Offered As: HIST 091
Activity: Lecture
1 Course Unit

EALC 086 KOREAN POPULAR CULTURE
"Korean Wave" (Hallyu) is currently raging throughout non-Western parts of the world, especially Asia, and may be making its way to the West. From South Korean tele-dramas and K-pop music to their respective celebrity icons, these popular cultural forms from Korea are increasingly becoming part of the everyday landscape and vocabulary. We will attempt to understand and evaluate this cultural phenomenon—its promises and limitations as well as its popularity and backlash against it. More specifically, this course explores the ways in which television, music, manhwa (comic books), and the internet participate in the transnational production and circulation of culture, modernity, tradition, ideology, and politics. Some of the more specific topics covered may include: Korean emotions and melodramas; imitation versus innovation in K-pop; fictions of history in period dramas; the marketing of new masculinity; revival of folk culture; preservation of traditional values in postmodern times; repatriation of Korean American pop stars to Korea; and youth culture. Requires outside viewing and listening.
Activity: Lecture
1 Course Unit

EALC 104 Introduction to Inner Asian Civilizations
This course examines the interplay between politics and economics in East Asia. A major course objective is to reconcile the regions past success with the difficulties experience in many of these countries more recently. Another primary objective is to consider in what ways and to what degree the growth experiences of the high-performing economies in East Asia shed light on the prospects for long-term success of reforms currently underway in China.
Taught by: Atwood
Course not offered every year
Also Offered As: EALC 504
Activity: Lecture
1 Course Unit

EALC 105 East Asian Diplomacy
This course will survey the history of relations among the great powers in East Asia from the sixteenth century to the present. Special emphasis will be given to regional and global developments from the perspective of the three principal East Asian states-China, Japan, and Korea. We will explore the many informal, as well as formal, means of diplomacy in East Asia over the past 400 plus years.
Taught by: Dickinson
Course usually offered in fall term
Also Offered As: EALC 505, HIST 395
Activity: Recitation
1 Course Unit
EALC 108 Sports in East Asia
This course will examine sports in East Asia from the nineteenth century to the present. Recently, East Asia plays an important role in transforming the global geopolitics of sport. The post-war East Asian Olympic Games-1964 Tokyo Olympics, 1972 Sapporo Winter Olympics, 1988 Seoul Olympics, 1998 Nagano Winter Olympics, and 2008 Beijing Olympics-and the 2002 FIFA World Cup Korea/Japan illustrate the fact that a new global sports order led by East Asia has emerged. East Asia nations will play hosts to other major sporting events, including the 2018 Pyeongchang Winter Olympics, 2020 Tokyo Olympics, and 2022 Beijing Winter Olympics. Chinese, Japanese, and Korean athletes have been highly active in MLB, NBA, English Premier League, and LPGA. The popularity of the various martial arts proves that East Asian sports seem to be everywhere these days. This class will focus on helping students understand how sports have affected and transformed East Asia exploring various issues: imperialism, colonialism, race, class, gender, foreign policy, nationalism, religion, economics, industrialization, tourism, and urbanization. Course contents include lecture, discussions, secondary readings, primary source readings, documentaries, and films.
Course not offered every year
Also Offered As: EALC 508
Activity: Lecture
1 Course Unit

EALC 115 Buddhist Arts of East Asia: Sources, Iconography and Styles
Survey of art and architecture created for Buddhist religious purposes in China, Japan, and to a lesser extent Korea, Tibet, and Central Asia. The course will include a brief overview of Buddhist monuments in South Asia, study of the iconography of Buddhist images in graphic and sculptural media, and analysis of a variety of Buddhist styles in painting, sculpture, and architecture.
Taught by: Chance, F
Course not offered every year
Also Offered As: EALC 515, RELS 175
Activity: Lecture
1 Course Unit

EALC 116 East Asian Gardens
Explore the beauty of gardens (and associated buildings) in Japan, China, and Korea from ancient times to the present. Lectures will be illustrated by photographs from dozens of sites in East Asia, and by a field trip to the Japanese House and Garden in Fairmount Park. The main body of the course will be a historical survey of the evolution of East Asian garden art forms from the sixth century to the present. Discussion will touch on geographic and climatic parameters, spiritual and aesthetic principles, practical limitations and creative innovations of East Asian gardens. There will be an additional fee for the Japanese House visit, and possibly for other field trips.
Taught by: Chance, F
Course not offered every year
Also Offered As: EALC 516
Activity: Lecture
1 Course Unit

EALC 118 Gender and Sexuality in Asia
This introductory course will deal with issues such as stereotypes of Asian women and men, cultural construction of femininity and masculinity, international and sexual division of labor, traffic in women in the sex industries, representation of gender and sexuality in academic scholarship as well as literary texts and popular culture, local and global activism for the rights of women and sexual minorities.
Taught by: Kano
Course not offered every year
Also Offered As: EALC 518
Activity: Lecture
1 Course Unit

EALC 119 East Asian Ceramics
History of ceramic forms, techniques, and aesthetic principles in China, Korea, and Japan from neolithic times to the present century, illustrated by slides and examples, augmented by readings, field trips, and student presentations. Aimed at students with general interest in Japan and/or ceramics history, particularly but not exclusively those majoring in Asian and Middle Eastern Studies, East Asian Area Studies or History of Art; also art majors interested in ceramics.
Taught by: Chance, F
Course not offered every year
Also Offered As: EALC 519
Activity: Seminar
1 Course Unit

EALC 121 Chinese Poetry & Prose: In translation
A wide variety of poetic & prose genres from the earliest times to the 19th century is introduced through English translation. A few selections will also be studied in Chinese characters with romanized transcriptions. There are no prerequisites for this course.
Taught by: Mair
Course usually offered in fall term
Also Offered As: EALC 521
Activity: Lecture
1 Course Unit

EALC 122 Chinese Fiction and Drama in Translation
This course explores Romance of Three Kingdoms the most popular classical novel in East Asia and an important source for understanding Chinese culture, politics, history, and military strategy. We propose to read this work not only as a textbook of Chinese literature but also as a guidebook for career development and risk assessment. Why didn’t Pang Tong have a career as successful as Zhuge Liang? Why did Ma Su volunteer in a project that he is not good at? If Cao Cao, Liu Bei, Sun Quan run for presidency in the U.S., who would you vote for and why? In addition to Romance of Three Kingdoms, this course introduces other classical Chinese fictions such as Dream of the Red Chamber and Strange Tales from a Chinese Studio, as well as literary criticism such as On the Standard of Literature (Dian lun), Essays on Literature (Wen lun), and The Literary Mind and the Carving of Dragons.
For BA Students: Arts and Letters Sector
Taught by: Mair
Course usually offered in spring term
Also Offered As: EALC 522
Activity: Lecture
1 Course Unit
EALC 125 Cultural Chinas: 20th Century Chinese Literature and Film
This course serves as a thematic introduction to modern Chinese literature and cinema in mainland China, Taiwan, Hong Kong, and transnational Chinese communities in the twentieth century. By discussing a wide range of key literary and filmic texts, this class looks into major issues and discourses in China’s century of modernization: enlightenment and revolution, politics and aesthetics, sentimental education and nationalism, historical trauma and violence, gender and sexuality, social hygiene and body politics, diaspora and displacement, youth sub-culture and urban imagination.
For BA Students: Arts and Letters Sector
Course not offered every year
Also Offered As: EALC 525
Activity: Lecture
1 Course Unit

EALC 127 The Arts of China
A broad survey of Chinese architecture, sculpture, and painting from the Neolithic age through the nineteenth century. Topics include excavated material from China's Bronze Age, Chinese funerary arts, Buddhist caves and sculpture (including works in the University Museum), the Chinese city, the Chinese garden, and major masterpieces of Chinese painting.
Taught by: Goldin
One-term course offered either term
Also Offered As: ARTH 214, ARTH 614, EALC 527
Activity: Lecture
1 Course Unit
Notes: Graduate students may take this course as EALC 527 and should see the instructor to discuss additional requirements for graduate credit.

EALC 129 Critical Theory China
Also Offered As: EALC 529
Activity: Lecture
1 Course Unit

EALC 131 Introduction to Classical Chinese Thought
This course is intended as an introduction to the foundational thinkers of Chinese civilization, who flourished from the fifth to the second centuries B.C. No knowledge of Chinese is presumed, and there are no prerequisites, although EALC 001 (Introduction to Chinese Civilization) is recommended. Graduate students may take this course as EALC 531 and should see the instructor to discuss requirements for graduate credit. (Undergraduates must enroll in the courses as EALC 131.)
For BA Students: History and Tradition Sector
Taught by: Goldin
Course offered spring; odd-numbered years
Also Offered As: EALC 531
Activity: Lecture
1 Course Unit

EALC 139 Religion in Modern China
This course focuses on the history and role of religion in the Chinese cultural sphere (Mainland China, Taiwan, and the Diaspora) from the mid-19th century to the present day, focusing on the relationship between religious institutions and the state during the imperial, republican, and communist regimes. We will learn about the impact of religious ideas, practices, and organizations on social, political and economic processes and inspect the role of religion in the consolidation of individual, communal, and national identity. Adopting a comparative and interdisciplinary approach, we will attempt to ascertain the impact of the various Chinese religious traditions: Confucianism, Daoism, Buddhism, and popular sects, as well as global religions such as Islam and Christianity, on the internal sociopolitical structure of the Chinese state and their role in shaping power relations on a transregional, national, and local level. Special emphasis will be given to the role and use of the grand narratives of secularism and modernity in the shaping of the Chinese nation-state, as well as the value of using these frameworks in the study of modern China. The class is discussion based, supplemented by lectures, student presentations, and documentary films. No knowledge of Chinese is presumed. All readings will be in English.
Taught by: Tavor
Course not offered every year
Also Offered As: EALC 539, RELS 139
Activity: Lecture
1 Course Unit

EALC 151 Contemporary Fiction & Film in Japan
This course will explore fiction and film in contemporary Japan, from 1945 to the present. Topics will include literary and cinematic representation of Japan's war experience and post-war reconstruction, negotiation with Japanese classics, confrontation with the state, and changing ideas of gender and sexuality. We will explore these and other questions by analyzing texts of various genres, including film and film scripts, novels, short stories, manga, and academic essays. Class sessions will combine lectures, discussion, audio-visual materials, and creative as well as analytical writing exercises. The course is taught in English, although Japanese materials will be made available upon request. No prior coursework in Japanese literature, culture, or film is required or expected; additional secondary materials will be available for students taking the course at the 600 level. Writers and film directors examined may include: Kawabata Yasunari, Hayashi Fumiko, Abe Kobo, Mishima Yukio, Oe Kenzaburo, Yoshimoto Banana, Ozu Yasujiro, Naruse Mikio, Kurosawa Akira, Imamura Shohei, Koreeda Hirokazu, and Beat Takeshi.
For BA Students: Arts and Letters Sector
Taught by: Kano
Course not offered every year
Also Offered As: CIMS 151, COML 256, EALC 551, GSWS 257
Activity: Lecture
1 Course Unit
Notes: Fulfills Cross-Cultural Analysis
EALC 152 Love and Loss in Japanese Literary Traditions: In Translation
How do people make sense of the multiple experiences that the simple words "love" and "loss" imply? How do they express their thoughts and feelings to one another? In this course, we will explore some means that Japanese culture has found to grapple with these events and sensations. We will also see how these culturally sanctioned frameworks have shaped the ways Japanese view love and loss. Our materials will sample the literary tradition of Japan from earliest times to the early modern and even modern periods. Close readings of a diverse group of texts, including poetry, narrative, theater, and the related arts of calligraphy, painting, and music will structure our inquiry. The class will take an expedition to nearby Woodlands Cemetery to experience poetry in nature. By the end of the course, you should be able to appreciate texts that differ slightly in their value systems, linguistic expressions, and aesthetic sensibilities from those that you may already know. Among the available project work that you may select, if you have basic Japanese, is learning to read a literary manga. All shared class material is in English translation.
For BA Students: Arts and Letters Sector
Taught by: Chance
Course usually offered in fall term
Also Offered As: EALC 552
Activity: Lecture
1 Course Unit

EALC 153 Loyal Warriors in Japanese Literature
From the earliest literature to the latest think piece on Japanese society, the roles of the "warrior" and of "loyalty" in Japanese culture have fascinated those both inside and outside of Japan. In this course we will trace the development of paragons of loyalty and warrior prowess from the earliest literary works, through the epic Tales of the Heike, and on to the "Treasury of Loyal Retainers," theater, and film. We will read in the philosophy of fidelity and samurai codes to track the growing dedication to ideals of loyalty, exploring evidence of behavior less than loyal as we seek the real influence of these notions. Related topics include the extremes of vengeance and fanaticism.
Taught by: Chance
Course not offered every year
Also Offered As: EALC 553
Activity: Lecture
1 Course Unit

EALC 155 Modern Japanese Literature
This course surveys Japanese literature (novels, short stories, poetry, drama, essays) from 1868 to World War II. The purpose is not only to read some of the most important and interesting literary texts of this period, but also to reflect on the ways we read and study literature, and how we draw connections between literature, self, and society. The reading material will be entirely in English.
Taught by: Kano
Course not offered every year
Also Offered As: EALC 555
Activity: Lecture
1 Course Unit

EALC 157 Arts of Japan
This course introduces the major artistic traditions of Japan, from the Neolithic period to the present, and teaches the fundamental methods of the discipline of art history. Special attention will be given to the places of Shinto, the impact of Buddhism, and their related architectures and sculptures; the principles of narrative illustration; the changing roles of aristocratic, monastic, shogunal and merchant patronage; the formation of the concept of the artist over time; and the transformation of tradition in the modern age.
Taught by: Davis
Course not offered every year
Also Offered As: ARTH 213, ARTH 613, EALC 557
Activity: Lecture
1 Course Unit
Notes: Graduate students may take this course as EALC 557 and should see the instructor to discuss additional requirements for graduate credit.

EALC 160 Introduction to Japanese Thought
This class integrates the Japanese archaeological artifacts (ca, 240 items) and drawings (ca. 16 sheets) that were given to the Penn Museum at the World's Columbian Exposition of 1893 as a gift from the Tokyo National Museum/Meiji Government. In this course, as students learn the basic knowledge on Japanese archaeology, they participate in the basic background research on the exposition objects. Students are then to choose his/her research topic based on this collection, and their projects and resulting research papers will be presented possibly on a newly-established website. Through their individual research projects using this collection, students will learn how to handle the archaeological artifacts, investigate the relevant data in the Penn Museum archives, and acquire the basic curatorial knowledge and skills for dating, classifying, specifying the provenience of the objects.
For BA Students: History and Tradition Sector
Course usually offered in fall term
Also Offered As: EALC 560
Activity: Lecture
1 Course Unit

EALC 162 CITY & CITIZENSHIP/JAPAN
Taught by: Spafford
One-term course offered either term
Also Offered As: EALC 562
Activity: Lecture
1 Course Unit

EALC 166 Gender and Sexuality in Japan
This seminar deals with issues such as the cultural and historical constructions of femininity and masculinity; gendered division of education and labor; representation of gender and sexuality in literature, theater, and popular culture; and forms of activism for the rights of women and sexual minorities. This course will use films, videos, and manga, as well as readings from anthropological, historical, literary, and theoretical texts. All readings will be in English, but Japanese materials will be available to those interested.
Taught by: Kano
Course not offered every year
Also Offered As: EALC 566, GSWS 186, GSWS 586
Activity: Lecture
1 Course Unit

EALC 170 Japanese Archaeology in the Penn Museum
Taught by: Nishimura
Also Offered As: ANTH 170, ANTH 570, EALC 570
Activity: Lecture
1 Course Unit
EALC 173 Family Feuds
Taught by: Spafford
Also Offered As: EALC 573
Activity: Lecture
1 Course Unit

EALC 176 Japan: The Age of the Samurai
Who (or what) where the samurai? What does it mean to say that Japan had an "Age of the Samurai"? In popular imagination, pre-modern Japan has long been associated with its hereditary warrior class. Countless movies have explored the character and martial prowess of these men. Yet warriors constituted but a tiny portion of the societies they inhabited and ruled, and historians researching medieval Japan have turned their attentions to a great range of subjects and to other classes (elite and commoner alike). This class is designed to acquaint students with the complex and diverse centuries that have been called the "Age of the Samurai"—roughly, the years between ca. 1110 and 1850. In the course of the semester, we will explore the central themes in the historiography of warrior society, while introducing some of the defining texts that have shaped our imagination of this age (from laws to epic poems, from codes of conduct to autobiographies).
Taught by: Spafford
One-term course offered either term
Also Offered As: HIST 276
Activity: Lecture
1 Course Unit

EALC 183 Readings in Korean History
Topic varies year to year for this seminar.
Also Offered As: EALC 583
Activity: Seminar
1 Course Unit

EALC 184 Two Koreas: The Politics of Division
In today’s world, the inter-Korean border or DMZ (demilitarized zone) is widely regarded as one of the most impermeable and conflictual frontiers. The purpose of this course is to explore the dynamics of its formation between, and impact within, the two Koreas. The course therefore proposes to analyze how the division of the Korean peninsula not only came into being but also how it has shaped the socio-political trajectories of both the North and the South since 1945. The course also aims at introducing students to conceptual frameworks and comparative debates relevant to understanding the Korean case(s) from a social science perspective.
One-term course offered either term
Also Offered As: EALC 584
Activity: Lecture
1 Course Unit

EALC 192 Arts of Korea
The goal of this course is understanding the development of visual, performing, and literary arts in Korea and the historical, religious, and social contexts in which they flourished. It serves as an introduction to the arts of Korea, with emphasis on painting, sculpture, ceramics, and architecture and additional consideration of dance, drama, poetry, and culinary arts. Covers the whole history of Korea, from prehistoric times to the twenty-first century.
Taught by: Chance, F
Course usually offered in spring term
Also Offered As: EALC 592
Activity: Lecture
1 Course Unit

EALC 206 Gender and Sexuality in East Asia
The course will be a collaborative investigation of some of the most important issues concerning gender and sexuality in East Asia. The region has in common the legacies of Buddhism and Confucianism, as well as a process of rapid modernization and industrialization in the last couple of centuries. They are also bound to each other through cultural ties, colonial experiences, and international trade. The course assumes that when talking about gender and sexuality, confining our perspective to one nation-state often makes little sense. Many issues must be considered within the contexts of historical, cultural, political, and economic exchange. We must also take account of our own location in a classroom in the United States, and question the ways in which our knowledge about the lives of women and men in East Asia is constructed, enabled and constrained. To this end, the course will encourage us to be critical readers of various sources of information: historical materials, scholarly essays, contemporary journalism, fiction, and film.
Taught by: Kano
Course not offered every year
Also Offered As: EALC 606, GSWS 207, GSWS 607
Activity: Lecture
1 Course Unit

EALC 211 Life and Death in Han China
Using maps, city-panning, architecture, wall painting, sculpture, and minor arts as evidence, the course will examine the attitudes toward life and death in Han (206 BCE-AD 220) China.
Taught by: Steinhardt
One-term course offered either term
Also Offered As: EALC 611
Activity: Seminar
1 Course Unit

EALC 216 Chinese Art Under the Mongols
The Yuan Dynasty (1257-1368), the period of Mongolian rule, was the only time in Chinese history when China was part of a larger empire that spanned the Asian continent. Using architecture, sculpture, painting, and excavated evidence, this course examines the unique results of an international Asian world centered in China.
Taught by: Steinhardt
Course not offered every year
Also Offered As: EALC 616
Activity: Seminar
1 Course Unit

EALC 221 First Year Classical Chinese
Introduction to the classical written language, beginning with Shadick, First Course in Literary Chinese. Students with a background in Japanese, Korean, Cantonese, Taiwanese, and other East Asian languages are welcome; it is not necessary to know Mandarin. The course begins from scratch, and swiftly but rigorously develops the ability to read a wide variety of classical and semi-classical styles. Original texts from the 6th century BC to the 20th century AD are studied. This course is taught in English and there are no prerequisites.
Taught by: Mair
Course usually offered in fall term
Also Offered As: CHIN 491, EALC 621
Activity: Lecture
1 Course Unit
EALC 222 1st Year Classical Chin II
Continuation of CHIN491 EALC221/621, which is the only prerequisite for this course. Upon completion of Shadick, readings in a wide selection of texts with Chinese commentaries may be taken up. These readings are in part chosen to reflect student interest. This is the second half of a year-long course. Those who enroll must take both semesters.
Taught by: Mair
Course usually offered in spring term
Also Offered As: CHIN 492, EALC 622
Activity: Lecture
1 Course Unit

EALC 223 Language, Script and Society in China
The Chinese writing system is the only major surviving script in the world that is partially picto-ideographic, Egyptian hieroglyphic and Sumero-Akkadian cuneiform having passed out of use about two millennia ago. Partly because it is so unique, a tremendous number of myths have grown up around the Chinese script. In an attempt to understand how they really function, this seminar will examine the nature of the sinographs and their relationship to spoken Sinitic languages, as well as their implications for society and culture. We will also discuss the artistic and technological aspects of the Chinese characters and the ongoing efforts to reform and simplify them. The use of sinographs in other East Asian countries than China will be taken into account. There are no prerequisites for this class.
Taught by: Mair
Course not offered every year
Also Offered As: EALC 623
Activity: Seminar
1 Course Unit

EALC 224 1st Year Classical Chin I
Continuation of CHIN490 EALC220/620, which is the only prerequisite for this course. On completion of Shadick, readings in a wide selection of texts with Chinese commentaries may be taken up. These readings are in part chosen to reflect student interest. This is the first half of a year-long course. Those who enroll must take both semesters.
Taught by: Mair
Course usually offered in fall term
Also Offered As: CHIN 491, EALC 621
Activity: Lecture
1 Course Unit

EALC 225 Topics in Chinese Cinema
This course is an introduction to Chinese cinema in mainland China, Taiwan, and Hong Kong, with emphasis on the way it represents or negotiates notions of China and Chineseness, as well as national and cultural identity. We will examine Chinese cinematic traditions in light of significant topics such as: the foundation of Chinese cinema and the rise of nationalism; film’s relationship to literary and popular cultural discourses; the pursuit of modernization; aesthetic responses to political and historical upheavals and transformations; the aesthetics of revolution, diaspora and transnationalism; visualized sexualities, violence, and youth subculture; collective desires to imagine and reinvent the cultural past; the politics of memory, mourning and amnesia, among others.
One-term course offered either term
Also Offered As: CIMS 205, EALC 625
Activity: Seminar
1 Course Unit

EALC 226 East Asian Funerary Arts
Study of tombs and tomb decoration of emperors and officials in China, Korea, and Japan from the pre-Buddhist era through the 19th century.
Taught by: Steinhardt
Course usually offered in fall term
Also Offered As: EALC 626
Activity: Seminar
1 Course Unit

EALC 227 Chinese Painting
Study of Chinese painting and practice from the earliest pictorial representation through the late twentieth century. Painting styles are analyzed, but themes such as landscape and narrative are considered with regard to larger social, cultural, and historical issues. The class will pay particular attention to the construction of the "artist" and "art criticism" and their impact on the field into the present. Visits to study paintings at the University of Pennsylvania Museum and Philadelphia Museum of Art.
Taught by: Steinhardt
One-term course offered either term
Also Offered As: ARTH 217, EALC 627
Activity: Lecture
1 Course Unit

EALC 228 Chinese Wall Painting
Survey of mural painting in temples and tombs from the earliest examples in the last BCE centuries through the Ming dynasty. The course examines paintings that have been uncovered in the last few years, as well as famous examples in China and in North American museums.
Taught by: Steinhardt
Course not offered every year
Also Offered As: EALC 628
Activity: Lecture
1 Course Unit

EALC 229 Chinese Architecture
Survey of Chinese buildings and building technology from the formative period in the second millennium B.C. through the twentieth century. The course will deal with well-known monuments such as the Buddhist monasteries of Wutai, imperial palaces in Chang’an and Beijing, the Ming tombs and the Temple of Heaven, and less frequently studied buildings. Also covered will be the theory and principles of Chinese construction.
Taught by: Steinhardt
One-term course offered either term
Also Offered As: ARCH 716, EALC 629
Activity: Lecture
1 Course Unit
Notes: Graduate-level option requires a 20-page paper and permission of the instructor

EALC 230 Gender and Religion in China
This course examines gender in Chinese religious culture from ancient to contemporary times. We will explore topics including the Buddhist accommodation of Chinese family system, Chinese transformation of the bodhisattva Guanyin, female deities in Daoist and popular religious pantheons, writings about religious women, female ghosts and fox spirits in literary imagination and folk tales, and the significance of yin force in Chinese medicine and Daoist alchemy. Through the case of China, we will look at how gender plays critical and constitutive roles in religious traditions, and how religion can be used both to reinforce and to challenge gender norms.
Taught by: Cheng, H
Course not offered every year
Also Offered As: EALC 630, GSWS 234, GSWS 630, RELS 237, RELS 630
Activity: Seminar
1 Course Unit
EALC 232 Cultural Memory in Contemporary China
How is memory constructed and represented? What does society remember and/or forget? How and under what circumstances? How is it possible and/or impossible to bear witness? This course will examine notions of individual and collective memories, trauma, catastrophe, historical violence, post-socialist nostalgia, and amnesia, and explore the possibilities and impossibilities of remembering and forgetting in various forms of representation and cultural production in contemporary Chinese-speaking communities.
Course not offered every year
Also Offered As: EALC 632
Activity: Seminar
1 Course Unit

EALC 233 CHINESE AESTHETICS
Mummies of the Silk Road. This course takes advantage of, and is premised upon, the unique opportunity afforded by the extraordinary exhibition entitled "Secrets of the Silk Road," which is being shown at the University of Pennsylvania Museum of Archaeology and Anthropology from February 5-June 5, 2010. The exhibition is comprised of more than a hundred objects, including two mummies (roughly 1800 BC and 800 BC) and the magnificent trappings of a third (early 5th century AD). Among the artifacts are attractive foodstuffs, splendid textiles, finely made shoes, unusual headgear, beautiful jewelry, evocative statues and figurines, mysterious mortuary accessories, manuscripts in a variety of languages and scripts, Sasanian coins, fine paintings, and much else besides, all of these materials come from the Xinjiang Uyghur Autonomous Region (XUAR) of the People's Republic of China, which geographically may be referred to as Eastern Central Asia (ECA) and ethnically as Uyghurstan or East Turkestan. We will study each of the items for the exhibition in depth and will also reference other related mummies (actually naturally desiccated corpses) and materials from the museums and archaeological institutes of the XUAR. In the process of doing so, we will familiarize ourselves with the inhabitants, languages, places, and history of the region. Moreover, it is the aim of the course to situate ECA within the context of the whole of Eurasia. Our discussions will touch upon ancient and modern DNA, blood types, physical anthropology, bronze technology, the spread of agriculture and oasis technology, the utilization of the horse and other domesticated animals, wheeled vehicles, textiles, climate, geography, and all other aspects of the region that are relevant to life there during the Bronze Age, Iron Age, and medieval period.
Taught by: Goldin
Course not offered every year
Also Offered As: EALC 633, RELS 233, RELS 634
Activity: Seminar
1 Course Unit

EALC 234 Daoist Traditions
This course examines the history of various intellectual and religious traditions that came to be known as Daoist (or Taoist in the Wade-Giles Romanization). We will begin with a critical review of the twentieth-century reinvention of Daoism and the new classification of religious versus philosophical Daoism, before tracing chronologically the textual, institutional, and social history of Daoist traditions from the fourth century B.C.E. While familiarizing students with the key concepts, practices, and organizations developed in the history of Daoism, this class emphasizes the specific socio-political context of each of them. Throughout the course, we will think critically about the labeling of Daoist (as well as Confucian and Buddhist) in Chinese history and in modern scholarship. We will also question modern demarcations between philosophy, religion, and science, as well as that between the spiritual and the physical.
Taught by: Cheng
Course not offered every year
Also Offered As: EALC 634, RELS 233, RELS 634
Activity: Seminar
1 Course Unit

EALC 239 Sex and Society in Ancient China
Ancient Chinese writers considered sexual activity to be an essential component of humanity, and the study of human sexuality to be essential to the study of human history. Sexuality constituted a fundamental source of imagery and categories that informed the classical Chinese conception of social, political, and military relationships. This course will survey the major sources dealing with sex and society in ancient China. There are no prerequisites, and no knowledge of Chinese is presumed.
Taught by: Goldin
Course not offered every year
Also Offered As: EALC 639
Activity: Seminar
1 Course Unit

EALC 240 Early Chinese History
This seminar covers the span of Chinese history from the Bronze Age to the end of the Han dynasty in A.D. 220. No knowledge of Chinese is presumed, but EALC 001 (Introduction to Chinese Civilization) is a prerequisite. Graduate students who wish to enroll should meet with the instructor to discuss additional requirements for graduate credit.
Taught by: Goldin
Course usually offered in spring term
Also Offered As: EALC 640
Activity: Seminar
1 Course Unit
EALC 241 Law in Pre-Modern China
This course, intended for graduate students and advanced undergraduates, offers a survey of the sources and research problems of pre-modern Chinese law. For reasons to be examined in the course, traditional Sinological education has neglected law as a legitimate field of inquiry; consequently, the secondary literature is surprisingly meager. Our readings will take us from the Warring States Period to the Qing dynasty—an interval of over two millennia—and will cover several varieties of legal documents, including statutes, handbooks, court records, and theoretical treatises. All the readings will be in English, and no knowledge of Chinese is presumed. Graduate students should see the instructor to discuss requirement for graduate credit.
Taught by: Goldin
Course not offered every year
Also Offered As: EALC 641
Activity: Seminar
1 Course Unit

EALC 242 Medicine and Healing in China
This course explores Chinese medicine and healing culture, its diversity, and its change over time. We will discuss topics including the establishment of canonical medicine, Daoist approaches to healing and longevity, diverse views of the body and disease, the emergence of treatments for women, medical construction of sex difference and imagination of female sexuality, the thriving and decline of female healers, the identity of scholar physicians, the transmission of medical knowledge, domestic and cross-regional drug market, healer-patient relations, and new visions of traditional Chinese medicine in modern China.
Taught by: Cheng,H
Course not offered every year
Also Offered As: EALC 642
Activity: Lecture
1 Course Unit

EALC 243 PASTORALISM & MOBILITY
Taught by: Atwood
Also Offered As: EALC 643
Activity: Seminar
1 Course Unit

EALC 251 Readings in Classical Japanese I
Readings in classical texts drawn from the Heian, Kamakura, Muromachi, and Edo periods. Introduction to the different styles of classical Japanese, and to classical Japanese as a whole.
For BA Students: Advanced Language Course
Taught by: Chance
Course usually offered in fall term
Also Offered As: EALC 651, JPN 491
Prerequisite: JPN 212 or equivalent
Activity: Lecture
1 Course Unit

EALC 252 Readings in Classical Japanese II
Readings in classical texts drawn from the Heian, Kamakura, Muromachi, and Edo periods. Introduction to the different styles of classical Japanese, and to classical Japanese as a whole.
Taught by: Chance, L
Course usually offered in spring term
Also Offered As: EALC 652, JPN 492
Prerequisite: JPN 212
Activity: Lecture
1 Course Unit

EALC 253 The Politics of Shinto
Shinto-derived images and ideas frequently appear in Japanese anime and film, and journalists and academics frequently mobilize the term Shinto as a way of explaining Japan's past or envisioning its future. The environmentalist left champions a green Shinto while Shinto-derived ideas serve as red meat for politicians pandering to Japan's nationalist right. While the influential position Shinto occupies in Japanese sociopolitical life is therefore clear, the term Shinto itself is actually not. Depending on who one asks, Shinto is either the venerable indigenous religion of the Japanese archipelago, the irreducible core of Japanese culture, a tiny subset of Japanese Buddhism, an oppressive political ideology linked to the emperor system, an environmentalist ethic, or some combination of these. This course investigates the multifarious types of Shinto envisioned by these competing interest groups.
Taught by: Thomas,J
Course not offered every year
Also Offered As: EALC 653
Activity: Lecture
1 Course Unit

EALC 254 War and Literature in Japan: Tales of the Heike
Our subject is Tale of the Heike, a multifaceted narrative of the twelfth-century battles that brought the Taira clan down and led to the establishment of Japan's first military government. We will read the Heike tales with an eye toward how they fictionalize history and idealize certain types, most notably loyal women and warriors; the development of the warrior tale genre; central aspects of the Japanese ethos; and later works of literature based on episodes and characters from the Tale of the Heike. All material is in English translation. (Students of Japanese language may learn to read a famous section in the original.) There are no prerequisites.
Taught by: Chance, L
One-term course offered either term
Also Offered As: EALC 654
Activity: Seminar
1 Course Unit

EALC 255 Japanese Theater
Japan has one of the richest and most varied theatrical traditions in the world. In this course, we will examine Japanese theater in historical and comparative contexts. The readings and discussions will cover all areas of the theatrical experience (script, acting, stage design, costumes, music, and audience). Audio-visual material will be used whenever appropriate and possible. The class will be conducted in English, with all English materials.
Taught by: Kano
One-term course offered either term
Also Offered As: COML 385, EALC 655, FOLK 485, GSWS 254, THAR 485
Activity: Seminar
1 Course Unit
EALC 256 The Tale of Genji
"Crowning masterpiece of Japanese literature," "the world's first novel," "fountainhead of Japanese literary and aesthetic culture," "a great soap opera in the vein of Jacqueline Susann." Readers over the centuries have praised the Tale of Genji, the monumental prose tale finished just after the year 1000, in a variety of ways. In this course we will read the latest English translation of Murasaki Shikibu's work. We will watch as Genji loses his mother at a tender age, is cast out of the royal family, and begins a quest to fill the void she left. Along the way, Genji's loyalty to all the women he encounters forges his reputation as the ideal lover. We will consider gender issues in the female author's portrayal of this rake, and question the changing audience, from bored court women to censorious monks, from adoring nationalists to comic book adapters. Study of the tale requires consideration of poetry, imagery, costume, music, history, religion, theater, political and material culture, all of which will be components of the course. We will also trace the effect of the tale's many motifs, from flora and fauna to murderously jealous spirits, on later literature and conceptions of human emotions. All material is in English translation. There are no prerequisites.
Taught by: Chance, L.
One-term course offered either term
Also Offered As: EALC 656
Activity: Seminar
1 Course Unit

EALC 258 Japanese Architecture
An introduction to the visual, aesthetic, historical, religious, philosophical, and symbolic aspects of Japanese structures from earliest times to the mid-19th century. Through a discussion of shrines, temples, palaces, tombs, cities, and gardens the student will explore what makes Japanese architecture distinctive and how the traditions of Japanese architecture evolve over time.
Taught by: Steinhardt
Course not offered every year
Also Offered As: ARCH 718, EALC 658
Activity: Lecture
1 Course Unit

EALC 259 Gender and Sexuality in Japan
If you have ever wondered about the following questions, then this is the right course for you: Is Japan a hyper-feminine nation of smiling geisha and obedient wives? Is it a hyper-masculine nation of samurai and economic warriors? Is it true that Japanese wives control the household? Is it true that Japanese men suffer from over-dependence on their mothers? What do young Japanese women and young men worry about? What does the government think about the future of Japanese women and men? Assuming that expressions of gender and sexuality are deeply influenced by cultural and social factors, and that they also show profound differences regionally and historically, this course examines a variety of texts--historical, biographical, autobiographical, fictional, non-fictional, visual, cinematic, analytical, theoretical--in order to better understand the complexity of any attempts to answer the above questions.
Taught by: Kano
Course not offered every year
Also Offered As: EALC 659, GSWS 259
Activity: Lecture
1 Course Unit

EALC 260 History of the Book in East Asia
History of the Book in East Asia
Taught by: Chance L, Davis J
Course not offered every year
Also Offered As: EALC 661
Activity: Seminar
1 Course Unit

EALC 263 Topics in Japanese Thought
Course focuses on a few selected topics for close attention. Past topics have included the examination of certain current social and ethical questions-- for instance those having to do with organ transplantation, abortion, suicide, euthanasia, political corruption, and "openness" as a society. Readings will be on contemporary questions but include some pre-modern materials that influence the discussion.
Course not offered every year
Also Offered As: EALC 663
Prerequisite: EALC 002 is recommended
Activity: Seminar
1 Course Unit

EALC 264 Bandits, Pirates and Peasants: Lawlessness and Violence in Pre-Modern Japan
This course will be an exploration of premodern Japanese history through the lens of violence. The centuries under consideration (roughly, the eighth thought nineteenth) were characterized by greatly varying levels of violence, both of the state-sanctioned variety (war, punishments for law-breakers and political losers) and of the non-sanctioned variety (piracy, banditry, warrior and peasant rebellions). Examining a wide variety of translated sources, from diaries to chronicles, from legal codes to fiction, we shall examine the changing social, political, economic, and cultural contexts of violence, in order to interrogate not only why certain periods were remarkably peaceful while others were not, but also why violence took different forms in relation to different circumstances. We shall consider how contemporaries made sense of the violence that surrounded them (or didn't) and how they divided the acceptable use of force from the wanton and society-threatening abuse of it. The course will feature presentations and several (very short) papers.
Taught by: Spafford, D.
Course not offered every year
Also Offered As: EALC 664
Activity: Seminar
1 Course Unit

EALC 269 Japanese Buddhism
An introduction to the history and cultural role of Buddhism in Japan. Emphasis is on Buddhism as a component in the religious, intellectual, and cultural life of the Japanese, especially in poetry and the visual arts. Includes a short review of prior Buddhism in India and China.
One-term course offered either term
Also Offered As: EALC 669
Activity: Seminar
1 Course Unit
EALC 270 Shamans to Shoguns
This course tackles about a millennium of pre-modern Japanese political, social, and cultural history (roughly, 700-1700). Instead of attempting to cover the period chronologically, as an introductory survey might, this class is structured as a series of case studies. Each of these will take a primary source as its point of departure and explore one or more facets of Japanese history and writing. In the course of each case study, lectures and discussions will branch out from the main source to examine its historical context as well as the (political, cultural, textual) traditions that informed that source's composition. In general, students will read the entire texts of the main sources (or significant portions of them), along with scholarly articles and shorter excerpts from other sources, composed at the same time or in the same vein/genre. During lectures and discussions alike, students will be asked to engage the readings, so as to grasp the specifics of Japanese history and practice the analytical skills required of historical discourse.
Taught by: Spafford, D.
Course not offered every year
Also Offered As: EALC 670, HIST 277
Activity: Seminar
1 Course Unit

EALC 291 Archaeology of Central Asia
A site by site investigation of Buddhist and non-Buddhist ruins in Central Asia. Included are Nisa, Khwarezm, Pyandzhikent, Khalkchay, Ay-Khanum, Bamiyan, Miran, Tumshuk, Kizil, Kucha, Khotan, Adzhina-Tepe, Khocho, Khara-Khoto, and Bezeklik.
Taught by: Steinhardt
One-term course offered either term
Also Offered As: EALC 691
Activity: Seminar
1 Course Unit

EALC 301 Major Seminar on China
This is a seminar required for all Chinese majors in the Department of East Asian Languages and Civilization. Topic varies year to year.
Taught by: Mair
One-term course offered either term
Prerequisites: EALC 001, no language required for undergraduates.
Activity: Seminar
1 Course Unit

EALC 302 Major Seminar on Japan
This is a seminar required for all Japanese majors in the Department of East Asian Languages and Civilization. Topic varies year to year.
Course usually offered in fall term
Prerequisites: EALC 002. No language required for undergraduates
Activity: Seminar
1 Course Unit

EALC 303 Major Seminar on Korea
This is a seminar required for all Korean majors in the Department of East Asian Languages and Civilization. Topic varies year to year.
Taught by: Park
Course not offered every year
Activity: Seminar
1 Course Unit

EALC 371 Study Abroad
Activity: Lecture
1 Course Unit

EALC 501 Chinese History and Civilization
This Master's level seminar focuses on the political, social and cultural history of the Chinese region from the Stone Age to the 20th century. Readings will consist of primary and secondary sources, including influential modern studies of Chinese history and civilization. All course materials are in English and no knowledge of Chinese is presumed.
Course not offered every year
Activity: Seminar
1 Course Unit

EALC 502 Japanese History and Civilization
This seminar introduces students to the graduate-level study of Japan. In addition to getting a broad overview of Japanese culture, students in the course will develop familiarity with major debates in the history of the field of Japanese studies. The course also provides basic training in using primary and secondary sources in Japanese, Japanese bibliographic conventions, and other skills necessary for pursuing advanced research or a teaching career in the field. Open to all graduate students and to undergraduates with permission from the instructor.
Familiarity with Japanese language is a plus but is not required.
Taught by: Thomas J
Course not offered every year
Activity: Seminar
1 Course Unit
Notes: Undergraduates need permission from instructor.

EALC 503 Korea History & Civilization
This graduate-level seminar focuses on the political, social, and cultural history of the Korean Peninsula and the vicinity from early times to the contemporary era. Readings will consist of primary and secondary sources, including influential modern studies of Korean history and civilization. All course materials are in English and no knowledge of Korean is presumed.
Course usually offered in fall term
Activity: Lecture
1 Course Unit

EALC 504 Introduction to Inner Asian Civilizations
This class is intended for new graduate students and upper-division undergraduates with some prerequisites who wish to get a solid grounding in the study of Inner Asia. The class will introduce Inner Asia as a coherent civilizational network, focusing on: 1) the steppe-imperial tradition; 2) the Tibetan-rite Buddhist commonwealth that developed from the Tibetan and Mongol empires; and 3) the increasing integration of these two Inner Asian civilizational patterns with that of imperial China. There will also be some consideration of the Islamic Turko-Mongolian synthesis that developed in the post-Mongol period. Regionally, the class introduce: 1) core Inner Asia (the Mongolian plateau, the Tarim Basin, the Tibetan plateau, the Manchuria); 2) the main dynasties of China that formed in the Mongolia and Manchuria (Liao, Jin, Yuan and Qing). There will also be some consideration of historically Inner Asian populations in Hexi (Gansu-Qinghai), and the North China plains and the Shaanxi-Shanxi-Rehe uplands. Chronologically, the class will touch on prehistory and the contemporary period, but will mostly cover the period from the emergence of historical records on the Mongolian plateau and the Tarim basin to roughly 1950. Prehistory and the contemporary period will be give less detailed coverage.
Taught by: Atwood
Course not offered every year
Also Offered As: EALC 104
Activity: Seminar
1 Course Unit
Notes: Graduate Seminar
EALC 505 East Asian Diplomacy
This course will survey recent scholarship on East Asian diplomacy from the sixteenth century to the present. We will engage several fundamental debates about the relationship between China, Japan, Korea and the outer world and introduce not only orthodox diplomatic analyses but also newer approaches to modern China, Japan and Korea by international and global historians.
Taught by: Dickinson
Course usually offered in fall term
Also Offered As: EALC 105, HIST 395
Activity: Lecture
1 Course Unit

EALC 508 SPORTS IN EAST ASIA
This course will examine sports in East Asia from the nineteenth century to the present. Recently, East Asia plays an important role in transforming the global geopolitics of sport. The post-war East Asian Olympic Games-1964 Tokyo Olympics, 1972 Sapporo Winter Olympics, 1988 Seoul Olympics, 1998 Nagano Winter Olympics, and 2008 Beijing Olympics-and the 2002 FIFA World Cup Korea/Japan illustrate the fact that a new global sports order led by East Asia has emerged. East Asia nations will play hosts to other major sporting events, including the 2018 Pyeongchang Winter Olympics, 2020 Tokyo Olympics, and 2022 Beijing Winter Olympics. Chinese, Japanese, and Korean athletes have been highly active in MLB, NBA, English Premier League, and LPGA. The popularity of the various martial arts proves that East Asian sports seem to be everywhere these days. This class will focus on helping students understand how sports have affected and transformed East Asia exploring various issues: imperialism, colonialism, race, class, gender, foreign policy, nationalism, religion, economics, industrialization, tourism, and urbanization. Course contents include lecture, discussions, secondary readings, primary source readings, documentaries, and films.
Also Offered As: EALC 108
Activity: Lecture
1 Course Unit

EALC 515 Buddhist Arts of East Asia: Sources, Iconography and Styles
Survey of art and architecture created for Buddhist religious purposes in China, Japan, and to a lesser extent Korea, Tibet, and Central Asia. The course will include a brief overview of Buddhist monuments in South Asia, study of the iconography of Buddhist images in graphic and sculptural media, and analysis of a variety of Buddhist styles in painting, sculpture, and architecture.
Taught by: Chance, F
Course not offered every year
Also Offered As: EALC 115, RELS 175
Prerequisites: Research in an East Asian language required for graduate credit.
Activity: Lecture
1 Course Unit

EALC 516 East Asian Gardens
Explore the beauty of gardens (and associated buildings) in Japan, China, and Korea from ancient times to the present. Lectures will be illustrated by photographs from dozens of sites in East Asia, and by a field trip to the Japanese House and Garden in Fairmount Park. The main body of the course will be a historical survey of the evolution of East Asian garden art forms from the sixth century to the present. Discussion will touch on geographic and climatic parameters, spiritual and aesthetic principles, practical limitations and creative innovations of East Asian gardens. There will be an additional fee for the Japanese House visit, and possibly for other field trips.
Taught by: Chance, F
Course not offered every year
Also Offered As: EALC 116
Activity: Lecture
1 Course Unit

EALC 518 Gender and Sexuality in Asia
This introductory course will deal with issues such as stereotypes of Asian women and men, cultural construction of femininity and masculinity, international and sexual division of labor, traffic in women in the sex industries, representation of gender and sexuality in academic scholarship as well as literary texts and popular culture, local and global activism for the rights of women and sexual minorities.
Taught by: Kano
Course not offered every year
Also Offered As: EALC 118
Activity: Lecture
1 Course Unit

EALC 519 East Asian Ceramics
History of ceramic forms, techniques, and aesthetic principles in China, Korea, and Japan from neolithic times to the present century, illustrated by slides and examples, augmented by readings, field trips, and student presentations. Aimed at students with general interest in Japan and/or ceramics history; particularly but not exclusively those majoring in East Asian Languages & Civs, East Asian Area Studies or History of Art; also art majors interested in ceramics.
Taught by: Chance, F
Course not offered every year
Also Offered As: EALC 119
Activity: Seminar
1 Course Unit

EALC 521 Chinese Poetry & Prose: In translation
A wide variety of poetic & prose genres from the earliest times to the 19th century is introduced through English translation. A few selections will also be studied in Chinese characters with romanized transcriptions. There are no prerequisites for this course.
Taught by: Mair
Course usually offered in fall term
Also Offered As: EALC 121
Activity: Lecture
1 Course Unit
EALC 522 Chinese Fiction and Drama in Translation
This course explores Romance of Three Kingdoms, the most popular classical novel in East Asia and an important source for understanding Chinese culture, politics, history, and military strategy. We propose to read this work not only as a textbook of Chinese literature but also as a guidebook for career development and risk assessment. Why didn’t Pangtongtong have a career as successful as Zhuge Liang? Why did Ma Su volunteer in a project that he is not good at? If Cao Cao, Liu Bei, Sun Quan run for presidency in the U.S., who would you vote for and why? In addition to Romance of Three Kingdoms, this course introduces other classical Chinese fictions such as Dream of the Red Chamber and Strange Tales from a Chinese Studio, as well as literary criticism such as On the Standard of Literature (Dian lun), Essays on Literature (Wen lun), and The Literary Mind and the Carving of Dragons. Taught by: Mair
Course usually offered in spring term
Also Offered As: EALC 122
Activity: Lecture
1 Course Unit

EALC 525 Cultural Chinas: 20th Century Chinese Literature and Film
This course serves as a thematic introduction to modern Chinese literature and cinema in mainland China, Taiwan, Hong Kong, and transnational Chinese communities in the twentieth century. By discussing a wide range of key literary and filmic texts, this class looks into major issues and discourses in China’s century of modernization: enlightenment and revolution, politics and aesthetics, sentimental education and nationalism, historical trauma and violence, gender and sexuality, social hygiene and body politics, diaspora and displacement, youth sub-culture and urban imagination. Course usually offered in spring term
Also Offered As: EALC 125
Activity: Lecture
1 Course Unit

EALC 527 The Arts of China
A broad survey of Chinese architecture, sculpture, and painting from the Neolithic age through the nineteenth century. Topics include excavated material from China’s Bronze Age, Chinese funerary arts, Buddhist caves and sculpture (including works in the University Museum), the Chinese city, the Chinese garden, and major masterpieces of Chinese painting. One-term course offered either term
Also Offered As: ARTH 214, ARTH 614, EALC 127
Activity: Lecture
1 Course Unit

EALC 529 Critical Theory China
Also Offered As: EALC 129
Activity: Lecture
1 Course Unit

EALC 531 Introduction to Classical Chinese Thought
This course is intended as an introduction to the foundational thinkers of Chinese civilization, who flourished from the fifth to the second centuries B.C. No knowledge of Chinese is presumed, and there are no prerequisites, although EALC 001 (Introduction to Chinese Civilization) is recommended. Graduate students may take this course as EALC 531 and should see the instructor to discuss requirements for graduate credit. (Undergraduates must enroll in the course as EALC 131.) Taught by: Goldin
Course offered spring; odd-numbered years
Also Offered As: EALC 131
Activity: Lecture
1 Course Unit

EALC 535 Topics in Japanese Art
Topic varies. Spring 2016: In this seminar we will take a closer look at the prints, paintings, and illustrated books produced by one of ukiyo-e’s most famous artists, Kitagawa Utamaro (1753?-1806), with special focus upon works to be included in an upcoming exhibition. We will begin by surveying the larger history of the pictures of the floating world (ukiyo-e) and pay close attention to Utamaro’s teacher and his contemporaries. The status of the artist, the role of the publisher, networks of possible patrons, and Utamaro’s legacy are among the key issues the seminar will address. Our analysis will further attend to the ways in which works by Utamaro and other ukiyo-e artists were evaluated and appreciated in late 19th-century France by such figures as Edmond de Goncourt, Hayashi Tadamashi, and Siegfried Bing, among others. Students will have the opportunity to study works in local and regional collections, including the Kislak Center, the Philadelphia Museum of Art, and the Freer/Sackler Galleries. Undergraduate students admitted by permission only. Taught by: Davis
Course not offered every year
Also Offered As: EALC 135
Activity: Seminar
1 Course Unit

EALC 536 Chinese Martial Arts
This course offers a thematic introduction to the history of martial arts in China. Throughout the semester, we will explore the social, political, and cultural contexts of martial arts practice, from the classical period to the 21st century. The course will take an interdisciplinary approach to situating martial arts practices in history through an examination of religious, literary, and visual sources, against the backdrop of theoretical approaches from across gender studies, anthropology, and cultural theory. The course will be divided into three units. The first unit will focus on the cultural background that led to the emergence of martial arts practices in the pre-modern period. We will examine classical discourses on the human body and its cultivation and the role of medical practices and religious institutions, such as the Shaolin Temple, in the development of martial arts regimens. In the second unit, we will discuss the spread and popularization of martial arts practices in late imperial and modern Chinese society through a close reading of literary sources, such as wuxia novels and other works of fiction. In addition, we will explore the modernization and re-invention of martial arts in the late 19th and early 20th century, when China attempts to re-establish itself as a modern nation. The third and final unit will be devoted to the global impact of Chinese martial arts in contemporary popular culture. Through a discussion and analysis of Kung Fu films, as well as video games, we will explore the role of martial arts narratives and practices in the construction of gender, cultural, and national identity and the various ways in which they are used by the current Chinese regime to assert its influence in the global arena. No knowledge of Chinese is presumed, and all readings will be available in English on the Canvas website in PDF form. Graduate students may take this course as EALC536 and should see the instructor to discuss requirements for graduate credit. Taught by: Tavor
Course not offered every year
Also Offered As: EALC 136
Activity: Lecture
1 Course Unit
EALC 551 Contemporary Fiction & Film in Japan
Taught by: Kano
Course not offered every year
Also Offered As: CIMS 151, COML 256, EALC 151, GSWS 257
Prerequisites: This course will explore fiction and film in contemporary Japan, from 1945 to the present. Topics will include literary and cinematic representation of Japan’s war experience and post-war reconstruction, negotiation with Japanese classics, confrontation with the state, and changing ideas of gender and sexuality. We will explore these and other questions by analyzing texts of various genres, including film and film scripts, novels, short stories, manga, and academic essays. Class sessions will combine lectures, discussion, audio-visual materials, and creative as well as analytical writing exercises. The course is taught in English, although Japanese materials will be made available upon request. No prior coursework in Japanese literature, culture, or film is required or expected; additional secondary materials will be available for students taking the course at the 600 level. Writers and film directors examined may include: Kawabata Yasunari, Hayashi Fumiko, Abe Kobo, Mishima Yukio, Oe Kenzaburo, Yoshimoto Banana, Ozu Yasujiro, Naruse Mikio, Kurosawa Akira, Imamura Shohei, Koreeda Hirokazu, and Beat Takeshi.
Activity: Lecture
1 Course Unit

EALC 552 Love and Loss in Japanese Literary Traditions: In Translation
Chinese economic and political engagements now stretch across the globe from Africa to Latin America. This state of affairs is hardly historically unique- complex interconnections have existed for centuries. Yet this course looks behind the numbers to consider whether the current moment is qualitatively different from earlier iterations of globalization. How do we understand a road built by Chinese laborers in Nigeria, a "Chinese" airport in Sudan, and a copper mine in Zambia, a gold mine in Peru, oil investments in Venezuela and Ecuador, or massively increasing trade with Brazil? Together we will explore Chinese state and firm-level interventions in Africa and Latin America as harbingers of an emergent global economic structure, largely defined by intensified and re-configured South-South linkages. Through the disciplinary methods of anthropology, political economy, management, and media studies we will consider both the historical context of intensified Chinese involvement in these regions and a wide range of more contemporary ethnographies and case studies. In the process, we will subject transnational economic studies, the statements of managers and officials, and popular culture texts alike to fine-grained readings.
Taught by: Chance
Course usually offered in fall term
Also Offered As: EALC 152
Activity: Lecture
1 Course Unit

EALC 553 Loyal Warriors in Japanese Literature
From the earliest literature to the latest think piece on Japanese society, the roles of the "warrior" and of "loyalty" in Japanese culture have fascinated those both inside and outside of Japan. In this course we will trace the development of paragons of loyalty and warrior prowess from the earliest literary works, through the epic Tales of the Heike, and on to the "Treasury of Loyal Retainers." We will read in the philosophy of fidelity and samurai codes to track the growing dedication to ideals of loyalty, exploring evidence of behavior less than loyal as we seek the real influence of these notions. Related topics will include the extremes of vengeance and fanaticism.
Taught by: Chance
Course not offered every year
Also Offered As: EALC 153
Activity: Lecture
1 Course Unit

EALC 555 Modern Japanese Literature
This course surveys Japanese literature (novels, short stories, poetry, drama, essays) from 1868 to World War II. The purpose is not only to read some of the most important and interesting literary texts of this period, but also to reflect on the ways we read and study literature, and how we draw connections between literature, self, and society. The reading material will be entirely in English.
Taught by: Kano
Course usually offered in fall term
Also Offered As: EALC 155
Activity: Lecture
1 Course Unit

EALC 557 Arts of Japan
This is an introductory survey course on the ancient societies and civilizations of East Asia especially in the areas known today as Japan, China, and Korea. This course will explore the general lifeways of the peoples in these regions during the prehistoric periods, specifically from the Mesolithic/Neolithic periods about 8,000 BC up to the era of political unification around 700 AD in both the Japanese archipelago and the Korean peninsula. By examining primarily the art and architecture of these prehistoric societies, this course will explore important sociocultural aspects, including subsistence, sedentism, state formation, social stratification, leadership, warfare, trade, technology, population movement, and mortuary customs. The course aims to provide a through foundation for further study in the histories and cultures of ancient Japan, China and Korea.
Taught by: Nishimura
One-term course offered either term
Also Offered As: ARTH 213, ARTH 613, EALC 157
Activity: Lecture
1 Course Unit

EALC 559 Topics in Japanese Art
Topic varies.
Taught by: Davis
Course not offered every year
Also Offered As: ARTH 515
Activity: Seminar
1 Course Unit
EALC 560 Introduction to Japanese Thought
This course introduces the major intellectual developments and problems within Japan's history. Special attention will be given to explaining why and how Japanese thinkers only selectively absorbed Chinese thinking during Japan's first "opening" to outside influence and then later again to be selective when engaged with the West. Japanese thinkers' differing way of understanding and utilizing Buddhism, Confucianism, and Daoism, Christianity, and European philosophy will be considered. So too, however, will be what are usually taken to be "native" patterns of thought--viz. Shinto, The National Learning School, and what came to be called "the Code of the Warrior." Surfacing at various points in this course will be questions that could be addressed to any nation or people and their intellectual history--viz. What does it mean for anyone to claim there might be "indigenous" modes of thought and appreciation? Can thought and philosophy get free of being suspect as ways for the expression of nationalism in its various forms? What are some of the practical consequences in and for a society, especially in our "globalized" world, when its intellectual trajectory differs from that of the "West" and important contemporary thinkers within wish to retain that?
Course usually offered in fall term
Also Offered As: EALC 160
Activity: Lecture
1 Course Unit

EALC 566 Gender and Sexuality in Japan
This seminar deals with issues such as the cultural and historical constructions of femininity and masculinity; gendered division of education and labor; representation of gender and sexuality in literature, theater, and popular culture; and forms of activism for the rights of women and sexual minorities. This course will use films, videos, and manga, as well as readings from anthropological, historical, literary, and theoretical texts. All readings will be in English, but Japanese materials will be available to those interested.
Taught by: Kano
Course not offered every year
Also Offered As: EALC 166, GSWS 186, GSWS 586
Activity: Lecture
1 Course Unit

EALC 570 Japanese Archaeology in the Penn Museum
This class integrates the Japanese archaeological artifacts (ca. 240 items) and drawings (ca. 16 sheets) that were given to the Penn Museum at the World's Columbian Exposition of 1893 as a gift from the Tokyo National Museum/Meiji Government. In this course, as students learn the basic knowledge on Japanese archaeology, they participate in the basic background research on the expositions objects. Students are then to choose his/her research topic based on this collection, and their projects and resulting research papers will be presented possibly on a newly-established website. Through their individual research projects using this collection, students will learn how to handle the archaeological artifacts, investigate the relevant data in the Penn Museum archives, and acquire the basic curatorial knowledge and skills for dating, classifying, specifying the provenience of the objects.
Taught by: Nishimura
Also Offered As: ANTH 170, ANTH 570, EALC 170
Activity: Lecture
1 Course Unit

EALC 573 Family Feuds
Taught by: Spafford
Also Offered As: EALC 173
Activity: Lecture
1 Course Unit

EALC 576 Japan: Age of the Samurai
This course deals with the samurai in Japanese history and culture and will focus on the period of samurai political dominance from 1185 to 1868, but it will in fact range over the whole of Japanese history from the development of early forms of warfare to the disappearance of the samurai after the Meiji Restoration of the 19th century. The course will conclude with a discussion of the legacy of the samurai in modern Japanese culture and the image of the samurai in foreign perceptions of Japan.
One-term course offered either term
Also Offered As: EALC 176
Activity: Lecture
1 Course Unit

EALC 583 Readings in Korean History
Topic varies year to year for this seminar.
Course not offered every year
Also Offered As: EALC 183
Activity: Seminar
1 Course Unit

EALC 584 Two Koreas: The Politics of Division
In today's world, the inter-Korean border or DMZ (demilitarized zone) is widely regarded as one of the most impermeable and conflictual frontiers. The purpose of this course is to explore the dynamics of its formation between, and impact within, the two Koreas. The course therefore proposes to analyze how the division of the Korean Peninsula not only came into being but also how it has shaped the socio-political trajectories of both the North and the South since 1945. The course also aims at introducing students to conceptual frameworks and comparative debates relevant to understanding the Korean case(s) from a social science perspective.
Course not offered every year
Also Offered As: EALC 184
Activity: Lecture
1 Course Unit

EALC 592 Arts of Korea
The goal of this course is understanding the development of visual, performing, and literary arts in Korea and the historical, religious, and social contexts in which they flourished. It serves as an introduction to the arts of Korea, with emphasis on painting, sculpture, ceramics, and architecture and additional consideration of dance, drama, poetry, and culinary arts. Covers the whole history of Korea, from prehistoric times to the twenty-first century. Students enrolled in this graduate number are expected to do research in an East Asian language.
Taught by: Chance, F
Course usually offered in spring term
Also Offered As: EALC 192
Activity: Lecture
1 Course Unit

EALC 611 Life and Death in Han China
Using wall painting, sculpture, and minor arts as evidence, the course will examine the attitudes toward life and beliefs and death in Han (206 B.C.-A.D.220) China.
Taught by: Steinhardt
One-term course offered either term
Also Offered As: EALC 211
Activity: Seminar
1 Course Unit
EALC 616 Chinese Arts Under the Mongols
The Yuan Dynasty (1257-1368), the period of Mongolian rule, was the only time in Chinese history when China was part of a larger empire that spanned the Asian continent. Using architecture, sculpture, painting, and excavated evidence, this course examines the unique results of an international Asian world centered in China.
Taught by: Steinhardt
Course not offered every year
Also Offered As: EALC 216
Activity: Seminar
1 Course Unit

EALC 621 First Year Classical Chinese I
Introduction to the classical written language, beginning with Shadick,
First Course in Literary Chinese. Students with a background in Japanese, Korean, Cantonese, Taiwanese, and other East Asian languages are welcome; it is not necessary to know Mandarin. The course begins from scratch, and swiftly but rigorously develops the ability to read a wide variety of classical and semi-classical styles. Original texts from the 6th century BC to the 20th century AD are studied. This course is taught in English and there are no prerequisites.
Taught by: Mair
Course usually offered in fall term
Also Offered As: CHIN 491, EALC 221
Activity: Lecture
1 Course Unit

EALC 622 1st Year Classical Chin II
Continuation of CHIN491 EALC221/621, which is the only prerequisite for this course. Upon completion of Shadick, readings in a wide selection of texts with Chinese commentaries may be taken up. These readings are in part chosen to reflect student interest. This is the second half of a year-long course. Those who enroll must take both semesters.
Taught by: Mair
Course usually offered in spring term
Also Offered As: CHIN 492, EALC 222
Prerequisite: None
Activity: Lecture
1 Course Unit

EALC 623 Language, Script and Society in China
The Chinese writing system is the only major surviving script in the world that is partially picto-ideographic, Egyptian hieroglyphic and Sumero-Akkadian cuneiform having passed out of use about two millennia ago. Partly because it is so unique, a tremendous number of myths have grown up around the Chinese script. In an attempt to understand how they really function, this seminar will examine the nature of the sinographs and their relationship to spoken Sinitic languages, as well as their implications for society and culture. We will also discuss the artistic and technological aspects of the Chinese characters and the ongoing efforts to reform and simplify them. The use of sinographs in other East Asian countries than China will be taken into account. There are no prerequisites for this class.
Taught by: Mair
Course not offered every year
Also Offered As: EALC 223
Activity: Seminar
1 Course Unit

EALC 626 East Asian Funerary Arts
Study of tombs and tomb decoration of emperors and officials in China, Korea, and Japan from the pre-Buddhist era through the 19th century. Taught by: Steinhardt
Course usually offered in fall term
Also Offered As: EALC 226
Activity: Seminar
1 Course Unit

EALC 627 Chinese Painting
Study of Chinese painting and practice from the earliest pictorial representation through the late twentieth century. Painting styles are analyzed, but themes such as landscape and narrative are considered with regard to larger social, cultural, and historical issues. The class will pay particular attention to the construction of the concepts of the "artist" and "art criticism" and their impact on the field into the present. Visits to study paintings at the University of Pennsylvania Museum and Philadelphia Museum of Art.
Taught by: Steinhardt
One-term course offered either term
Also Offered As: ARTH 217, EALC 227
Activity: Lecture
1 Course Unit

EALC 628 Chinese Wall Painting
Survey of mural painting in temples and tombs from the earliest examples in the last BCE centuries through the Ming dynasty. The course examines paintings that have been uncovered in the last few years, as well as famous examples in China and in North American museums.
Taught by: Steinhardt
Course not offered every year
Also Offered As: EALC 228
Activity: Lecture
1 Course Unit

EALC 629 Chinese Architecture
Survey of Chinese buildings and building technology from the formative period in the second millennium B.C. through the twentieth century. The course will deal with well-known monuments such as the Buddhist monasteries of Wutai, imperial palaces in Chang'an and Beijing, the Ming tombs and the Temple of Heaven, and less frequently studied buildings. Also covered will be the theory and principles of Chinese construction.
Taught by: Steinhardt
One-term course offered either term
Also Offered As: ARCH 716, EALC 229
Activity: Lecture
1 Course Unit

EALC 630 Gender and Religion in China
This course examines gender in Chinese religious culture from ancient to contemporary times. We will explore topics including the Buddhist accommodation of Chinese family system, Chinese transformation of the bodhisattva Guanyin, female deities in Daoist and popular religious pantheons, writings about religious women, female ghosts and fox spirits in literary imagination and folk tales, and the significance of yin force in Chinese medicine and Daoist alchemy. Through the case of China, we will look at how gender plays critical and constitutive roles in religious traditions, and how religion can be used both to reinforce and to challenge gender norms.
Taught by: Cheng, H
Also Offered As: EALC 230, GWS 234, GWS 630, RELS 237, RELS 630
Activity: Seminar
1 Course Unit
EALC 632 Cultural Memory in Contemporary China
How is memory constructed and represented? What does society remember and/or forget? How and under what circumstances? How is it possible and/or impossible to bear witness? This course will examine notions of individual and collective memories, trauma, catastrophe, historical violence, post-socialist nostalgia, and amnesia, and explore the possibilities and impossibilities of remembering and forgetting in various forms of representation and cultural production in contemporary Chinese-speaking communities.
Course not offered every year
Also Offered As: EALC 232
Activity: Seminar
1 Course Unit

EALC 633 CHINESE AESTHETICS
Taught by: Goldin
Course not offered every year
Also Offered As: EALC 233
Activity: Lecture
1 Course Unit

EALC 634 Daoist Traditions
This course examines the history of various intellectual and religious traditions that came to be known as Daoist (or Taoist in the Wade-Giles Romanization). We will begin with a critical review of the twentieth-century reinvention of Daoism and the new classification of religious versus philosophical Daoism, before tracing chronologically the textual, institutional, and social history of Daoist traditions from the fourth century B.C.E. While familiarizing students with the key concepts, practices, and organizations developed in the history of Daoism, this class emphasizes the specific socio-political context of each of them. Throughout the course, we will think critically about the labeling of Daoist (as well as Confucian and Buddhist) in Chinese history and in modern scholarship. We will also question modern demarcations between philosophy, religion, and science, as well as that between the spiritual and the physical.
Taught by: Wang
Course not offered every year
Also Offered As: EALC 234, RELS 233, RELS 634
Activity: Seminar
1 Course Unit

EALC 639 Sex and Society in Ancient China
Ancient Chinese writers considered sexual activity to be an essential component of humanity, and that study of human sexuality to be essential to the study of human history. Sexuality constituted a fundamental source of imagery and categories that informed the classical Chinese conception of social, political, and military relationships. This course will survey the major sources dealing with sex and society in ancient China. There are no pre-requisites, and no knowledge of Chinese is presumed.
Taught by: Goldin
Course not offered every year
Also Offered As: EALC 239
Activity: Seminar
1 Course Unit

EALC 640 Early Chinese History
This seminar covers the span of Chinese history from the Bronze Age to the establishment of the empire in 221 B.C. No knowledge of Chinese is presumed, but EALC 001 (Introduction to Chinese Civilization) is a prerequisite. Graduate students who wish to enroll should meet with the instructor to discuss additional requirements for graduate credit.
Taught by: Goldin
Course usually offered in spring term
Also Offered As: EALC 240
Activity: Seminar
1 Course Unit

EALC 641 Law in Pre-Modern China
This course, intended for graduate students and advanced undergraduates, offers a survey of the sources and research problems of pre-modern Chinese law. For reasons to be examined in the course, traditional Sinological education has neglected law as a legitimate field of inquiry; consequently, the secondary literature is surprisingly meager. Our readings will take us from the Warring States Period to the Qing dynasty—an interval of over two millennia—and will cover several varieties of legal documents, including statutes, handbooks, court records, and theoretical treatises. All the readings will be in English, and no knowledge of Chinese is presumed. Graduate students should see the instructor to discuss requirement for graduate credit.
Taught by: Goldin
Course not offered every year
Also Offered As: EALC 241
Activity: Seminar
1 Course Unit

EALC 642 Medicine and Healing in China
This course explores Chinese medicine and healing culture, its diversity, and its change over time. We will discuss topics including the establishment of canonical medicine, Daoist approaches to healing and longevity, diverse views of the body and disease, the emergence of treatments for women, medical construction of sex difference and imagination of female sexuality, the thriving and decline of female healers, the identity of scholar physicians, the transmission of medical knowledge, domestic and cross-regional drug market, healer-patient relations, and new visions of traditional Chinese medicine in modern China.
Taught by: Cheng,H
Course not offered every year
Also Offered As: EALC 242
Activity: Lecture
1 Course Unit

EALC 643 PASTORALISM & MOBILITY
Taught by: Atwood
Also Offered As: EALC 243
Activity: Seminar
1 Course Unit
EALC 645 Popular Culture in Modern China
What constitutes Chinese popular culture in the modern age? How does popular culture contest and collaborate with modern Chinese literature in the formation of Chinese modernity? This course provides a comprehensive examination of modern Chinese popular culture in mainland China, Taiwan, Hong Kong, and other transnational Chinese communities in the past century. From film to literature, from opera to theatre, from music, vintage photographs, to comic books, this course will probe popular culture as it has manifested itself in the dynamic dialogue between high art and mass culture, and trace its sociopolitical, cultural, and aesthetic impact on modern China. Topics will include the sentimental education through reading popular romance as a new form of national pastime; the rise of Chinese pictorial journalism; the gender politics of cross-dressing in Beijing opera as a form of popular entertainment; neo-sensationalism and urban culture in modern Shanghai; the 1930-40s debate over popular and populist culture; the acoustic modernity of Chinese popular music; Maoist model operal and revolutionary melodrama; the cult of masculinity in Hong Kong martial arts fiction and cinema; cultural articulations in post-Maoist Chinese rock music; and the discourse of violence and body in Chinese youth subculture.
Course usually offered in spring term
Activity: Seminar
1 Course Unit

EALC 651 Readings in Classical Japanese I
Readings in classical texts drawn from the Heian, Kamakura, Muromachi, and Edo periods. Introduction to the different styles of classical Japanese, and to classical Japanese as a whole.
For BA Students: Advanced Language Course
Course usually offered in fall term
Also Offered As: EALC 251, JPAN 491
Prerequisite: JPAN 212 or equivalent
Activity: Lecture
1 Course Unit

EALC 652 Readings in Classical Japanese II
Readings in classical texts drawn from the Heian, Kamakura, Muromachi, and Edo periods. Introduction to the different styles of classical Japanese, and to classical Japanese as a whole.
Taught by: Chance
Course usually offered in spring term
Also Offered As: EALC 252, JPAN 492
Prerequisites: EALC 251/651/JPAN 491 or equivalent.
Activity: Lecture
1 Course Unit

EALC 653 The Politics of Shinto
Shinto-derived images and ideas frequently appear in Japanese anime and film, and journalists and academics frequently mobilize the term Shinto as a way of explaining Japan’s past or envisioning its future. The environmentalist left champions a green Shinto while Shinto-derived ideas serve as red meat for politicians pandering to Japan’s nationalist right. While the influential position Shinto occupies in Japanese sociopolitical life is therefore clear, the term Shinto itself is actually not. Depending on who one asks, Shinto is either the venerable indigenous religion of the Japanese archipelago, the irreducible core of Japanese culture, a tiny subset of Japanese Buddhism, an oppressive political ideology linked to the emperor system, an environmentalist ethic, or some combination of these. This course investigates the multifarious types of Shinto envisioned by these competing interest groups.
Taught by: Thomas, J.
Course not offered every year
Also Offered As: EALC 253
Activity: Lecture
1 Course Unit

EALC 654 Tales of the Heike
Our subject is Tale of the Heike, a multifaceted narrative of the twelfth-century battles that brought the Taira clan down and led to the establishment of Japan’s first military government. We will read the Heike tales with an eye toward how they fictionalize history and idealize certain types, most notably loyal women and warriors; the development of the warrior tale genre; central aspects of the Japanese ethos; and later works of literature based on episodes and characters from the Tale of the Heike. All material is in English translation. (Students of Japanese language may learn to read a famous section in the original.) There are no prerequisites.
Taught by: Chance, L
One-term course offered either term
Also Offered As: EALC 254
Activity: Seminar
1 Course Unit

EALC 655 Japanese Theater
Japan has one of the richest and most varied theatrical traditions in the world. In this course, we will examine Japanese theater in historical and comparative contexts. The readings and discussions will cover all areas of the theatrical experience (script, acting, stage design, costumes, music, audience). Audio-visual material will be used whenever appropriate and possible. The class will be conducted in English, with all English materials.
Taught by: Kano
One-term course offered either term
Also Offered As: EALC 255, GSWS 255, GSWS 654
Activity: Seminar
1 Course Unit
EALC 656 The Tale of Genji
“Crowning masterpiece of Japanese literature,” “the world’s first novel,” “fountainhead of Japanese literary and aesthetic culture,” “a great soap opera in the vein of Jacqueline Susann.” Readers over the centuries have praised the Tale of Genji, the monumental prose tale finished just after the year 1000, in a variety of ways. In this course we will read the latest English translation of Murasaki Shikibu’s work. We will watch as Genji loses his mother at a tender age, is cast out of the royal family, and begins a quest to fill the void she left. Along the way, Genji’s loyalty to all the women he encounters forges his reputation as the ideal lover. We will consider gender issues in the female author’s portrayal of this rake, and question the changing audience, from bored court women to censorious monks, from adoring nationalists to comic book adaptors. Study of the tale requires consideration of poetry, imagery, costume, music, history, religion, theater, political and material culture, all of which will be components of the course. We will also trace the effect of the tale’s many motifs, from flora and fauna to murderously jealous spirits, on later literature and conceptions of human emotions. All material is in English translation. There are no prerequisites.
Taught by: Chance, L.
One-term course offered either term
Also Offered As: EALC 256
Activity: Seminar
1 Course Unit

EALC 658 Japanese Architecture
An introduction to the visual, aesthetic, historical, religious, philosophical, and symbolic aspects of Japanese structures from earliest times to the mid-19th century. Through a discussion of shrines, temples, palaces, tombs, cities, and gardens the student will explore what makes Japanese architecture distinctive and how the traditions of Japanese architecture evolve over time.
Taught by: Steinhardt
Course not offered every year
Also Offered As: EALC 256, GSWS 259
Activity: Lecture
1 Course Unit

EALC 659 Gender and Sexuality in Japan
Taught by: Kano
Course not offered every year
Also Offered As: EALC 259, GSWS 259
Activity: Lecture
1 Course Unit

EALC 661 History of the Book in East Asia
Taught by: Chance/Davis
Also Offered As: EALC 260
Activity: Seminar
1 Course Unit

EALC 663 Topics in Japanese Thought
Course focuses on a few selected topics for close attention. Topic for 1995-96 will be examination of certain current social and ethical questions—for instance those having to do with organ transplantation, abortion, suicide, euthanasia, political corruption, and “openness” as a society. Readings will be on contemporary questions but include some pre-modern materials that influence the discussion.
Course not offered every year
Also Offered As: EALC 263
Activity: Seminar
1 Course Unit

EALC 664 Bandits, Pirates and Peasants: Lawlessness and Violence in Pre-Modern Japan
This course will be an exploration of premodern Japanese history through the lens of violence. The centuries under consideration (roughly, the eighth through nineteenth) were characterized by greatly varying levels of violence, both of the state-sanctioned variety (war, punishments for lawbreakers and political losers) and of the non-sanctioned variety (piracy, banditry, warrior and peasant rebellions). Examining a wide variety of translated sources, from diaries to chronicles, from legal codes to fiction, we shall examine the changing social, political, economic, and cultural contexts of violence, in order to interrogate not only why certain periods were remarkably peaceful while others were not, but also why violence took different forms in relation to different circumstances. We shall consider how contemporaries made sense of the violence that surrounded them (or didn’t) and how they divided the acceptable use of force from the wanton and society-threatening abuse of it. The course will feature presentations and several (very short) papers.
Course not offered every year
Also Offered As: EALC 264
Activity: Seminar
1 Course Unit

EALC 669 Japanese Buddhism
An introduction to the history and cultural role of Buddhism in Japan. Emphasis is on Buddhism as a component in the religious, intellectual, and cultural life of the Japanese, especially in poetry and the visual arts. Includes a short review of prior Buddhism in India and China.
One-term course offered either term
Also Offered As: EALC 269
Activity: Seminar
1 Course Unit

EALC 670 Shamans To Shoguns
Course not offered every year
Also Offered As: EALC 270
Activity: Lecture
1 Course Unit

EALC 691 Archaeology of Central Asia
A site by site investigation of Buddhist and non-Buddhist ruins in Central Asia. Included are Nisa, Khwarazm, Pyandzhikent, Khalchayan, Ay-Khanum, Bamiyan, Miran, Tumshuk, Kizil, Kucha, Khotan, Adzhina-Tepe, Khoocho, Khara-Khotai, and Bezeklik.
Taught by: Steinhardt
One-term course offered either term
Also Offered As: EALC 291
Activity: Seminar
1 Course Unit

EALC 701 Chinese Buddhist Texts
Seminar for graduate students focusing on the medieval period.
Taught by: Mair
Course not offered every year
Prerequisites: Knowledge of Classical Chinese required.
Activity: Seminar
1 Course Unit

EALC 710 Proseminar East Asia
Course not offered every year
Activity: Seminar
1 Course Unit
EALC 719 The East Asian Monastery
Taught by: Steinhardt
Course not offered every year
Activity: Seminar
1 Course Unit

EALC 720 Topics in Chinese Studies
Topics vary semester to semester
Taught by: Mair
Course not offered every year
Activity: Seminar
1 Course Unit

EALC 721 Advanced Classical Chinese I
Close reading and interpretation of texts in various styles of classical Chinese drawn from the Han, Wei, Tang, and Song periods. Focus on strengthening students' reading ability in classical Chinese. Attention to questions of style, rhetoric, and syntax.
Course not offered every year
Also Offered As: CHIN 721
Activity: Seminar
1 Course Unit

EALC 723 Early Vernacular Sinitic
Selected reading in mostly medieval Chinese texts.
Taught by: Mair
Course not offered every year
Activity: Seminar
1 Course Unit

EALC 725 Topics in East Asian Art
Course not offered every year
Activity: Seminar
1 Course Unit

EALC 727 Seminar in East Asian Architecture
Topic varies. Subjects have included The Chinese Monastery, Chinese Architecture in Shanxi Province, and Architecture in East Asian Painting.
Taught by: Steinhardt
One-term course offered either term
Prerequisites: Reading knowledge of Chinese.
Activity: Seminar
1 Course Unit

EALC 730 Survey Chinese History
One-term course offered either term
Activity: Seminar
1 Course Unit

EALC 731 Tang-Song Religious and Medical Texts
This seminar aims at developing the skill in reading religious and medical texts of a range of different genres from the Tang-Song period, including treatises in medical theory, no sological texts, recipe compilations, material medical, macrobiotic texts, Buddhist and Daoist meditation and ritual instructions, as well as case histories in anecdotal forms. There are a variety of topics we can choose to focus on the studying those texts, and the choice will be made on the students' on research interests. Each week we will look at one type of texts, consider its edition, textual history, chapter organization and genre (sometimes with background readings), read line-by-line a sample text assigned in advance, as well as sight-read short samples that students bring to class.
Course not offered every year
Prerequisites: At least one year Classical Chinese is required.
Activity: Seminar
1 Course Unit

EALC 733 Song Dynasty Texts
The goal of this course is to gain a practical ability in doing research concerning the Song dynasty by utilizing Chinese primary sources. Each session we will take a type of source, look at examples of it in the library, consider indexes and other reference aids, consider historiographical uses and limitations, and do some communal reading of a sample text distributed in advance, as well as sight-reading of short samples students bring to class, prepared to translate for the class. We will cover sources including standard histories (Song shi, Liao shi, Jin shi), narrative history (Xu zizhi tongjian changbian), biographical accounts (epitaphs, index of Song biographies), diaries, letters, inscriptions, anecdotes, regional histories/gazetteers, and government documents (Song hui yao).
Course not offered every year
Activity: Seminar
1 Course Unit

EALC 738 Religion & Ethnicity in Inner Asia
Taught by: Atwood
Activity: Seminar
1 Course Unit

EALC 740 Sinological Methods
This seminar is designed to acquaint graduate students with the basic methods and resources of Sino logical research. The course will begin with an overview of essential reference works and aids to study, such as dictionaries and concordances, and continue with a survey of the major primary sources for the study of traditional Chinese history. Students are required to demonstrate the use of the methods learned in the course in a research paper, to be presented to the class in the form of a brief lecture at the end of the semester. Only graduate students may enroll in this course. The prerequisites are reading knowledge of modern Chinese and two years of the classical language. Familiarity with Japanese, though not required, would prove helpful.
Taught by: Goldin
Course not offered every year
Activity: Seminar
1 Course Unit

EALC 745 TOPICS SONG DYNASTY HIST
Taught by: Vivier
Activity: Seminar
1 Course Unit
EALC 747 CHINESE ECONOMIC HISTORY
Taught by: Vivier
Activity: Seminar
1 Course Unit

EALC 749 Japanese for Sinologists
An accelerated course in scholarly Japanese for Sinologists and others with a knowledge of Chinese characters.
For BA Students: Advanced Language Course
Taught by: Chance, L
Course not offered every year
Prerequisites: Completion of JPAN 112 or the equivalent. Knowledge of Chinese characters.
Activity: Seminar
1 Course Unit

EALC 750 Japanese Literature: Research Methods in the Classical Tradition
Introduction to bibliographic tools for research in pre-modern literature. Emphasis on hands-on library work, including how to use libraries in Japan. Covers history and terminology of bibliography. Students may attend lectures in EALC 152/552 simultaneously, when offered. Final project will use reference tools for substantive research in individual student's area of interest.
Taught by: Chance
Course not offered every year
Activity: Seminar
1 Course Unit
Notes: Requires Japanese Language

EALC 752 Modern Japanese Literature and Culture
This seminar will focus on selected topics in modern Japanese literature and culture (Meiji to present day) varying from year to year. For advanced graduate students. Permission of instructor required.
Taught by: Kano
Course not offered every year
Activity: Seminar
1 Course Unit

EALC 754 No and Kyogen: Text and Context
Japan's classical theater will be closely read and investigated in terms of certain select literary, intellectual, and social issues of medieval Japan.
Course not offered every year
Prerequisite: EALC 552 or equivalent
Activity: Seminar
1 Course Unit

EALC 755 Literary Criticism and Theory in Japanese Literature
While the focus of this seminar will shift from year to year, the aim is to enable students to gain 1) a basic understanding of various theoretical approaches to literature, 2) familiarity with the histories and conventions of criticism, literary and otherwise, in Japan; 3) a few theoretical tools to think in complex ways about some of the most interesting and controversial issues of today, such as nationalism, imperialism, colonialism, postmodernity, and feminism, with particular focus on Japan's position in the world. The course is primarily intended for graduate students but is also open to advanced undergraduates with permission of the instructor. The course is taught in English, and all of the readings will be available in English translation. An optional discussion section may be arranged for those students who are able and willing to read and discuss materials in Japanese.
Taught by: Kano
Course not offered every year
Also Offered As: COML 685
Activity: Seminar
1 Course Unit

EALC 756 Readings in Pre-Modern Japanese Literature
Continued reading of texts chosen to accord with student interests. Materials may include calligraphic manuscripts and Edo period woodblock texts.
Taught by: Chance
Course not offered every year
Prerequisites: EALC 252 Readings in Classical Japanese II, or equivalent
Activity: Seminar
1 Course Unit

EALC 758 Teaching Methods in Japanese
A practicum for Teaching Fellows and others engaged in teaching Japanese language for the first time. It introduces various approaches to teaching foreign language and surveys current issues in second language acquisition, particularly with respect to the less commonly taught languages. Students write a paper based on their experiences in the classroom.
Taught by: Chance
Course not offered every year
Activity: Seminar
1 Course Unit
Notes: Requires Japanese Language

EALC 760 Japanese Religions
A broad survey of Japanese religions from ancient times to the present. Topics include kami worship, Buddhism, Shinto, Shugendo, Onmyodo,"new religions", and Japanese variants of Christianity and Islam. Students will make weekly presentations on reading material in class and will have two major written assignments. This course serves as preparation for a comprehensive exam in Japanese religions or for dissertation research on some aspect of Japanese religions.
Taught by: Thomas, J
Course not offered every year
Activity: Seminar
1 Course Unit

EALC 761 Readings in Japanese Religion
Course not offered every year
Activity: Seminar
1 Course Unit
EALC 762 Ethics and Aesthetics in East Asian Buddhism
Course not offered every year
Prerequisites: Knowledge of the Japanese or Chinese language.
Activity: Seminar
1 Course Unit

EALC 770 Japanese Bibliography and Problems of Research
Weekly sessions on the works of reference necessary for scholarly work in Japanese sources. Introduction to all main Japanese reference works in religion (Buddhism and Shintoism), government, literature, economics, etc. There are weekly assignments to be prepared in the library reference room. For advanced graduate students.
Course not offered every year
Prerequisite: JPAN 312 or equivalent
Activity: Seminar
1 Course Unit

EALC 771 Current Japanology
Major trends in scholarship as reflected in important recent publications, especially formative books and periodical literatures. The trajectory within certain disciplines as well as the interaction among them will be critically evaluated in terms of gains and losses. Implications of these theses in the planning of graduate and postgraduate research.
Course not offered every year
Also Offered As: GSWS 771
Prerequisite: Knowledge of reading Japanese
Activity: Lecture
1 Course Unit

EALC 772 Medieval Japan: Texts and Issues
Close readings of selected texts (poetry, drama, historical and religious texts) combined with discussions of major questions in current scholarship on medieval Japan. Guest scholars.
Course not offered every year
Prerequisites: Knowledge of classical Japanese required.
Activity: Seminar
1 Course Unit

EALC 773 Proseminar: Early Modern Japan
This course will examine in detail the Tokugawa, or Edo, period (1600-1868). In weekly class sessions, equal attention will be devoted to institutional (political, economic and social) issues on the one hand, and cultural (art, literature, theater and philosophy/religion) developments on the other. A period in which Japan enjoyed protracted peace and relative isolation from the outside world, Tokugawa Japan experienced tremendous changes across all sectors of society. While the changes were unsettling to Japan’s military rulers, they provided important preconditions for the subsequent modernization of Japan.
Taught by: Chance,F
Course not offered every year
Activity: Seminar
1 Course Unit
Notes: Offered through the College of General Studies MLA Program

EALC 775 SOURCES IN KOREAN STUDIES
This course offers a critical introduction to the methodology of studying about Korea, especially its history. In the past four decades, Korean history as a field has grown tremendously in depth and breadth, thanks to an increasing body of scholarship by Korean and non-Korean researchers alike. Although still lagging behind scholarship on China and Japan in quantity and diversity, enhanced richness of historiography on Korea has increased demand for an in-depth, methodological assessment of various interpretive approaches. Recognizing the nexus between historiography and its constantly changing social context, we will consider how historiography on Korea has evolved since the 1960s. Addressing these issues by focusing on kinship, status, ideology, and economy, this seminar searches for new approaches to studying about Korea in particular and, more broadly, East Asia.
Activity: Seminar
1 Course Unit

EALC 790 KOREAN STUDIES: METHODS
Topic varies year to year.
Activity: Seminar
1 Course Unit

Eastern European (EEUR)

EEUR 009 INTRO TO RUSSIA AND EURASIA: HISTORIES, CULTURES, SOCIETIES
This course is designed as a broad introduction to the study of Russia and Eurasia that will offer students a multi-disciplinary overview of the cultures, histories and societies of this large and diverse region of the world. It is organized in units that illustrate the approaches of various disciplines to the study of the region, including history, literary studies, cinema studies, art history, and social scientific inquiry. At the conclusion of the course, students will be acquainted with these various disciplinary frameworks and the differences between them, with the modes of analysis and writing that pertain to them, and with fundamental knowledge of the region. They will be prepared for further study of the region in a variety of programs of study, including the Russian and East European Studies major, for which the course serves as a foundation.
Taught by: Platt/Staff
Course usually offered in fall term
Also Offered As: RUSS 010
Activity: Lecture
1 Course Unit

EEUR 010 CENTRAL AND EASTERN EUROPE: CULTURES, HISTORIES, SOCIETIES
The reappearance of the concept of Central and Eastern Europe is one of the most fascinating results of the collapse of the Soviet empire. The course will provide an introduction into the study of this region - its cultures, histories, and societies - from the foundation of the Holy Roman Empire to the enlargement of the European Union. Students are encouraged to delve deeper into particular countries, disciplines, and sub-regions, such as Central Europe, Eastern Europe, and the Balkans, through an individual research paper and class presentations.
Taught by: Steiner/Orenstein/Verkholantsev
Course usually offered in spring term
Also Offered As: COML 010, RUSS 009
Activity: Lecture
1 Course Unit
Notes: This course is one of two required core courses for the Russian and East European Studies (REES) Major.
EEUR 121 Elementary Hungarian I
An introduction to the fundamentals of the Hungarian language, acquisition of conversational, readings and writing skills.
For BA Students: Language Course
Taught by: Mizsei
Two terms. student may enter either term.
Activity: Lecture
1 Course Unit
Notes: Offered through Penn Language Center.

EEUR 122 Elementary Hungarian II
Continuation of EEUR 121
For BA Students: Language Course
Taught by: Mizsei
Two terms. student may enter either term.
Prerequisite: EEUR 121 or placement
Activity: Lecture
1 Course Unit
Notes: Offered through Penn Language Center.

EEUR 123 Intermediate Hungarian I
Emphasis on vocabulary building, conversation and reading skills.
Grammar review.
For BA Students: Language Course
Taught by: Mizsei
Two terms. student may enter either term.
Prerequisite: EEUR 121-122 or placement
Activity: Lecture
1 Course Unit
Notes: Offered through the Penn Language Center

EEUR 124 Intermediate Hungarian II
Continuation of EEUR 123.
For BA Students: Last Language Course
Taught by: Mizsei
Two terms. student may enter either term.
Prerequisite: EEUR 121-123 or placement
Activity: Lecture
1 Course Unit
Notes: Offered through the Penn Language Center.

EEUR 125 Advanced Hungarian I
The basic aim is to enable students, independently or under the guidance of the teacher, to communicate in Hungarian and express their thoughts (orally or in writing) at an advanced level.
For BA Students: Advanced Language Course
Course not offered every year
Activity: Lecture
1 Course Unit
Notes: Offered through the Penn Language Center.

EEUR 126 Advanced Hungarian II
A continuation of EEURI Hungarian I
For BA Students: Advanced Language Course
Course not offered every year
Activity: Lecture
1 Course Unit
Notes: Offered through the Penn Language Center.

EEUR 135 Cold War: Global History
One-term course offered either term
Also Offered As: HIST 135, RUSS 135
Activity: Recitation
1 Course Unit

EEUR 152 Russia and Eastern Europe in International Affairs
Russia and the European Union (EU) are engaged in a battle for influence in Eastern Europe. EU foreign policy towards its Eastern neighbors is based on economic integration and the carrot of membership. With the application of this powerful incentive, Central and Southeastern European countries such as Poland, Hungary, the Czech Republic, and Croatia have progressed rapidly towards integration with the EU (and NATO). Yet, given Russia’s opposition to the further enlargement, membership is off the table for the large semi-Western powers such as Russia itself and Turkey and the smaller countries inhabiting an emerging buffer zone between Russia and the EU, such as Georgia, Ukraine, Azerbaijan, Moldova, and Belarus. These in-between countries find themselves subject to intense competition for influence between Eastern and Western powers. In this context, EU countries must balance their energy dependence on Russia and need for new markets and geopolitical stability with concern for human rights, democratic governance, and self-determination. What are the trade-offs implicit in the foreign policies of Russia, EU member states, and Eastern Europe? What are the best policy approaches? What are the main opportunities and obstacles?
For BA Students: Society Sector
Taught by: Orenstein
Course not offered every year
Also Offered As: PSCI 267, RUSS 123
Activity: Lecture
1 Course Unit

EEUR 153 COMMUNISM
The rise and fall of Communism dominated the history of the short twentieth century from the Russian revolution of 1917 to the collapse of the Soviet Union in 1991. As a system of government, Communism is more or less dead, but its utopian ideals of liberation from exploitation and want live on. Communism remains the one political-economic system that presented, for a time, an alternative to global capitalism. In this course, students will gain an introduction to socialist and Communist political thought and explore Communist political and economic regimes their successes and failures, critics and dissidents, efforts at reform, and causes of collapse. We will learn about the remnants of Communism in China, North Korea, and Cuba and efforts of contemporary theorists to imagine a future for Communism.
For BA Students: Society Sector
Taught by: Orenstein
Also Offered As: PSCI 144, RUSS 134
Activity: Lecture
1 Course Unit

EEUR 160 SEX AND SOCIALISM
This seminar examines classic and current scholarship and literature on gender and sexuality in contemporary Eastern Europe, and examines the dialogue and interchange of ideas between East and West. Although the scholarly and creative works will primarily investigate the changing status of women during the last three decades, the course will also look at changing constructions of masculinity and LGBT movements and communities in the former communist bloc. Topics will include: the woman question before 1989; gender and emerging nationalisms; visual representations in television and film; social movements; work; romance and intimacy; spirituality; and investigations into the constructed concepts of “freedom” and “human rights.”
Course not offered every year
Also Offered As: GWS 160, RUSS 160
Activity: Lecture
1 Course Unit
EEUR 164 Russian and East European Film from the October Revolution to World War II
This course presents the Russian contribution to world cinema before WWII - nationalization of the film industry in post revolutionary Russia, the creation of institutions of higher education in filmmaking, film theory, experimentation with the cinematic language, and the social and political reflex of cinema. Major themes and issues involve: the invention of montage, Kuleshov effect, the means of visual propaganda and the cinematic component to the communist cultural revolutions, party ideology and practices of social-engineering, cinematic response to the emergence of the totalitarian state. Great filmmaker and theorist in discussion include Vertov, Kuleshov, Eisenstein, Pudovkin, Medvedkin and others.
Taught by: Todorov
Also Offered As: CIMS 164, RUSS 164
Activity: Lecture
1 Course Unit

EEUR 165 Russian and East European Film after World War II
This course examines the Russian and East European contribution to world cinema after WWII - Stalinist aesthetics and desalinization, WWII in film, the installation of totalitarianism in Eastern Europe and the Cold War in film, the fall of the Berlin Wall, the collapse of the Soviet Union and the post-soviet condition, cinematic representations of Yugoslavia's violent breakup, the new Romanian waive. Major filmmakers in discussion include Kalatozov, Tarkovsky, Wajda, Polanski, Forman, Mentzel, Sabo, Kusturitsa, Konchalovsky, Mikhalkov and others.
Taught by: Todorov
Course not offered every year
Also Offered As: CIMS 165, RUSS 165
Activity: Lecture
1 Course Unit

EEUR 171 THE SOCIALIST CITY
This course will explore the ideology and politics of the socialist city in the Soviet Union, Eastern Europe, and the Second World. We will focus on how design professionals, politicians, and residents realized utopian socialist values in the face of national design traditions, local politics, and limited resources. Beginning with the Soviet case, the course will consider how planners and architects addressed modernization, multi-family housing, and neighborhood units in new city plans. We will consider capitals, like Moscow, as well as less well-known regional centers that had strong local identities, such as Tashkent, Belgrade, and Prague. We will examine the state’s use of public spaces for commemorations and preservationists’ reinterpretation of existing historic sites. In addition, we will consider how everyday residents experienced the socialist city, including its multi-family housing, shopping centers, and subway systems. We will address how citizens circumvented official state channels to obtain state housing and illegally build homes for themselves, sometimes in a folk style. The course will center on Soviet and East European cities, but also address socialist cities in Cuba and Africa whose design was influenced by transnational exchanges.
Taught by: Aplenc
Course not offered every year
Also Offered As: RUSS 171
Activity: Seminar
1 Course Unit

EEUR 199 Independent Study.
One-term course offered either term
Activity: Lecture
1 Course Unit

EEUR 265 Yiddish in Eastern Europe
This course presents the major trends in Yiddish literature and culture in Eastern Europe from the mid-19th century through World War II. Divided into four sections - "The Shtetl," "Religious vs. Secular Jews," "Language and Culture," and "Confronting Destruction" - this course will examine how Jews expressed the central aspects of their experience in Eastern Europe through history, literature (fiction, poetry, drama, memoir), film, and song.
Taught by: Hellerstein
Also Offered As: GRMN 265, GRMN 565, JWST 265, JWST 465
Activity: Lecture
1 Course Unit

EEUR 430 Nationalism and Ethnic Conflict in Film
This course studies the cinematic representation of civil wars, ethnic conflicts, nationalistic doctrines, and genocidal policies. The focus is on the violent developments that took place in Russia and on the Balkans after the collapse of the Soviet Bloc and were conditioned by the new geopolitical dynamics that the fall of communism had already created. We study media broadcasts, documentaries, feature films representing the Eastern, as well as the Western perspective. The films include masterpieces such as "Time of the Gypsies", "Underground", "Prisoner of the Mountains", "Before the Rain", "Behind Enemy Lines", and others.
Taught by: Todorov
Course not offered every year
Also Offered As: CIMS 430, RUSS 430
Activity: Seminar
1 Course Unit

Economics (ECON)

ECON 001 Introduction to Micro Economics
Introduction to economic analysis and its application. Theory of supply and demand, costs and revenues of the firm under perfect competition, monopoly and oligopoly, pricing of factors of production, income distribution, and theory of international trade. Econ 1 deals primarily with microeconomics.
For BA Students: Society Sector
One-term course offered either term
Activity: Recitation
1 Course Unit

ECON 002 Introductory Economics: Macro
Introduction to economic analysis and its application. An examination of a market economy to provide an understanding of how the size and composition of national output are determined. Elements of monetary and fiscal policy, international trade, economic development, and comparative economic systems.
For BA Students: Society Sector
One-term course offered either term
Prerequisite: ECON 001
Activity: Recitation
1 Course Unit
ECON 010 Introduction to Economics for Business
The first part of the course covers basic microeconomic concepts such as opportunity cost, comparative advantage, supply and demand, importance of costs and revenues under perfect competition vs. monopoly, externalities and public goods. The second part of the course introduces macroeconomic data, two models of the labor market, a model of the aggregate household, and the standard AD-AS model. The course concludes with an introduction to fiscal policy, banking, and the role of the Central Bank.
Course usually offered in fall term
Activity: Recitation
1 Course Unit
Notes: For Wharton students only

ECON 013 Strategic Reasoning
This course is about strategically interdependent decisions. In such situations, the outcome of your actions depends also on the actions of others. When making your choice, you have to think what the others will choose, who in turn are thinking what you will be choosing, and so on. Game Theory offers several concepts and insights for understanding such situations, and for making better strategic choices. This course will introduce and develop some basic ideas from game theory, using illustrations, applications, and cases drawn from business, economics, politics, sports, and even fiction and movies. Some interactive games will be played in class. There will be little formal theory, and the only prerequisites are some high-school algebra and having taken ECON 001. However, general numeracy (facility interpreting and doing numerical graphs, tables, and arithmetic calculations) is very important. This course will also be accepted by the Economics department as an Econ course, to be counted toward the minor in Economics (or as an Econ elective).
One-term course offered either term
Also Offered As: PPE 311
Prerequisites: ECON 001, some high school algebra
Activity: Lecture
1 Course Unit
Notes: This course may NOT be taken concurrently or after ECON 212.

ECON 014 American Capitalism
A broad overview of American economic history will be provided by focusing on the following topics: colonial trade patterns, the growth of the market economy, the political economy of slavery, industrial expansion, segmentation in the labor force and changes in work, technological and organizational innovations, business cycles, the rise of the corporate welfare state, the growth of monopoly capitalism, and current economic problems in historical perspective.
For BA Students: Society Sector
One-term course offered either term
Also Offered As: HIST 161
Prerequisites: ECON 001, 002 or ECON 010
Activity: Recitation
1 Course Unit

ECON 024 Development Economics
This course presents an overview of the field of development economics. The general aim is to show how economic analysis has been applied to issues related to developing countries. Among the topics covered are: income distribution, poverty, health, population growth, migration, growth, and the rural economy.
One-term course offered either term
Prerequisite: ECON 001 or ECON 010
Activity: Lecture
1 Course Unit
Notes: Students may NOT take ECON 024 and 261

ECON 028 Financial Meltdown, Past and Present
Economic history is increasingly recognized as a crucial source of policy advice and is invoked with growing frequency in public debates. In particular, the subprime crisis in 2008 and after has generated a demand for "historical perspective" that would improve the understanding of the causes of financial turmoil and facilitate the prevention of comparable catastrophes. This course begins with a review of the principal features of the subprime crisis of 2008 and asks, so to speak, "how did we get there?" It answers by providing historical insights that shed light on crucial aspects of financial disasters.
Taught by: Flandreau
One-term course offered either term
Also Offered As: HIST 131
Prerequisites: ECON 001, 002, or ECON 010
Activity: Lecture
1 Course Unit

ECON 030 Public Policy Analysis
This course provides an introduction to the economic method for analyzing public policy questions. It develops the implications of this method for the role of government in a market economy and for the analysis of specific public projects.
One-term course offered either term
Also Offered As: PPE 030
Prerequisites: ECON 001, 002 or ECON 010
Activity: Lecture
1 Course Unit
Notes: Credit cannot be received for both ECON 030 and 231.

ECON 032 Political Economy
This course examines the effects of strategic behavior on political outcomes and government policies. Topics and applications may include voting behavior, candidate competition, voting systems, social choice and welfare, policy divergence, redistributive policies and theories of political transitions.
One-term course offered either term
Prerequisites: ECON 001, 002, or ECON 010
Activity: Lecture
1 Course Unit
Notes: Credit will NOT be given for ECON 032 and ECON 232.

ECON 033 Labor Economics
The course begins with an extensive discussion of models of labor market demand and supply. The rest of the course addresses a variety of related topics including the school-to-work transition, job training, employee benefits, the role of labor unions, discrimination, workforce diversity, poverty, and public policy.
Course usually offered in spring term
Also Offered As: PPE 033
Prerequisite: ECON 001 or ECON 010
Activity: Lecture
1 Course Unit
Notes: Credit cannot be received for both ECON 033 and ECON 233.

ECON 035 Industrial Organization
Theories of various industrial organizational structures and problems are developed, including monopoly, oligopoly, moral hazard and adverse selection. These theories are then applied to the study of various industries, antitrust cases, and regulatory issues.
One-term course offered either term
Prerequisite: ECON 001 or ECON 010
Activity: Lecture
1 Course Unit
Notes: Credit cannot be received for both ECON 035 and 235.
ECON 036 Law and Economics
The relationship of economic principles to law and the use of economic analysis to study legal problems. Topics will include: property rights and intellectual property; analysis of antitrust and economic analysis of legal decision making.
One-term course offered either term
Also Offered As: PPE 036
Prerequisite: ECON 001 or ECON 010
Activity: Lecture
1 Course Unit
Notes: Credit cannot be received for both ECON 036 and ECON 234.

ECON 039 Economics and Financing of Health Care Delivery
Systematic and critical review of the present economic literature on the health care "industry". Topics include the demography and determinants of illness, the demand for curative and preventive care and determinants of recent health cost inflation, the efficacy of markets, and the role of government.
Course usually offered in fall term
Also Offered As: HCMG 202
Prerequisites: ECON 001 or ECON 010 or permission of instructor.
Activity: Lecture
1 Course Unit

ECON 050 International Economics
Introduction to the theory of international trade and international monetary economics. The theoretical background is used as a basis for discussion of policy issues. Patterns of international trade and production; gains from trade; tariffs, and impediments to trade; foreign exchange markets, balance of payments, capital flows, financial crises, coordination of monetary and fiscal policy in a global economy.
One-term course offered either term
Prerequisites: ECON 001, 002, or ECON 010
Activity: Lecture
1 Course Unit
Notes: ECON 050 is a one-semester course in international economics. Students wishing to study the subject in greater depth should take instead the two-semester sequence ECON 251, 252.

ECON 101 Intermediate Microeconomics
Theories of consumer behavior, demand, production, costs, the firm in various market contexts, factor employment, factor incomes, elementary general equilibrium, and welfare.
One-term course offered either term
Prerequisites: ECON 001, 002; MATH 104, 114 or MATH 115
Activity: Lecture
1 Course Unit
Notes: Note: Incoming freshmen with AP or transfer credit for ECON 001 and ECON 002, MUST complete MATH 104, MATH 114 or MATH 115 before enrolling in ECON 101. Upperclassmen must have at least a B+ in MATH 104 to take ECON 101 and MATH 114 or MATH 115 concurrently.

ECON 102 Intermediate Macroeconomics
Facts and theories about the determination of per capita income and its differences across countries and across time. The study of economic fluctuations in output and employment. The role of government in influencing these aggregate variables: monetary and fiscal policy.
One-term course offered either term
Prerequisites: ECON 001, 002, 101; MATH 104, 114 or MATH 115
Activity: Lecture
1 Course Unit
Notes: FNCE 101 does not satisfy any of the Economics department requirements. Therefore, students are required to take ECON 102.

ECON 103 Statistics for Economists
The course focuses on elementary probability and inferential statistical techniques. The course begins with a survey of basic descriptive statistics and data sources and then covers elementary probability theory, sampling, estimation, hypothesis testing, correlation, and regression. The course focuses on practical issues involved in the substantive interpretation of economic data using the techniques of statistical inference. For this reason empirical case studies that apply the techniques to real-life data are stressed and discussed throughout the course, and students are required to perform several statistical analyses of their own.
One-term course offered either term
Prerequisites: ECON 001, 002, or ECON 010; MATH 104, 114 or MATH 115
Activity: Lecture
1 Course Unit
Notes: Intended primarily for economics majors. ECON 103 cannot be taken by any student who has already completed Statistics at least at the level of STAT 430 (including the sequence STAT 430 and 431). Such students must take an additional 200-level course to satisfy course requirements of the major.

ECON 104 Econometrics
This course is designed to introduce students to econometric techniques and their applications in economic analysis and decision-making. The main objective of the course is to train the student in (i) handling economic data; (ii) quantitative analyses of economic models with probabilistic tools; (iii) econometric techniques, their application as well as their statistical and practical interpretation; (iv) implementing these techniques on a computer. Estimation and inference procedures are formally analyzed for simple econometric models and illustrated by empirical case studies using real-life data. The course covers linear regression models, simultaneous-equations models, discrete choice models and univariate time series models. Estimation and Inference is conducted using least squares and likelihood based techniques. Students are required to perform several econometric analyses of their own.
The course usually offered in spring term
Prerequisites: ECON 101, 103; MATH 104, MATH 114 or MATH 115 or permission from instructor.
Activity: Lecture
1 Course Unit

ECON 199 Independent Study
Individual study and research under the direction of a member of the Economics Department faculty. At a minimum, the student must write a major paper summarizing, unifying, and interpreting the results of the study. This is a one semester, one c.u. course.
One-term course offered either term
Prerequisites: ECON 101, 102, 103 or written permission from the Director of Independent Research. Please see the Undergraduate Coordinator in Economics (160 McNeil) for the appropriate sequence number.
**ECON 210 Economics of Family**
This course will use economic tools to explore decision making and allocation of resources within the family. The course will use both economic theory and econometric evidence to investigate these issues. The impact of gender roles and differences will be examined and the effect of these differences on economic decisions and outcomes both within and outside the family will be discussed. Student participation will be an integral part of the course. During class, students will be required to evaluate data and relate it to the theoretic model covered. Student participation will also include two in-class oral presentations. Students will be working with CWiC (Communication Within the Curriculum) as they work on these presentations.

Course not offered every year
Prerequisites: ECON 101; MATH 104, MATH 114 or MATH 115.
Activity: Lecture
1 Course Unit
Notes: In addition, any 200-level LPS course (Section 601), when offered, WILL NOT count for Economics Majors unless you are officially registered as an LPS student.

**ECON 211 Social Choice Theory**
This course investigates a topic which lies at the heart of economic, social and political sciences, namely the aggregation of individual preferences. Can a society as a whole exhibit preferences as individuals do? Can these preferences be based on individual ones, and show the same level of coherence? Which process can lead from individual preferences to the preferences of the society? At the end of the 18th century, the pioneers in the field already realized that mathematics is the only language powerful enough to make deep progress in the understanding of these questions. The formalization involves pure logic as well as geometry and combinatorics.

Course not offered every year
Prerequisites: ECON 101; MATH 104, 114 or MATH 115
Activity: Lecture
1 Course Unit
Notes: In addition, any 200-level evening course (Section 601), when offered, WILL NOT count for Economics Majors unless you are officially registered as an LPS student.

**ECON 212 Game Theory**
An introduction to game theory and its applications to economic analysis. The course will provide a theoretical overview of modern game theory, emphasizing common themes in the analysis of strategic behavior in different social science contexts. The economic applications will be drawn from different areas including trade, corporate strategy and public policy.

One-term course offered either term
Prerequisites: ECON 101; MATH 104, 114 or MATH 115
Activity: Lecture
1 Course Unit
Notes: Any 200-level LPS course when offered, WILL NOT count for Economics Majors unless you are officially registered as an LPS student.

**ECON 221 Econometric Forecasting**
This course provides a comprehensive introduction to forecasting in economics and business. Topics covered include statistical graphics, trends, seasonality, cycles, forecast construction, forecast evaluation and forecast combination.

One-term course offered either term
Prerequisites: ECON 101, 102, 103, 104; MATH 104, 114 or MATH 115
Activity: Lecture
1 Course Unit
Notes: In addition, any 200-level CGS course (Section 601), when offered, WILL NOT count for Economics Majors unless you are officially registered as an LPS student.

**ECON 222 Advanced Econometric Techniques and Applications**
This course introduces students to advanced study in econometrics, with an emphasis on methods used in microeconomic applications and in evaluating the effects of social interventions. The methods covered include methods for handling limited dependent variables (useful, for example, in forecasting the demand for a new good), maximum likelihood estimators, and flexible semiparametric and nonparametric estimation methods, and randomized and nonexperimental methods of estimating treatment effects. Applications of econometrics to the field of program evaluation will also be studied.

One-term course offered either term
Prerequisites: ECON 101, 104; MATH 104, 114 or MATH 115
Activity: Lecture
1 Course Unit
Notes: In addition, any 200-level LPS course, when offered WILL NOT count for Economics Majors unless you are officially registered as an LPS student.

**ECON 231 Public Finance**
This course has two parts. The first looks at market and government failures and discusses the need for public policies as well as limits to their effectiveness including the evaluation of public projects using cost benefit analysis. The second part focuses on the economic analysis of taxation, including the economic incidence and efficiency of taxes.

One-term course offered either term
Prerequisites: ECON 101; MATH 104, 114 or MATH 115; ECON 103 is recommended.
Activity: Lecture
1 Course Unit
Notes: Credit cannot be received for both ECON 030 and 231

**ECON 232 Political Economy**
This course examines the political and economic determinants of government policies. The course presents economic arguments for government action in the private economy. How government decides policies via simple majority voting, representative legislatures, and executive veto and agenda-setting politics will be studied. Applications include government spending and redistributive policies.

One-term course offered either term
Also Offered As: PPE 232
Prerequisites: ECON 101; MATH 104, 114 or MATH 115; ECON 103 is recommended.
Activity: Lecture
1 Course Unit
ECON 233 Labor Economics
Labor supply and labor demand, income distribution, labor market contracts and work incentives, human capital, labor market discrimination, job training and unemployment.
One-term course offered either term
Prerequisites: ECON 101; MATH 104, 114 or MATH 115; ECON 103 is recommended.
Activity: Lecture
1 Course Unit
Notes: Credit cannot be received for both ECON 033 and 233.

ECON 234 Law and Economics
This course will use basic microeconomic tools to understand how the law often, but not always, promotes economic efficiency. Among the areas to be discussed will be tort law, property law, intellectual property, antitrust regulation. The distinction between common law and legislative law will be drawn.
One-term course offered either term
Prerequisites: ECON 101; MATH 104, MATH 114 or MATH 115
Activity: Lecture
1 Course Unit
Notes: Credit cannot be received for both ECON 036 and 234.

ECON 235 Industrial Organization
Theories of various industrial organizational structures and problems are developed, including monopoly, oligopoly, nonlinear pricing and price discrimination. These theories are used to model various industries, antitrust cases, and regulatory issues.
One-term course offered either term
Prerequisites: ECON 101; MATH 104, MATH 114 or MATH 115; ECON 103 is recommended.
Activity: Lecture
1 Course Unit
Notes: Credit cannot be received for both ECON 035 and 235

ECON 236 Health Economics
In this course we will use the tools of microeconomics to analyze the functioning of the health care system. We will draw from the sub-disciplines of information economics, industrial organization, labor economics, public economics, and behavioral economics. The primary goal is to use these tools to develop a critical analysis of the functioning of the health care system as well as of the policies aimed at improving it. We will learn about US specific institutional details and policies (most notably the Affordable Care Act), and we will compare them to other important international experiences.
One-term course offered either term
Prerequisites: ECON101; MATH 104, 114 or MATH 115. Wharton students can satisfy the ECON 101 prerequisite with BEPP 250 honors. The regular BEPP 250 course does not count as a substitute for ECON 101.
Activity: Lecture
1 Course Unit
Notes: For ECON majors only. Intermediate Micro is a prerequisite and this course will use advanced quantitative methods.

ECON 241 Economic Growth
The purpose of this course is to examine the financing of governments in the urban economy. Topics to be covered include the causes and consequences of the urban fiscal crisis, the design of optimal tax and spending policies for local governments, funding of public infrastructures and the workings of the municipal bond market, privatization of government services, and public financial systems for emerging economies. Applications include analyses of recent fiscal crises, local services and taxes as important determinants of real estate prices, the infrastructure crisis, financing and the provision of public education, and fiscal constitutions for new democracies using South Africa as an example.
One-term course offered either term
Prerequisites: ECON 101, 102; MATH 104, 114 or MATH 115
Activity: Lecture
1 Course Unit

ECON 242 Topics in Macroeconomics
This course covers topics of interest in macroeconomics. Two sections are offered: Markets with Frictions. This course studies allocations in markets with frictions, as described by the difficulty in finding a trading partner, private information problems, commitment issues, and so on. Applications to labor markets, monetary economics, the marriage market will be discussed. The main technical tool will be search theory, but a liberal amount of calculus and other mathematics will be used. Numerical Methods for Macroeconomists. This course will study some of the numerical methods that are used in modern macroeconomics. This class will learn how to solve nonlinear equations, difference equations, interpolate functions, smooth data, and conduct Monte Carlo simulations on the computer. This will be done while studying economic problems, such as the determination of labor supply, economic growth and business cycle analysis. Calculus is an integral part of the course and some elementary probability theory will be drawn upon. The MATLAB programming language will be used.
One-term course offered either term
Prerequisites: ECON 101, 102; MATH 104, 114 or MATH 115
Activity: Lecture
1 Course Unit
ECON 243 Monetary and Fiscal Policies
This is an advanced course in macroeconomics. A relatively simple, but well defined and internally consistent model of the U.S. economy is set up and used to study how output is generated given the initial resources, how output is divided between consumption and addition to capital stock, and how this process accumulates over time. The role of prices including the rate of interest in this process is also reviewed, and monetary and fiscal policies needed to improve the performance of the economy under such circumstances are discussed.
One-term course offered either term
Prerequisites: ECON 101, 102; MATH 104, 114 or MATH 115. ECON 103 is recommended.
Activity: Lecture
1 Course Unit

ECON 244 Macro-Modeling
This is an advanced undergraduate course in models of economic growth. Students will be introduced to the workhorse theoretical models that are used to understand growth by modern macroeconomic researchers and policy makers. The types of questions that we will address include: Why are some countries richer than others? Why do some countries grow quickly while others stagnate? Why did modern economic growth start in Western Europe? What can governments do to accelerate economic growth? How does economic growth interact with demographic and geographic factors? We will build theoretical models that can be used to answer these questions. There will be a strong focus on emphasizing the microeconomic foundations of models, and using the language of mathematics to express the underlying assumptions and assess their implications for policy. Hence, there are strict mathematical prerequisites. We will also compare the predictions of our models with the data. Thus, a fair amount of econometrics will be required. A class in statistics and econometrics is highly recommended.
Course not offered every year
Prerequisites: ECON 101, 102; MATH 104, 114 or MATH 115. ECON 103 is recommended.
Activity: Lecture
1 Course Unit

ECON 246 Money and Banking
Money and Banking. This course studies the role that financial markets, institutions, and money play in resource allocation. Financial intermediation and the role of banks in the economic system are analyzed and the economic rationale behind banking regulation is studied. The course examines how monetary policy influences interest rates and asset markets, such as the bond market and the stock market. Finally, the instruments and goals of monetary policy are discussed, focusing in particular on credibility and commitment for central banks. All of the questions are explored analytically, using the tools of economic theory.
One-term course offered either term
Prerequisites: ECON 101, 102; MATH 104, 114 or MATH 115
Activity: Lecture
1 Course Unit

ECON 251 International Trade
Structure of the world economy; theory of international trade; economic growth and international trade; international trade policy; developed countries; developing countries. Direct investment, technology transfers, and the multinational firm.
One-term course offered either term
Prerequisites: ECON 101, 102; MATH 104, 114 or MATH 115
Activity: Lecture
1 Course Unit
Notes: In addition, the LPS 200-level course, when offered, WILL NOT count for Economics Majors unless you are officially registered as an LPS student.

ECON 252 International Finance
International monetary economics with emphasis on economic policy in an open economy. Topics covered in the course include: balance-of-payments adjustment, theories of exchange rate determination, the effects of exchange rate devaluation, macroeconomic policy under fixed and floating exchange rates, the Euro-dollar market, currency and balance of payments crises.
One-term course offered either term
Prerequisites: ECON 101, 102; MATH 104, 114 or MATH 115
Activity: Lecture
1 Course Unit
Notes: In addition, the LPS 200-level course, when offered, WILL NOT count for Economics Majors unless you are officially registered as an LPS student.

ECON 260 Decision Making Under Uncertainty
This course will show how individuals make decisions in a world full of uncertainties, both normatively and descriptively. This theory will help us build skills in understanding and analyzing a choice problem with uncertainty in a systematic fashion, as well as deepening our understanding of the fundamental concept of a utility function, which plays a critical role in economic modeling. The course requires a substantial ability of abstract thinking. Homework is intended to be thought-provoking rather than skill-sharpening.
Course not offered every year
Prerequisites: ECON 101, 103; MATH 104, 114 or MATH 115
Activity: Lecture
1 Course Unit
Notes: All prerequisites MUST be taken prior to enrolling in this course.

ECON 261 Topics in Development
This course studies institutions in developing economies. The first section of the course will cover the organization of production in traditional agrarian societies. Topics will include land, labor and credit markets. The second section of the course will focus on the role of the community in facilitating the transition to the modern market economy. Here we will study how the community spreads information, permits the formation of informal networks and organizes collective institutions, allowing individuals to take advantage of new economic opportunities.
Course not offered every year
Prerequisites: ECON 101; MATH 104, 114, or MATH 115. ECON 103 is recommended.
Activity: Lecture
1 Course Unit
Notes: Student may not receive credit for ECON 024 and ECON 261. In addition, the LPS 200-level course, when offered, WILL NOT count for Economics Majors unless you are officially registered as an LPS student.
ECON 262 Market Design
Traditionally, economics focuses on the study of existing markets. Recently, regulators, entrepreneurs and economists have been involved in the design of markets. They have created institutionalized markets for new products, and have redesigned existing markets that were dysfunctional. This course utilizes ideas from game theory and microeconomics to provide the theoretical underpinnings for design and analysis of such markets. Further, via real world examples, we study the practical aspects of such market design and the institutional details which can determine the success or failure of a design.
One-term course offered either term
Prerequisites: ECON 101, 103; MATH 104, 114 or MATH 115.
Activity: Lecture
1 Course Unit
Notes: The LPS 200-level evening course (Section 601), when offered, WILL NOT count for Economics Majors unless you are officially registered as an LPS student.

ECON 271 Foundations of Market Economies
This course will study the historical and intellectual forces behind the appearance of market economies on the world stage. The voyages of exploration undertaken by Europeans in the 15th and 16th century created, in just a few decades, a global economy. By 1600, silver from Mexico was exchanged in Manila for ceramics made in Nanjing (China). After a long trip through the Pacific, Mexico, and the Atlantic, the ceramics ended up in the tables of prosperous merchants in Bruges (modern day Belgium). How did this integrated global economy appear? How did global interconnections over the centuries shape our current world? How did markets emerge and influence these interconnections? Who were the winners of globalization? And who were the losers? How did economists, political scientists, and others think about the strengths and weakness of market economies? This course will explore these questions and the role that markets have played in it from the late 15th century to the present. Even if the economic theory will structure much of the discussion, insights from intellectual history, cultural history, microhistory, legal history, and institutional history will help to frame the main narrative. The course will be, as well, truly global. First, beyond the traditional focus of economic history courses on Europe and the Americas, particular attention will be devoted to Africa and Asia. Second, the priority will be to highlight the interconnections between the different regions and to understand how the people living in them negotiated the opportunities and tensions created by the economic transformations triggered by globalization and how they conceptualized the changing lives around them. Finally, the class will highlight how diverse intellectual traditions handled the challenges presented by historical change.
One-term course offered either term
Prerequisites: ECON 101; MATH 104, 114 or MATH 115
Activity: Lecture
1 Course Unit

ECON 272 China: Inst. & the Econ
The rise of China since its economic reform starting from 1978 is one of the most important developments the world witnessed in the twenty first century. In this seminar course, we explore topics including the political logic of China’s economic reform, the institutional foundations of the Chinese economic growth miracle, as well as detailed analysis of Chinese financial markets, housing markets, fiscal reform, corruption/anti-corruption, labor market transitions, China’s integration into the world economy, village democracy and its impact on resource allocation, the impact of population ageing, the impact of China on US economy and politics, among others. The discussions will focus on China, but will relate broadly to emerging and developed economies. The course will be based on reading and discussing research articles and books selected by the instructors.
Prerequisites: ECON 101; MATH 104, 114 or MATH 115. ECON 103 recommended. PSCI majors PSCI 110 recommended.
Activity: Lecture
1 Course Unit

ECON 300 Honors Seminar
Students prepare an honors thesis in economics over the academic year, supervised by a faculty member of their choice. In both semesters students present their work in progress to the class. Any student intending to do empirical work in the thesis should have completed ECON 103 and ECON 104.
Two terms. student must enter first term.
Prerequisites: ECON 101, 102, 103, 104, and two 200-level courses; MATH 104, 114. GPA of at least 3.5 in Economics and permission of the instructor.
Activity: Seminar
1 Course Unit
Notes: Course meets weekly. Required of all honors majors.

ECON 681 Microeconomic Theory
Basic tools of microeconomic theory: consumer choice, firm behavior, partial and general equilibrium theory. This is a more theoretical treatment of the basic tools of microeconomic analysis than ECON 680.
Course usually offered in fall term
Prerequisites: Equivalent of ECON 101; meeting the department's minimal mathematical requirements; or permission of instructor.
Activity: Lecture
1 Course Unit

ECON 682 Game Theory and Applications.
A graduate level introduction to decision making under uncertainty, applied game theory, and information economics.
Course usually offered in spring term
Prerequisites: ECON 680 or 681.
Activity: Lecture
1 Course Unit

ECON 700 Intro to Micro Theory
Utility theory and basic choice under uncertainty, consumer and producer theory.
Course usually offered in fall term
Activity: Lecture
0.5 Course Units
ECON 701 Microeconomic Theory I
Nonlinear programming, theory of the consumer and producer, general equilibrium.
Course usually offered in fall term
Prerequisites: Meeting the Department's minimal mathematical requirements, ECON 897 Summer Math Program.
Activity: Lecture
1 Course Unit

ECON 702 Macroeconomic Theory I
Dynamic programming, search theory, neoclassical growth theory, asset pricing, business cycles.
Course usually offered in spring term
Prerequisites: Meeting the Department's minimal mathematical requirements; ECON 700, 701, 703, 897 Summer Math Program
Activity: Lecture
1 Course Unit

ECON 703 Microeconomic Theory II
Game theory, decision making under uncertainty, information economics.
Course usually offered in fall term
Prerequisites: Meeting the Department's minimal mathematical requirements, ECON 897 Summer Math Program
Activity: Lecture
1 Course Unit

ECON 704 Macroeconomic Theory II
Course usually offered in spring term
Prerequisites: Meeting the Department's minimal mathematical requirements; ECON 700, 701, 703, 897 Summer Math Program
Activity: Lecture
1 Course Unit

ECON 705 Econometrics I: Fundamentals
Violations of classical linear regression assumptions, nonlinear regression models (including logit, probit, etc.), diagnostic testing, distributed lag models, panel data models, identification, linear simultaneous-equations model.
Course usually offered in fall term
Prerequisites: Meeting the Department's minimal mathematical requirements, ECON 897 Summer Math Program.
Activity: Lecture
1 Course Unit

ECON 706 Econometrics II: Methods & Models
Analysis in time and frequency domains, state space representations, Kalman filtering, conditional heteroskedasticity, nonlinear and nonparametric methods for time series, integration, co-integration, numerical and simulation techniques.
Course usually offered in spring term
Prerequisites: Meeting the department's minimal mathematical requirements; ECON 705, 897 Summer Math Program.
Activity: Lecture
1 Course Unit

ECON 708 The Economics of Agency, Information, and Incentives
This course studies the economics of adverse selection and moral hazard in strategic settings. The primary focus is on the agency relationship and the structure of agency contracts. Other settings include auctions, bilateral trading, and the internal organization of the firm.
One-term course offered either term
Prerequisites: Meeting the Department's minimal mathematical requirements; ECON 898 or equivalents.
Activity: Lecture
0.5 Course Units

ECON 712 Topics in Advanced Economic Theory and Mathematical Economics
Topics and prerequisites announced each year.
One-term course offered either term
Activity: Lecture
1 Course Unit

ECON 713 Game Theory
A rigorous introduction to the concepts, tools, and techniques of the theory of games, with emphasis on those parts of the theory that are of particular importance in economics. Topics include games in normal and extensive form, Nash equilibrium, games of incomplete information and Bayesian equilibrium, signaling games, and repeated games.
One-term course offered either term
Prerequisites: ECON 701, 703
Activity: Lecture
1 Course Unit

ECON 714 Quantitative Macroeconomic Theory
One-term course offered either term
Prerequisites: ECON 702, 704
Activity: Lecture
1 Course Unit

ECON 716 Equilibrium Theory
This course covers various topics in equilibrium theory (broadly conceived as the analysis of any model in which the collective outcome of individual actions in an economic - or, even more generally, social setting is described by a system of equations). In recent years the focus has been on the theory of equilibrium in a competitive setting when financial markets are "imperfect" for example, when there are an incomplete set of financial markets, or when households' transactions on financial markets are restricted by various conventions or institutions.
One-term course offered either term
Activity: Lecture
1 Course Unit
Notes: The course relies heavily on material covered in Microeconomic Theory I (ECON 701).

ECON 719 Economic Theory
One-term course offered either term
Activity: Seminar
1 Course Unit
Notes: Related Courses: ECON 712
ECON 721 Econometrics III: Advanced Techniques of Cross-Section Econometrics
Qualitative response models, panel data, censoring, truncation, selection bias, errors in variables, latent variable models, survey design, advanced techniques of semiparametric estimation and inference in cross-sectional environments. Disequilibrium models. Methods of simulated moments.
One-term course offered either term
Prerequisites: ECON 705 and 706.
Activity: Lecture
1 Course Unit

ECON 722 Econometrics IV: Advanced Techniques of Time-Series Econometrics
Consistency and asymptotic normality for m-estimator and for generalized moment estimators. Asymptotics for integrated and cointegrated time-series. Inference in presence of nuisance parameters identified only under the alternative: consistent moment tests, testing for threshold effects, testing for structural breaks. Estimation of stochastic differential equations from discrete observations: simulated method of moments, indirect inference. Discrete time GARCH models and their continuous limits.
One-term course offered either term
Prerequisites: ECON 705 and 706.
Activity: Lecture
0.5 Course Units

ECON 729 Econometrics
One-term course offered either term
Activity: Seminar
1 Course Unit
Notes: Related Courses: ECON 721 and 722

ECON 730 International Trade Theory and Policy
Pure theory of international trade, commercial policy, and trade.
One-term course offered either term
Prerequisites: ECON 701 and 702.
Activity: Lecture
1 Course Unit

ECON 731 International Monetary Theory and Policy
Balance of payments, international capital movements, and foreign exchange examined against a background of current theories and policies.
One-term course offered either term
Prerequisites: ECON 701 and 702
Activity: Lecture
1 Course Unit

ECON 739 International Economics
One-term course offered either term
Activity: Seminar
1 Course Unit
Notes: Related Courses: ECON 730 and 731

ECON 740 Monetary Economics
The role of money as a medium of exchange and as an asset. Models of the demand for money.
One-term course offered either term
Prerequisites: ECON 703, 704, 705, 706
Activity: Lecture
1 Course Unit

ECON 741 Economic Growth
Theories of economic growth and their quantitative implications.
One-term course offered either term
Prerequisites: ECON 701, 702
Activity: Lecture
1 Course Unit

ECON 749 Monetary Economics
One-term course offered either term
Activity: Seminar
1 Course Unit
Notes: Related Courses: ECON 740, 741

ECON 750 Public Economics
Public goods, externalities, uncertainty, and income redistribution as sources of market failures; private market and collective choice models as possible correcting mechanisms. Microeconomic theories of taxation and political models affecting economic variables.
One-term course offered either term
Prerequisites: ECON 701, 703
Activity: Lecture
0.5 Course Units

ECON 751 Public Economics II
Expenditures: Alternative theories of public choice; transfers to the poor; transfers to special interests and rent seeking; social insurance; publicly provided private goods; public production and bureaucracy. Taxation: Tax incidence in partial and general equilibrium; excess burden analysis. Topics on tax incidence and efficiency: lifetime incidence and excess burden, dynamic incidence, the open economy. Normative theories of taxation: Optimal commodity and income taxation. The political economy of income taxation.
One-term course offered either term
Prerequisites: ECON 701, 703
Activity: Lecture
0.5 Course Units

ECON 753 Macroeconomic Policy
A review of alternative theories of growth and business cycles, and their relevance for recent history of selected industrialized countries. Fiscal and monetary policy in a dynamic setting and their application to current policy issues.
One-term course offered either term
Prerequisite: ECON 702
Activity: Lecture
1 Course Unit

ECON 759 Political Economy
One-term course offered either term
Activity: Seminar
1 Course Unit
Notes: Related Courses: ECON 750, 751

ECON 760 Development Economics: Basic Micro Topics
Analysis of selected topics in economic development related to household/firm (farm) behavior, including determinants of and the impact of human resources, contractual arrangements in land, labor and credit markets, investment and savings. Emphasis on tractable modeling that leads to integrated analysis given available data.
One-term course offered either term
Prerequisites: ECON 701, 705, or permission of instructor
Activity: Lecture
1 Course Unit
ECON 769 Economic Development Workshop
Forum at which visiting speakers, Penn faculty, and graduate students present research ideas.
One-term course offered either term
Activity: Seminar
1 Course Unit
Notes: Related Courses: ECON 760, 761, 791

ECON 779 Comparative Economic Systems
One-term course offered either term
Activity: Seminar
1 Course Unit
Notes: Related Courses: ECON 770, 771

ECON 780 Industrial Organization
Development of microeconomic models to explain the structure and performance of markets. Among other topics: the conditions under which monopoly power can be exercised, the relationship between profit rates and concentration or size, the persistence of profits over time, industry turnover and interindustry comparisons.
One-term course offered either term
Prerequisite: ECON 701
Activity: Lecture
1 Course Unit

ECON 781 Empirical Methods for Industrial Organization
The goal of the course is to explore links between theory and data in order to identify and test implications of economic models. Reduced form and structural approaches will be used to study a variety of topics that include: Estimation of multiproduct cost functions; detection of collusion, multimarket contact, and network externalities; asymmetric information: auctions and nonlinear pricing; price competition and product differentiation; and complementarities: innovation and organizational design.
One-term course offered either term
Prerequisite: ECON 780
Activity: Lecture
1 Course Unit

ECON 785 Selected Topics in Industrial Organization
The course will cover topics in oligopolistic competition, product selection, the operation of markets under imperfect information and related subjects.
One-term course offered either term
Prerequisite: ECON 701
Activity: Lecture
1 Course Unit

ECON 789 Applied Microeconomics Workshop
One-term course offered either term
Activity: Seminar
1 Course Unit
Notes: Related Courses: ECON 780, 781

ECON 791 Economic and Demographic Interrelations
Application of economics to the analysis of demographic behaviors and processes including fertility, mortality, health, marriage and migration. Focus is on the development and testing of models of household behavior using econometric tools. Consideration is also given to the economic consequences of population growth.
Course not offered every year
Also Offered As: DEMG 796, SOCI 796
Prerequisites: Microeconomic theory and econometrics at the graduate or advanced undergraduate level, or permission of instructor.
Activity: Lecture
1 Course Unit

ECON 792 Economics of Labor I
Topics include: Theories of the supply and demand for labor, wage determination, wage differentials, labor market discrimination, unemployment, occupational choice and dynamics of specific labor markets, theory of matching, trade unions. The theory and empirics of human capital accumulation, intertemporal labor supply, search, intergenerational mobility of income and wealth, contracts and bargaining, efficiency wage models, principal/agent models, and signaling models.
One-term course offered either term
Prerequisites: ECON 701, 703, 705, 706, 721
Activity: Lecture
1 Course Unit

ECON 793 Economics of Labor II
A continuation of ECON 792.
One-term course offered either term
Prerequisites: ECON 721, 792
Activity: Lecture
0.5 Course Units

ECON 799 Empirical Microeconomics
One-term course offered either term
Activity: Seminar
1 Course Unit
Notes: Related Courses: ECON 791, 792, 793

ECON 980 Topics in Economics
Topics and prerequisites announced when course is offered.
Course not offered every year
Activity: Lecture
1 Course Unit

ECON 982 Topics in Econometrics
Topics and prerequisites announced when course is offered.
One-term course offered either term
Activity: Lecture
1 Course Unit

ECON 983 Topics in Microeconomics
Topics and prerequisites announced when course is offered.
One-term course offered either term
Activity: Lecture
1 Course Unit

ECON 984 Topics in Macroeconomics
Topics and prerequisites announced when course is offered.
One-term course offered either term
Activity: Lecture
1 Course Unit
**EDUC 202 Urban Education**
Course usually offered in spring term
Also Offered As: URBS 202
Activity: Seminar
1 Course Unit

**EDUC 235 Psychology of Women**
Critical analyses of the psychological theories of female development, and introduction to feminist scholarship on gender development and sexuality.
One-term course offered either term
Also Offered As: GSWS 235
Activity: Lecture
1 Course Unit

**EDUC 240 Education in American Culture**
This course explores the relationships between forms of cultural production and transmission (schooling, family and community socialization, peer group subcultures and media representations) and relations of inequality in American society. Working with a broad definition of "education" as varied forms of social learning, we will concentrate particularly on the cultural processes that produce as well as potentially transform class, race, ethnic and gender differences and identities. From this vantage point, we will then consider the role that schools can and/or should play in challenging inequalities in America.
One-term course offered either term
Activity: Lecture
1 Course Unit

**EDUC 241 Educational Psychology**
Current issues and research, applying psychological theory to educational practice. As such, this course will explore the fundamental themes in behavioral, developmental, and cognitive areas of psychology as they relate to education. Topics include: learning, motivation, growth and development, cognitive processes, intelligence tests, measurements, evaluations, etc.
One-term course offered either term
Activity: Lecture
1 Course Unit

**EDUC 250 Learning from Children**
This course is about looking at elementary school classrooms and understanding children's experiences of school from a variety of perspectives, and from a variety of theoretical and methodological lenses from which the student can interpret children's educational experiences. This course is about developing the skills of observation, reflection, and analysis and to begin to examine some implications for curriculum, teaching and schooling. This course requires you to spend time in an elementary school classroom.
One-term course offered either term
Activity: Lecture
1 Course Unit
EDUC 414 Children’s Literature
Theoretical and practical aspects of the study of literature for children. Students develop both wide familiarity with children’s books, and understanding of how children’s literature fits into the elementary school curriculum.
Course usually offered in fall term
Activity: Lecture
1 Course Unit

EDUC 417 Reading/Language Arts in the Elementary School
Second of a two-part course (see EDUC 317). The course focuses on the reading process, using literature in the reading curriculum, language and cultural difference in the classroom, and evaluating reading/language arts programs and progress. Students design and carry out reading lessons and units, conduct informal reading assessments, and participate in in-class seminars.
Course usually offered in fall term
Prerequisites: EDUC 316, 317
Corequisites: EDUC 419, 420
Activity: Lecture
1 Course Unit
Notes: This course is open only to students officially admitted to the program for preparation of elementary school teachers.

EDUC 418 Teaching and Learning Mathematics in Elementary Schools
Students participating in this course will explore definitions of mathematics, theories of children’s mathematical learning, and issues of reform in mathematics education through consideration of relevant content areas such as numeration, rational number operations, geometry, and probability and statistics.
Course usually offered in fall term
Activity: Lecture
1 Course Unit

EDUC 421 Science in Elementary and Middle Schools
An intensive approach to current methods, curricula, and trends in teaching science as basic learning, K-8. "Hands-on" activities based on cogent, current philosophical and psychological theories including: S/T/S and gender issues. Focus on skill development in critical thinking. Content areas: living things, the physical universe, and interacting ecosystems.
Course usually offered in spring term
Also Offered As: ENVS 421
Activity: Lecture
1 Course Unit

EDUC 501 Economics of Education in Developing Countries
This is a course on economics of education, a field within the subject of economics that draws upon many areas of economic specialization. The course focuses on developing countries and includes papers and case-studies covering themes such as returns to investment in education, production, costs and financing of education, teacher labor markets, economic growth, education markets, and equity issues.
Taught by: Thapa
Activity: Seminar
1 Course Unit

EDUC 502 Citizen Sociolinguistics
In this course we will draw on the Internet and daily news (internet circulated, usually) to find "Citizen Sociolinguists" who speak with authority, while juxtaposing these media with the usual scholarly sources.
Taught by: Rymes
Course usually offered in spring term
Activity: Seminar
1 Course Unit

EDUC 503 Global Citizenship
This course examines the possibilities and limitations of conceiving of and realizing citizenship on a global scale. Readings, guest lecturers, and discussions will focus on dilemmas associated with addressing issues that transcend national boundaries. In particular, the course compares global/local dynamics that emerge across different types of improvement efforts focusing on distinctive institutions and social domains, including: educational development; human rights; humanitarian aid; free trade; micro-finance initiatives; and the global environmental movement. The course has two objectives: to explore research and theoretical work related to global citizenship, social engagement, and international development; and to discuss ethical and practical issues that emerge in the local contexts where development initiatives are implemented.
Taught by: Hall
Course usually offered in spring term
Also Offered As: ANTH 546, URBS 546
Activity: Seminar
1 Course Unit

EDUC 504 Contemporary Issues in Higher Education
An introduction to the central issues and management problems in contemporary American higher education.
Course usually offered in spring term
Activity: Lecture
1 Course Unit

EDUC 505 Globalization & the University
The aim of this course is to help students understand the basic concept of globalization, how it impacts higher education in general, and how it shapes the global market for human capital and fosters private sector and for profit provision and diversifies modes of delivery of higher education. The seminars cover the nature of globalization and the way it affects the movement of people between economies to gain and apply skills and knowledge, the creation of branch campuses, the growth of transnational education and the importance of brands and information in the global higher education market.
Taught by: Ghaffar-Kucher
Course usually offered in spring term
Activity: Seminar
1 Course Unit

EDUC 506 Global Perspectives on Inequalities in Education
This course provides a conceptual framework for understanding various dimensions of inequality. Through country case studies, the course takes a global perspective to explore how conceptions of equality, equity, quality, and opportunity intersect with issues around race, class, and gender, and inform debates around educational policy and practice.
Taught by: Ghaffar-Kucher
Course usually offered in spring term
Activity: Seminar
1 Course Unit

EDUC 507 Sociology of Language
This course examines the intersection of language and society, asking how language ideologies might be implicated in the construction and maintenance of such constructs as national identity, 'standard' language variety, race, and ethnicity. Through theoretical readings and case studies, participants will question how particular linguistic situations give rise to certain institutional practices and probe how these practices might foster inequitable relations of power.
Taught by: Pomerantz
Course not offered every year
Activity: Lecture
1 Course Unit
EDUC 510 Democratizing Higher Education Participation
The aim of this course is to examine how public policy has shaped and been shaped by higher education in different political and economic settings. Seminars will examine themes such as access and equity in higher education participation, the role of higher education in economic development and nation building, and how higher education can promote democracy and an enlightened citizenry.
Taught by: Ruby,A
Course usually offered in spring term
Activity: Seminar
1 Course Unit

EDUC 511 Equality
'All men (or all humans) are created equal': What does this statement mean? What are we all equal in? What should we be equal in? Do we have equal potential, equal dignity, equal worth? Must we have equal resources, equal opportunities, equal status? In this class we will consider philosophical and political approaches to the idea of equality. The education system's ability and commitment to respond to claims of equality will be discussed. Must we treat all children the same? Or each child differently? And if the latter, how does that constitute equality? Moreover, must we treat individuals or groups equally? Educational and philosophical answers to these questions will be the focus of this seminar.
Taught by: Ben-Porath
One-term course offered either term
Activity: Seminar
1 Course Unit

EDUC 512 University-Community Partnerships
Ranging from civic engagement to economic development, institutions of higher education in the United States have long been involved in a variety of relationships with their local communities; in recent years, there has been increasing attention paid to the opportunities and challenges implicit in those relationships. In this Academically Based Community Service (ABCS) course, students will study and discuss the history, rationales, and manifestations of the partnerships that have developed. Through readings, faculty-and student-led discussions, guest lecturers, and policy-oriented projects, students will develop better understandings of the many topics surrounding university-community partnership activities. Among other themes we will consider institutional roles and relationships, service learning, community perspectives, policy issues, and evaluation.
Taught by: Grossman
Course usually offered in spring term
Activity: Lecture
1 Course Unit

EDUC 513 Development of the Young Child
This course will blend an explanatory and descriptive account of behavioral evolution over the yearly years of life. After a review of "grand" developmental theory and the major themes of child change (from images to representation; from dependence to independence; from instinctual to social beings), this course will survey the child's passage from infancy through the early school years. While the emphasis will be on the nature of the child—what she/he sees, feels, thinks, fantasizes, wants and loves—these realities will be understood in terms of developmental theory. At each stage, the course will review the development of cognition, personal identity, socialization, and morality in pluralistic contexts.
Taught by: Goodman
Two terms. student may enter either term.
Activity: Lecture
1 Course Unit

EDUC 514 Education in Developing Countries
In recent years the construct of "global development" has come under increasing scrutiny, leading some scholars and practitioners to wonder whether development remains a useful concept. In this course, we will actively engage in this debate through a survey of the development literature in the field of education. We will examine theoretical frameworks and historical perspectives that will allow us to develop a better understanding of what is meant by "development" as well as recognize how these concepts relate to basic educational planning and practice in various international contexts. The course will work from primary and secondary materials on theories, research, and applications used to promote global development and basic education. Some programs are carried out by multinational/bilateral agencies such as World Bank, Unicef, UNESCO, and USAID, while others are undertaken by intermediary organizations (such as NGOs and universities) and local organizations or individual specialists. Issues include a range of social, economic and political obstacles to the provision of quality education. The goal of this course is to improve your understanding of how different theories of education and development influence educational policy, priorities, and programs of international, national, and local institutions.
Taught by: Wagner/Ghaffer-Kucher
Prerequisites: Prior graduate work in related areas recommended.
Activity: Lecture
1 Course Unit

EDUC 515 Field Seminar (Elementary & Secondary Education)
This seminar is designed to integrate student teaching fieldwork and university course work through reading, discussion, and reflection. Central to this course will be teacher research, an inquiry stance toward learning how to teach, and a social justice approach to education. Throughout the semester, we will be examining a range of issues through theoretical and practice-oriented lenses that will deepen our understanding of teaching and learning. Offered within the Teacher Education Program.
Activity: Lecture
3 Course Units
EDUC 516 Teaching Writing in Multilingual Contexts
This course introduces participants to a range of theoretical and practical issues related to second language literacy development, with a particular emphasis on writing instruction. An intensive service-learning project offers course participants the opportunity to work with developing writers in a bilingual community organization. The dual emphasis on theory and pedagogy is intended to create space for critical reflection on the characteristics, production, teaching, and assessment of written texts in bi/multilingual educational settings.
Taught by: Pomerantz
Course usually offered in fall term
Activity: Lecture
1 Course Unit

EDUC 517 Classroom Discourse and Interaction
In this course students will read research that investigates the role of classroom interaction in learning and human development. Students will also learn how to "do" discourse analysis using real classroom data. Students will practice and critique methods for analyzing classroom discourse data as teachers, with an aim of developing a critical awareness of our own language use and role in society.
Taught by: Rymes
Course usually offered in spring term
Activity: Lecture
1 Course Unit

EDUC 518 Authority, Freedom, and Disciplinary Policies
The course concentrates on the nature and justification of discipline. In particular, we focus on how discipline becomes the expression of twin but conflicting premises of education: that children should be encouraged to develop their critical intellectual capacities and autonomous decision-making – read freedom; that these ends cannot be achieved without the direction and control of teachers – read authority. Students read classical works on freedom and authority (John Stuart Mill, Isaiah Berlin, Emile Durkheim, John Dewey, C.S.Lewis) as well as more contemporary ones. In class we look at video clips of different practices and discuss readings. Every student selects one type of disciplinary approach to study in detail, inclusive of on-site visits. The seminar paper covers the source and nature of the school’s commitments, its theory of authority and freedom (implicit and explicit), illustrations of how commitments are expressed (including discipline practices), and the student’s reflections.
Course usually offered in spring term
Activity: Lecture
1 Course Unit

EDUC 519 The Evolution of Assessment: Classroom and Policy Uses
This course explores the evolution and diverse uses of assessment in four major areas: the historical roots of testing and the development of the achievement testing industry; the rising interest and exploration of alternative forms of assessment; how teachers employ a variety of assessments in their classrooms; and how policymakers use assessment for decision-making and accountability purposes.
Taught by: Supovitz
Prerequisites: Permission needed from department.
Activity: Lecture
1 Course Unit

EDUC 520 Literacy in Elementary/Middle Schools
In this course, the interconnections of language, literacy and culture are explored in order to build a knowledge base and understanding of how children learn to read and write. Emphasis will be on how to teach and develop literacy curriculum in the elementary grades, and on how close listening and observation of children in their classroom contexts, combined with a critical reading of research and theory, can inform teaching practices. A central tenet of this course is that the best teachers of reading and writing are themselves active and engaged readers and writers. An important goal is to combine an inquiry approach to teaching and learning with an inquiry approach to thinking about how we teach. Offered within the Teacher Education Program.
Activity: Lecture
1 Course Unit

EDUC 521 Science in Elementary/Middle Schools
The goal of this course is to prepare teachers to facilitate science learning in the elementary and middle school. Special emphasis is placed on striving for a balance between curricular goals; individual needs and interests; and the nature of science. Offered within the Teacher Education Program.
Taught by: Bergey
Course not offered every year
Activity: Lecture
1 Course Unit

EDUC 522 Psychology of the African-American
Using an Afro-centric philosophical understanding of the world, this course will focus on psychological issues related to African Americans, including the history of African American psychology, its application across the life span, and contemporary community issues.
Taught by: Stevenson
Course usually offered in spring term
Also Offered As: AFRC 522
Activity: Lecture
1 Course Unit

EDUC 523 Social Studies in the Elementary and Middle Schools
This course will focus on teaching and learning in the content area of social studies. Curricular and pedagogical theories and practices will be examined for their educational significance, meaningful integration of content areas, respect for students’ cultures (past and present), and contribution to social justice issues. Offered within the Teacher Education Program.
Activity: Lecture
1 Course Unit

EDUC 524 Philosophical Aspects of Education Policy
This course, which is unofficially titled ‘Justice goes to School’ explores the philosophical or normative foundations of educational policy decisions. School choice, standards-based reform, civic education, children’s and parents’ rights, school finance reform - how do different arguments for these policies view the role of schools in society? What are their concept of the person, and their view of the educated person? We will consider arguments for and against a variety of contemporary educational policies. Students are encouraged, if they are interested, to bring to class educational policy decision that perplex or intrigue them.
Taught by: Ben-Porath
One-term course offered either term
Activity: Seminar
1 Course Unit
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<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Activity</th>
<th>Course Unit</th>
<th>Prerequisites</th>
<th>Notes</th>
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<tbody>
<tr>
<td>EDUC 525</td>
<td>Fieldwork in Language in Education</td>
<td>Lecture</td>
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<td></td>
<td>Supervised fieldwork for individuals preparing to work with reading specialist/teachers in school settings.</td>
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<td>Taught by: Waff</td>
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<td>Activity: Lecture</td>
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<tr>
<td>EDUC 527</td>
<td>Approaches to Teaching English and Other Modern Languages</td>
<td>Lecture</td>
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<td>This course provides students with an introduction to theory and practice in second and foreign language teaching. Students will (a) develop an understanding of the history of language teaching practice and how such a perspective informs current day approaches, (b) explore the relationship between the context in which the language is learned and taught and classroom practice, and (c) develop an awareness of teaching principles central to a personal pedagogical approach and teaching philosophy. Students should have a field site where they can observe, participate, and collect classroom data.</td>
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<td>Taught by: Flores/Wagner,S/Hondo</td>
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<td>Activity: Lecture</td>
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<td>EDUC 528</td>
<td>TESOL Practice Teaching</td>
<td>Lecture</td>
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<td>Fieldwork course for TESOL students. This course focuses on reflective teaching practice, providing a space for students to combine theory and practice as they apply the theoretical constructs of TESOL coursework to their own language teaching. Students will become accurate and systematic observers of and thinkers about their own teaching methodology, in order to continue to develop into increasingly effective language teachers. The theme of a student-centered language classroom will be explored through scholarly literature, pedagogical techniques, and students’ own classroom teaching. To participate in this course, a student must be teaching a language class for the majority of the semester.</td>
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<td>Taught by: Supovitz</td>
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<td>Activity: EDUC 527 &amp; EDUC 537</td>
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<tr>
<td>EDUC 529</td>
<td>Organizational Learning and Education</td>
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<td>This course is an exploration of the theory, research, and practice of how individuals learn within organizational contexts and how organizations themselves may learn, as well as the social, cultural, and organizational forces that influence this process.</td>
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<td>Taught by: Supovitz</td>
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<td>Course usually offered in spring term</td>
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<td>Activity: Lecture</td>
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<td>EDUC 530</td>
<td>Community Based Mathematics</td>
<td>Seminar</td>
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<td>Admission to Secondary Education Math or Science</td>
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<td>This course engages future teachers in identifying and leveraging mathematics learning opportunities that exist within communities. First, participants apply mathematics to authentic community-based problems. After exploring literature about the use of real-world contexts in mathematics instruction, participants apply what they learn to design curriculum. Offered within the Teacher Education Program.</td>
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<td>Taught by: Remillard &amp; Staff</td>
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<td>Course usually offered summer term only</td>
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<td>Prerequisite: Admission to Secondary Education Math or Science</td>
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<td>Activity: Seminar</td>
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<td>EDUC 531</td>
<td>Mathematics in the Elementary and Middle Schools</td>
<td>Lecture</td>
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<td>Learning to teach mathematics in ways that foster mathematical understanding and enjoyment for every student requires that teachers draw on different kinds of knowledge, skills, and dispositions. In addition to developing an understanding of central mathematical ideas, learning to teach math involves learning about learners, the understandings and conceptions they hold, and the processes through which they learn. It also involves developing skill in constructing tasks that engage students in mathematical exploration, creating an environment that facilitates reasoning, and finding ways to analyze and learn from one’s own teaching. Offered within the Teacher Education Program.</td>
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<td>Taught by: Remillard</td>
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<td>EDUC 533</td>
<td>Forming and Reforming the Elementary Reading/Writing/Literacy Curriculum</td>
<td>Lecture</td>
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<td>Students explore the theory and practice of constructivist approaches to teaching reading/writing/talking across the curriculum. They read widely and discuss issues that are informed by theory and research in many fields of inquiry including children’s and adolescent literature, educational linguistics, cognitive psychology, curriculum, and anthropology and assessment. They write and share integrative journals; develop, teach and reflect upon holistic lessons; and complete an individual or group project of their own choosing.</td>
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<td>Taught by: Campano</td>
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<td>Course usually offered in fall term</td>
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<td>EDUC 534</td>
<td>School-Community Counseling &amp; Mental Health Partnerships</td>
<td>Lecture</td>
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<td>This course is designed to give students a theoretical framework for developing school-community partnerships for the delivery of mental health prevention and intervention services to children. The course will include examination of several practice programs developed from the theoretical framework to provide services to parents, children, and school staff, including pairs therapy for the development of relationship skills and understandings; a whole-class prevention program to build social-emotional and academic skills in elementary children, and a preventive intervention to build capacity in Head Start to engage parents facing adversities such as depression.</td>
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<td>Course not offered every year</td>
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<td>EDUC 535</td>
<td>Literature for Children and Adolescents</td>
<td>Lecture</td>
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<td>Theoretical and practical aspects of the study of literature for children and adolescents. Students develop both wide familiarity with children's/adolescents' books and understanding of how literature can be used in elementary/middle/secondary school curricula. Students complete course projects that focus on literature in specific classroom, research, home, or professional contexts.</td>
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<td>Taught by: Thomas</td>
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<td>One-term course offered either term</td>
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<td>Activity: Lecture</td>
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</table>
EDUC 536 Indigenous Education and Language Revitalization
The course examines Indigenous education and language revitalization from an international perspective, considering questions like: What policies, ideologies, and discourses shape the history of Indigenous education? What roles do pan-Indigenous and international organizations play? What does decolonizing and Indigenizing schooling look like? How do Indigenous epistemologies, ways of knowing, being and relating influence education? What does culturally relevant schooling mean in Indigenous contexts? What are the roles of Indigenous communities in language revitalization and educational processes?
Taught by: Hornberger
Course usually offered in spring term
Activity: Seminar
1 Course Unit

EDUC 537 Educational Linguistics
For students with little or no linguistics background. An introduction to the basic levels of language (phonetics and phonology, morphology and semantics, syntax, pragmatics) with special emphasis on the relevance of linguistic concepts to education. Other topics may include bi/multilingualism, language variation, and language acquisition.
Taught by: Butler/Moore/Hondo/Paninos
Course usually offered in fall term
Activity: Lecture
1 Course Unit

EDUC 539 Teaching Performance Art for Cross-Cultural Education
This class examines issues related to cultural communities and the arts, specifically performance, writing and storytelling as an educational tool for generating cross cultural and intercultural understanding, dialogue and exchange. Assignments will focus on, cross-cultural research and dialogue, and skill building in teaching, writing and performance. Students will also develop an understanding of how performance can be used to enhance classroom activities in elementary/middle/secondary/post secondary classroom curricula.
Course usually offered in fall term
Activity: Lecture
1 Course Unit

EDUC 540 Teaching Diverse Learners
This course engages student teachers working with diverse learners, presenting factual information about specific areas of need situated within a socio-cultural framework. It addresses content related to both special education and English language learners in four areas: (1) Introduction to Special Education; (2) Learning Categories; (3) Issues in Special Education; and (4) Working with English Language Learners. Offered within the Teacher Education Program
Taught by: Watts, Bialka, Kinney Grossman
Two terms. student may enter either term.
Prerequisites: Permission needed from department.
Activity: Seminar
1 Course Unit

EDUC 541 Access & Choice in American Higher Education
College enrollment is a complex process that is shaped by the economic, social and policy context, higher education institutions, K-12 schools, families, and students. The course will examine the theoretical perspectives that are used to understand college access and choice processes. The implications of various policies and practices for college access and choice will also be explored, with particular attention to the effects of these policies for underrepresented groups. As an Academically Based Community Service (ABCS) course, this course is also designed to generate tangible recommendations that program administrators and institutional leaders may be used to improve college access and choice.
Taught by: Perna
Course not offered every year
Activity: Lecture
1 Course Unit

EDUC 542 Management in Higher Education
This course is an introduction to management issues and practices in higher education. It is designed to provide students with working understanding of both the role of administration within the culture of higher education and the contemporary issues related to management of fiscal, personnel, facilities, and information resources. The interface between administrative and academic decision-making will be explored within these contexts and case studies will be used to highlight the concepts.
Course usually offered in spring term
Activity: Lecture
1 Course Unit

EDUC 543 UNDERSTANDING MINORITY SERVING INSTITUTIONS
Students taking this course will learn about the historical context of HBCUs in educating African Americans, and how their role has changed since the mid-1800’s. Specific contemporary challenges and successes related to HBCUs will be covered and relate to control, and enrollment, accreditation, funding, degree completion, and outreach retention programming. Students will become familiar with MBCUs in their own right, as well as in comparison to other postsecondary institutions.
Taught by: Gasman
Course usually offered in fall term
Also Offered As: AFRC 545
Activity: Seminar
1 Course Unit

EDUC 544 School and Society in America
This course reviews the major empirical and theoretical research from the social history, and social theory on the development, organization and governance of American education, and the relationship between schooling and the principal institutions and social structures of American society.
Taught by: Puckett/Staff
One-term course offered either term
Activity: Lecture
1 Course Unit
EDUC 546 Sociolinguistics in Education
The educational consequences of linguistic and cultural diversity. A broad overview of sociolinguistics, introducing both early foundational work and current issues in the field. Topics include language contact and language prestige, multilingualism and language ecology, regional and stylistic variation, verbal repertoire and communicative competence, language and social identity, codeswitching and diglossia, language socialization and language ideology, as they relate to educational policy and practice in the United States and around the world.
Taught by: Hornberger/Flores/Moore
One-term course offered either term
Activity: Lecture
1 Course Unit

EDUC 547 Anthropology and Education
An introduction to the intent, approach, and contribution of anthropology to the study of socialization and schooling in cross-cultural perspective. Education is examined in traditional, colonial, and complex industrial societies.
Taught by: Hall or Posecznick
One-term course offered either term
Also Offered As: ANTH 547, URBS 547
Activity: Lecture
1 Course Unit

EDUC 548 American Education Reform: History, Policy, Practice
An examination of major trends, central tendencies, and turning points in American education reform, giving particular attention to contemporary developments such as accountability laws and school choice. This historical development of the federal role in American schooling is also considered, as is the history of school desegregation. What is the purpose of "school'? How have schools evolved across time, and how have Americans tried to change them? And what can we learn from this long history of reform?
Taught by: Zimmerman
One-term course offered either term
Activity: Lecture
1 Course Unit

EDUC 549 Writing and Culture
In this class we will look at writing as an expressive and instrumental part of culture and society. We see writing as cultural artifact and cultural behavior, shaped by and shaping the context of its use. This approach to writing is the foundation for the new literacy studies, which understands writing as several variable, multiple, diverse and changing practices contingent upon specific cultural and social contexts. Readings for the course are drawn primarily from the New Literacy Studies, but also from philosophy, anthropology, folklore, literary theory, literature and linguistics. We will consider ways these approaches to understanding and describing writing can inform classroom practice.
Taught by: Camitta
Course usually offered summer term only
Also Offered As: FOLK 552
Activity: Lecture
1 Course Unit

EDUC 550 Educational and Social Entrepreneurship
This course provides an understanding of the nature of entrepreneurship related to public/private/for profit and non-profit educational and social organizations. The course focuses on issues of management, strategies and financing of early stage entrepreneurial ventures, and on entrepreneurship in established educational organizations.
Activity: Lecture
1 Course Unit

EDUC 551 Outside the School Box: History, Policy and Alternatives
This course explores historical and contemporary challenges involved in the policy and practice of non-school education agencies and factors that work in service to local school/community settings. Students will explore several historical case studies, conceptual frames, and current policy challenges, culminating in a community-based research project.
Taught by: Johanek
Course usually offered in fall term
Activity: Seminar
1 Course Unit

EDUC 552 Video Games and Virtual Worlds as Sites for Learning
Drawing on work from the education, psychology, communication, and the growing field of games studies, we will examine the history of video games, research on game play and players, review how researchers from different disciplines have conceptualized and investigated learning in playing and designing games, and what we know about possible outcomes. We will also address issues of gender, race and violence that have been prominent in discussions about the impact of games.
Taught by: Kafai
Activity: Lecture
1 Course Unit

EDUC 553 Foundations of Education for Diverse Learners
An introduction to Special Education including the history, the legal regulation of Special Education, and an examination of critical issues.
Course not offered every year
Activity: Lecture
1 Course Unit

EDUC 554 Teaching & Learning in Urban Contexts
This course marks the beginnings of your year-long inquiry as preservice teachers, and hopefully your career-long inquiry as committed educational professionals, into the challenges of and opportunities for teaching and learning in urban settings. The theories and practices explored in this course are offered as foundations for instructional approaches that are intentional, reflective, inquiry-based, and learner-centered. As we investigate multiple dimensions of teaching and learning (curriculum design, learning theories, instructional techniques, etc.), you will have opportunities to both clarify and challenge the assumptions, beliefs, hopes, fears, and goals that you bring to your preparation to teach in urban secondary schools. Offered within the Teacher Education Program.
Activity: Lecture
1 Course Unit

EDUC 555 Advanced Field Seminar (Elementary & Secondary Education)
This course focuses on praxis—the mutually supporting roles of theory and practice that bring rigor and relevance to the work of educational professionals. This course is designed to give student teachers opportunities to develop pedagogical orientations, to learn from "problems of practice" at placement sites, and to enrich student teachers' theoretical and practical knowledge. All of these experiences will inform the master's portfolio and will prepare teachers to continue to see themselves and their practice as continuing sites for research. Offered within the Teacher Education Program.
Activity: Lecture
1 Course Unit
EDUC 556 Higher Education Finance
Designed for non-financial managers, this course provides students with an introduction to basic concepts related to the finance of higher education. It examines the forces that influence the financing of higher education at both the state and federal levels. It addresses both the macro-economic and micro-economic issues related to higher education finance. In addition, students will be introduced to issues related to institutional finance.
Taught by: Finney
Course usually offered in spring term
Activity: Lecture
1 Course Unit

EDUC 557 Developmental Theories: Applications with Adolescents
Focuses on theories of adolescent development and the nature of transactions among adolescents, peers, teachers, specialists, and significant others. Also covers methods of intervening to promote psychological growth.
Taught by: Nakku
Activity: Lecture
1 Course Unit

EDUC 558 Developmental Theories: Applications with Young Adults
This course is designed as a collaborative inquiry toward constructing and elaborating upon theories of young adult development and interactions with young adults as counselors, teachers, family members, and higher education administrators. Using a seminar or working group format, participants explore the relationships among developmental theory, sociocultural contexts of young adults, practice (e.g., interventions, relationships), and research. Using literature from empirical and popular, mainstream sources, participants will engage in learning of how young adults navigate the transition from adolescence to adulthood. Specific topics to be addressed include, "the quarterlife crisis," financial needs of young adults, relationships, family, and career exploration and crystallization.
Course not offered every year
Activity: Lecture
1 Course Unit

EDUC 559 Sociology of Education
This course provides an overview of key theoretical perspectives and topics in the sociology of education, including expansion of formal educational systems; the extent to which educational systems contribute to or inhibit social mobility; inequality of educational inputs and outcomes by race, social class, and gender; and the social organization of educational institutions, including sources of authority, community, and alienation. The course includes both K-12 and higher education topics.
Taught by: Ingersoll
Course usually offered in spring term
Activity: Lecture
1 Course Unit

EDUC 560 Human Development
Provides an introduction to physical, social, cognitive, emotional and linguistic development from infancy to adulthood. Major theories related to human development will be discussed along with methods of intervention for individuals in various life stages.
Taught by: Fegley/Frye
One-term course offered either term
Activity: Lecture
1 Course Unit

EDUC 561 Adolescent Development
An interdisciplinary view will be used to frame biological, psychological, and social development among adolescents. Special emphasis will be placed on how contextual factors influence developmental outcomes. Theories of adolescent development and methods of intervention will also be discussed.
Taught by: Fegley
Activity: Lecture
1 Course Unit

EDUC 562 Personality & Social Development
The effects of social processes on human development in the interlocking contexts of parents, family, peers, school, communities and culture are considered during the major developmental periods of infancy, childhood, adolescence and adulthood. The course examines what is unique about social developments, how social relationships can be defined, and what are the social precursors and consequences of specific developmental changes.
Taught by: Chen
Course usually offered in fall term
Activity: Lecture
1 Course Unit

EDUC 563 TESOL Seminar
A weekly seminar that seeks to consolidate, broaden, and deepen knowledge of the main themes, trends, issues, and practices in the field of TESOL. Students will demonstrate their ability to observe, analyze, and reflect upon their teaching as they make connections between theory and practice, all critical skills for ongoing professional development which relate to the students' final project, a reflective-analytical or action research paper. The project is based on a thirty-hour teaching internship completed during the semester in which the students are enrolled in EDUC 563. The project is individually designed and subject to the instructor's approval. All students in the M.S.Ed./TESOL and Language & Literacy must submit a proposal for the internship in the semester before they take the Seminar.
Taught by: Wagner,S/Paninos
One-term course offered either term
Prerequisite: EDUC 528
Activity: Seminar
1 Course Unit
Notes: Permission needed from the department

EDUC 564 Moral Values and the Schools
This course explores whether, and if so, how "values" should be taught in the schools by addressing the following questions: What is unique about the domain of values? Is there, or should there be, a corpus of shared personal and social values? What are the sources of values and how are they transmitted across generations? If schools teach values, how do they address the problems associated with specific codes? The problems of the absence of codes? The tensions between fidelity to personal beliefs and to values of compromise, tolerance and cultural pluralism?
Course usually offered in spring term
Activity: Lecture
1 Course Unit
EDUC 565 Contemporary Issues in Community Psychology
This course focuses on three related issues. The history and evolution of community psychology within the political, economic and scientific contexts is the first issue. Second, students examine the discipline's distinction between community mental health and community psychology. Third, students examine the implications of disease prevention and health promotion for the discipline's current status and future development.
Course not offered every year
Prerequisite: EDUC 686
Activity: Lecture
1 Course Unit

EDUC 566 Cross Cultural Awareness
This course provides students experiential and cognitive awareness through affective exercises and readings. It explores issues of living in a diverse society through a variety of educational strategies including workshops, small group process, guest lectures, etc. It represents the seminar portion of P.A.C.E. (Programs for Awareness in Cultural Education): An "Educating the Peer Educator" Program.
Course usually offered in spring term
Activity: Lecture
1 Course Unit

EDUC 567 Internship: ICC
All students in the MS/ICC program must complete a supervised internship of at least 160 hours prior to enrolling in this course. The supervised internship is individually designed and is subject to approval; students must submit a Prospectus describing the internship in the Fall or Spring semester prior to beginning the internship. This course offers guidance as students complete the portfolio or reflective paper, which is based on the experience and data collected during the internship. Through this course, students in the M.S.Ed./ICC program will discuss ways to conceptualize the internship experience, situate it meaningfully within the field of intercultural communication, locate and analyze relevant research literature, and prepare the portfolio or reflective paper, with an overall goal of developing the ability to communicate clearly and effectively for an academic and/or professional audience.
Taught by: Moore/Pomerantz
One-term course offered either term
Prerequisites: Eight or more courses toward M.S.Ed. degree in Intercultural Communication. Permission needed from department.
Activity: Seminar
1 Course Unit

EDUC 568 Cognitive Development
This course examines the cognitive development of the child from infancy to adolescence with an emphasis on cultural context. Topics include: origins of thinking, Piaget, Vygotsky, intelligence, development of learning and memory, language development, and moral development.
Taught by: Frye
Course usually offered in fall term
Prerequisite: EDUC 560 or equivalent
Activity: Lecture
1 Course Unit

EDUC 569 Administration of Student Life
This course covers a variety of issues in the management of student services on campus. After examining the historical context of student affairs and the theoretical frameworks of student development, students explore ways to most effectively administer the numerous activities that comprise student affairs programs.
Course usually offered in fall term
Activity: Lecture
1 Course Unit

EDUC 570 Education and the American Metropolis
Education and the American City centers on major trends and factors that have shaped cities and their preK-16 school systems since the Second World War, including racial discrimination, migration and immigration, suburbanization, deindustrialization, U.S. housing policy, social welfare policy, and urban renewal.
Taught by: Puckett
Course usually offered in spring term
Activity: Lecture
1 Course Unit

EDUC 571 History of the English Language
A survey of the major historical trends in the development of the English language.
Course not offered every year
Activity: Lecture
1 Course Unit

EDUC 572 Language and Gender
This course traces the development of research on language and gender, introducing key theoretical issues and methodological concerns in this area. Participants will consider how gender ideologies shape and are shaped by language use, with particular attention to how research findings can be applied to educational and other professional settings.
Taught by: Pomerantz
Course usually offered in spring term
Also Offered As: GSWS 572
Activity: Lecture
1 Course Unit

EDUC 573 Higher Education Policy : What Can We Learn from Other Countries?
This course examines the proposition that policy makers, educational leaders and practitioners can learn from what has worked and failed in higher education policy and practice in other nations.
Taught by: Ruby/Eynon
Course usually offered in fall term
Activity: Seminar
1 Course Unit

EDUC 574 Race/Ethnicity in Human Development
This interdisciplinary course will employ a critical perspective on minority youth development, analyze the existing literature, and propose alternative explanations for observed phenomena. It will consider pertinent issues and theories of middle childhood, adolescent and young adult development.
Course not offered every year
Activity: Lecture
1 Course Unit
EDUC 575 TPE: Qualitative Studies of Developmental Interventions
This course is designed to introduce students to innovative approaches to the psychology of education, especially with regard to populations from at-risk contexts, sociocultural dimensions of education, and social-emotional learning.
Course not offered every year
Also Offered As: AFRC 575
Activity: Seminar
1 Course Unit

EDUC 576 The Social & Political Philosophy of Education
Is the purpose of education to allow individuals to better themselves by pursuing personal tastes and interests, or should education be primarily aimed at creating good citizens or good members of a group? Is there a way of reconciling these two aims? Assuming that adult relations with children are inherently paternalistic, is it possible for children to be educated for future autonomy to pursue major life goals free from such paternalistic control; and if so, how? How much, if any control over education can be allocated to the state, even when this conflicts with the educational goals parents have for their children? Such questions are especially relevant in multicultural or pluralistic societies in which some groups within a liberal state are non-liberal. Should a liberal democratic state intervene in education to ensure the development of children's personal autonomy, or must tolerance of non-liberal groups prevail even at the expense of children's autonomy?
Taught by: Detlefsen, K.
Course usually offered in fall term
Also Offered As: GSWS 249, PHIL 249
Activity: Lecture
1 Course Unit

EDUC 577 Selected Topics in Educational Linguistics
The focus for each semester will vary to reflect those issues most relevant to current concerns in educational linguistics.
One-term course offered either term
Activity: Seminar
1 Course Unit

EDUC 578 Teaching Reading and Study in Colleges and Universities
This course is designed for both pre-service and experienced instructors and administrators who are interested in teaching and/or researching the concept of academic literacies and the array of academic skills in postsecondary settings, and/or directing programs in reading, writing and study strategies at the postsecondary level. The course presents theoretical frameworks relevant to the teaching of study strategies, theories of cognitive development, and practical instructional methods. Emphasis is placed on the process and content of such instruction, materials and methods for teaching, and ways to organize postsecondary literacy programs.
Taught by: Cohen, M
Course usually offered summer term only
Activity: Lecture
1 Course Unit

EDUC 579 Intercultural Communication and Miscommunication
An introduction to basic issues in intercultural communication, reviewing various perspectives on the nature of culture, communication, "miscommunication" and inter-cultural relations. The course criticizes two commonly held assumptions: 1) that "cultures" are unitary and unchanging and 2) that inter-cultural contact and communication is inherently more troublesome then intra-cultural communication. The course considers ways in which intercultural communication has important consequences in education, medicine, social services, business settings, and international contact situations.
Course usually offered summer term only
Activity: Lecture
1 Course Unit

EDUC 580 Developmental Theories & Applications with Children
The purpose of this course is to provide students with an opportunity to consider mandates, models, and methods related to enhancing the learning and development of preschool and early elementary school children. This course emphasizes the application of developmental psychology and multicultural perspectives to the design of effective classroom-based strategies. Students will consider a "whole-child" approach to understanding children's classroom behavior in context.
Major assignments will involve gathering and synthesizing information about children in routine classroom situations. This information will be used to better understand children's needs and strengths and how they are manifested in transaction with classroom contexts. Students will focus on one or more students to conduct a comprehensive child study of the child in context. This contact must include opportunities to observe children in a natural setting and interact with them on a regular basis throughout the semester. The placement needs to be approved by the professor. If students do not have a regular classroom contact, one will be arranged.
Taught by: Fantuzzo
Course usually offered in spring term
Activity: Lecture
1 Course Unit

EDUC 581 Advanced Psychology of Women: Counseling Issues for Women
The course is intended for those who already have a foundation in the study of the psychology of women and want to expand their understanding of the provision of psychological services to include a contextual, feminist, and relational perspective. Theoretical and applied practices regarding women's mental health, issues of diversity, sexuality and relationships for women will be addressed
Also Offered As: GSWS 581
Prerequisites: Introduction to Psychology and an undergraduate course in the Psychology of Women or approval by professor.
Activity: Lecture
1 Course Unit

EDUC 582 Theories and Pedagogies of Teaching Writing
This seminar examines various theories and pedagogies of teaching writing in multilingual, multimodal contexts. It explores the historical and ideological underpinnings of contemporary theories of writing and attends to how writing, and the teaching of writing, is shifting in a mobile, networked, and global age.
Taught by: Stornaiuolo
Course usually offered in fall term
Activity: Seminar
1 Course Unit
EDUC 583 Content-Based Instruction
This course offers students opportunities to investigate, observe, design practice, and critically evaluate the integration of content and language teaching - Content Based Instruction. The settings investigated include thematic English Language teaching; co-teaching and peer coaching by ESL and content teacher teams; and sheltered content instruction, among others. Standards, integrations of tasks, and special language requirements in various content areas are reviewed.
Course not offered every year
Activity: Lecture
1 Course Unit

EDUC 584 Basic Counseling Skills
This course will teach basic counseling skills to students not seeking a license in professional counseling as a way to help them connect with and work well with others. It will predominantly be oriented towards skill building. We will review/discuss a selection of basic counseling skills and use in-class demonstrations to practice these skills. This course is required for the Counseling and Human Development Skills Concentration.
Taught by: Schultz,Kyle
Course usually offered in spring term
Activity: Seminar
1 Course Unit

EDUC 585 Advanced Group and Family Counseling
This course focuses on the basics of systems intervention with a specific focus on families and groups. The purpose is to develop more advanced knowledge of practical therapeutic problem-solving skills at the graduate student level using ecological, systemic, and cultural perspectives. Students will be exposed to advanced group therapy strategies with children, youth, and adults, with family interventions across various mental health diagnostic populations, and how to intervene within groups and families in which cultural differences and styles are key themes. Students will also be challenged to develop a preliminary rationale for a systemic theory of behavior change. Given the diversity of clients that counselors see professionally, some advanced and demonstrated knowledge of how cultural differences will be addressed in the counseling session and in the relationships of larger societal institutions will be expected. This course will satisfy the Group work II requirement of the MPE program in Professional Counseling and Psychology. The course also fits within the APHD theme of Applied Psychology: Intervention and Certification.
Taught by: Lappin
Prerequisites: Students must be enrolled in the M.Phil.Ed. in Professional Counseling Program.
Activity: Lecture
1 Course Unit

EDUC 586 Ethnographic Filmmaking
This ethnographic methodology course considers filmmaking/ videography as a tool in conducting ethnographic research as well as a medium for presenting academic research to scholarly and non-scholarly audiences. The course engages the methodological and theoretical implications of capturing data and crafting social scientific accounts/narratives in images and sounds. Students are required to put theory into practice by conducting ethnographic research and producing an ethnographic film as their final project. In service to that goal, students will read about ethnography (as a social scientific method and representational genre), learn and utilize ethnographic methods in fieldwork, watch non-fiction films (to be analyzed for formal properties and implicit assumptions about culture/sociality), and acquire rigorous training in the skills and craft of digital video production. This is an ABCS course, and students will produce short ethnographic films with students in Philadelphia high schools as part of a partnership project with the School District of Philadelphia. Due to the time needed for ethnographic film production, this is a year-long course, which will meet periodically in both the fall and spring semesters.
Taught by: Hall,Kathleen & Das,Amit
Course usually offered in fall term
Also Offered As: ANTH 583
Activity: Seminar
1 Course Unit

EDUC 587 Human Sexuality
All persons have moments that elicit reflection on issues related to myriad aspects of sexuality. When working with people in clinical or school settings, these issues are ubiquitous. This course will provide a broad understanding of sexuality and specific ways to address sexuality problems.
Taught by: Schultz,Kyle
Course usually offered in spring term
Activity: Seminar
1 Course Unit

EDUC 588 Digital Literacies in a Networked World
This graduate seminar is designed to explore how literacy and learning are changing as people participate with digital technologies across intersecting local and global networks. Participants will collaboratively investigate how young people's digital literacies-their culturally and socially situated meaning making practices mediated by digital tools-emerge in relation to constantly shifting technologies of communication and are constructed, reconstructed, negotiated, and embodied in multiple semiotic systems across everyday contexts. This course highlights how digital literacies are situated, and how these socio-cultural understandings illuminate issues of power and privilege.
Taught by: Stornaiuolo, A
Course usually offered in spring term
Activity: Seminar
1 Course Unit
EDUC 589 Teaching and Learning in the Global Era
We are living in an era in which economic, social, cultural, environmental and technological transformations are connecting people across the globe in new and unprecedented ways. Given that our world is increasingly interconnected, it is no longer adequate to prepare students to succeed simply as citizens of a particular nation. Students also must acquire the knowledge, skills, dispositions, understanding and aptitude to engage with people from different regions in the world who may hold varying or conflicting perspectives, forms of knowledge, and ways of knowing that are culturally and historically specific and informed. This course will focus on issues related to teaching and learning in the 21st century, and to preparing young people for global citizenship. We will consider what it means to be a global citizen as well as the various approaches to educating for global citizenship that have emerged in the U.S. and around the world. We will also explore instructional and curricular innovations that aim to enrich how young people learn about world regions and cultural traditions, engage with global issues and come to respect contrasting perspectives.
Taught by: Hall
Course usually offered in fall term
Activity: Seminar
1 Course Unit

EDUC 590 Gender & Education
This course is designed to provide an overview of the major discussions and debates in the area of gender and education. While the intersections of gender, race, class, ethnicity, and sexuality are emphasized throughout this course, the focus of the research we will read is on gender and education in English-speaking countries. We will examine theoretical frameworks of gender and use these to read popular literature, examine teaching practices and teachers with respect to gender, using case studies to investigate the topics.
Course usually offered in spring term
Also Offered As: GSWS 590
Activity: Lecture
1 Course Unit

EDUC 591 Applied Research Methods to Inform Policy and Practice
The class is designed to provide students with the knowledge and tools to define relevant research questions to guide program design and operations, as well as to guide policy development; to map questions to appropriate methods of research; to judge the quality of research evidence; and to design strong analysis and evaluation strategies for various purposes. The primary, but not exclusive, focus of the course is on education policy concerns.
Taught by: Maynard
One-term course offered either term
Prerequisites: Permission needed from department.
Activity: Lecture
1 Course Unit

EDUC 592 Professional Development in Higher Education
To prepare for a career in higher education, students are engaged in a 20-hour a week assistantship in the field. This course complements and enhances the graduate assistantship. Emphasizing practical application of theory and skill development, the course does the following: provides students with tools to embark on a successful job search; offers networking opportunities with administrators in higher education; and introduces students to relevant and timely literature and resources in higher education professional development.
Taught by: Aikins
Course usually offered in spring term
Activity: Lecture
1 Course Unit

EDUC 593 Experiential Learning Design for Intercultural Communication
Provides new and experienced educators the opportunity to learn and practice training design and facilitation using the principles of experiential and adult learning.
Course usually offered in spring term
Prerequisite: EDUC676 or permission from the instructor
Activity: Lecture
1 Course Unit

EDUC 594 Diversity in Higher Education
This course explores issues of diversity as they pertain to higher education, including race, ethnicity, gender, class, religion, sexual orientation, ideology, etc. Rather than focusing on specific populations of people, the course will tackle issues of diversity within the context of concrete higher education functions and problems.
Taught by: Tiao/Staff
Course usually offered in spring term
Activity: Lecture
1 Course Unit

EDUC 595 POLITICS AND EDUCATION
How is education a form of political action? In this course we look at the governance of schools, the trust in them and their relations to socioeconomic conditions in society, among other topics, using research in education, political science, and political theory.
Taught by: BEN-PORATH
Course usually offered in fall term
Also Offered As: PSCI 545
Activity: Seminar
1 Course Unit

EDUC 596 International Early Childhood Policies and Programs
This course focuses on early childhood development research, policies, and practices in low and middle-income countries. The first part of the course reviews the evidence for investing in young children from economic, health, and education perspectives. The second part of the course discusses current issues related to designing, implementing, and evaluating quality, contextually-appropriate early childhood interventions.
Taught by: Neuman
Course usually offered in fall term
Activity: Seminar
1 Course Unit
EDUC 597 Policy Planning in International Educational Development: Theory and Practice
This course focuses on education policy in low and middle-income countries. The first part examines global policy frameworks and international institutions/actors that shape education reform efforts. The second part covers the contexts, processes, and tools for national education policy planning. The third part analyzes a series of current cross-national education policy issues.
Taught by: Neuman
Course usually offered in spring term
Activity: Seminar
1 Course Unit

EDUC 598 Interfaith Dialogue in Action
This ABCS course explores religious pluralism and interfaith dialogue and action on college campuses. It brings together students with diverse faith commitments (including atheism) to engage with and learn from one another in academic study, dialogue, and service.
Taught by: Hall/Kocher
Course usually offered in spring term
Activity: Seminar
1 Course Unit

EDUC 599 History of American Education
This course will examine the growth and development of American schools, from the birth of the republic into the present. By 1850, the United States sent a greater fraction of its children to school than any other nation on earth. Why? What did young people learn there? And, most of all, how did these institutions both reflect and shape our evolving conceptions of “America” itself? In an irreducibly diverse society, the answers were never simple. Americans have always defined their nation in a myriad of contrasting and often contradictory ways. So they have also clashed vehemently over their schools, which remain our central public vehicle for deliberating and disseminating the values that we wish to transmit to our young. Our course will pay close attention to these education-related debates, especially in the realms of race, class, and religion. When immigrants came here from other shores, would they have to relinquish their old cultures and languages? When African-Americans won their freedom from bondage, what status would they assume? And as different religious denominations fanned out across the country, how would they balance the uncompromising demands of faith with the pluralistic imperatives of democracy? All of these questions came into relief at school, where the answers changed dramatically over time. Early American teachers blithely assumed that newcomers would abandon their old-world habits and tongues; today, “multicultural education” seeks to preserve or even to celebrate these distinctive patterns. Post-emancipation white philanthropists designed vocational curricula for freed African-Americans, imagining blacks as loyal serfs; but blacks themselves demanded a more academic education, which
Taught by: Zimmerman
Course usually offered in spring term
Also Offered As: HIST 463
Activity: Lecture
1 Course Unit

EDUC 601 Economic Aspects of Educational Policy
This course has two main goals. One is to teach students to apply economic principals to analyze a wide range of educational policy issues. The other is to provide students with a foundation in contemporary education policy issues. The course is designed to address analytic issues relevant to a wide range of educational professionals, including managers, policy makers, and evaluators. The course will be divided into five units: (1) principles of economic analysis in the context of education policy; (2) the economics of early care and education; (3) cost-effectiveness analysis; (4) human capital investment; and (5) education finance.
Taught by: Maynard
One-term course offered either term
Activity: Lecture
1 Course Unit

EDUC 602 Youth Cultural Formations
This course explores anthropological perspectives on peer-based youth cultures. It explores how educational institutions, media (fashion, music, magazines), and states shape youth cultures in cross-cultural contexts through social processes such as capitalism, nationalism, and increasing globalization. The course emphasizes ethnographies and histories which explore the relationship of these wider social processes to the lived realities of young people, situated in class, gender, national and race-specific contexts.
Taught by: Strong
Course usually offered in spring term
Activity: Lecture
1 Course Unit

EDUC 603 Wellness and Addictions Counseling
This course will provide an overview of addictions and addiction counseling from research, theory, and applied perspectives. It will also explore contemporary conceptions of “wellness” and wellness-promotion strategies, particularly for people struggling with addictions. Applied skills for addressing wellness and addiction will be framed within current evidence-based research.
Course usually offered in fall term
Prerequisites: Students must be enrolled in the M.Phil.Ed. in Professional Counseling Program.
Activity: Lecture
1 Course Unit

EDUC 604 Ethics and Leadership in Higher Education
This course looks critically at the various theories of leadership with a special emphasis on the ethical dimensions of leadership. Initial classes are devoted to common ethical frameworks from Plato and moving through Kant, Hume and into the present practical application of ethics to leadership. Leadership theory and practice reveal that there is no one approach that is best or that works in all situations. Aspiring leaders must have a variety of lenses through which they can analyze and understand the elements involved in ethical leadership. At the end of the course students will be able to apply essential concepts of ethical decision making and leadership - the role of trust and the ability to build trust, the uses of power, the importance of good decision-making, the conflicting priorities that arise from living out your core values in the workplace.
Taught by: Armacost
Course usually offered in fall term
Activity: Seminar
1 Course Unit
EDUC 605 Sustainability in Schools
This course looks at the issue of sustainability across three dimensions: financial, environmental, and programmatic. 1. The issue of financial sustainability focuses on the need of schools to carefully manage funding sources and expenditures and raise supplemental dollars to underwrite aspects of the mission of the school. Included in this focus will be the topics of marketing, communications, and development. 2. Environmental sustainability is increasingly emphasized by schools as an educational goal and an operating principal. This topic will include incorporating sustainability practices into school wide decision making to build campuses which are increasingly green and less wasteful. 3. The third and final focus of the course, programmatic sustainability, brings together many of the themes of the entire leadership program as it reviews the ways schools must think about new models of educating children including the implications of such issues as emerging research on learning, environmental sustainability, globalization, and equity and access. The course utilizes the conceptual framework for sustainability developed by the National Association of Independent Schools. Offered within the School Leadership Program.
Taught by: Ball
Course usually offered in spring term
Prerequisites: Admission to School Leadership Program.
Activity: Seminar
1 Course Unit

EDUC 606 Development in Higher Education
This course is designed for current aspiring professions in the area of fundraising and institutional advancement. Topics will include: a history and overview of philanthropy, motivations for giving, ethics, fundraising courses, leadership, annual giving, public relations, and volunteer management. Special emphasis will be placed on fundraising in communities of color.
Taught by: Gasman
Course usually offered in spring term
Activity: Lecture
1 Course Unit

EDUC 607 Faculty and Academic Governance
Introduction to selected issues pertaining to faculty and academic governance, such as: Who governs American colleges and universities? What are the respective roles of the president, the board of trustees, the faculty, and students in institutional decision making? The course will also explore key contemporary governance issues.
Taught by: Hartley/Garland
Course usually offered in fall term
Activity: Lecture
1 Course Unit

EDUC 608 Organizational Change in Higher Education
Colleges and universities today face tremendous challenges—calls by external constituents for greater accountability, scarcity of resources, greater competition, and pedagogical innovations. The need for change, and for change agents, in our institutions of higher learning has never been greater. This course examines organizational change both theoretically and practically in college and university settings. Students will be introduced to many of the most current, influential, and promising theories about how change occurs at the departmental, institutional and system level. Using case studies, we will apply these frameworks in order to diagnose and develop constructive strategies for meaningful change.
Taught by: Hartley
Course not offered every year
Activity: Lecture
1 Course Unit

EDUC 609 Counseling for Educators
The purpose of this course is to help professional educators develop an understanding of the major issues involved in trying to help others. To accomplish this, it examines various counseling theories and explores their relevance for working with students and parents as they confront normal issues of learning and development. Through observation, skill building, and practice in natural settings, students will have the opportunity to develop their own grounded theory of helping.
Course usually offered in spring term
Activity: Lecture
1 Course Unit

EDUC 610 Cultural Perspectives on Human Development
This course focuses on children's and adolescents' development from cultural and cross-cultural perspectives. Topics include traditional and recent theories of cultural influence on development, research strategies, socialization values and practices, and socioemotional and cognitive functions such as aggression and conflict, shyness, and academic achievement in cultural context. Issues involving ethnicity and social and cultural changes are also discussed.
Taught by: Chen
Activity: Lecture
1 Course Unit

EDUC 611 Education, Development, and Globalization
This course will explore contemporary issues in international education. The emphasis will be on exploring an emergent body of literature on contemporary processes of globalization in the field of education. The course has a double goal: 1) to provide theoretical frameworks and historical perspectives in order to develop an adequate understanding of 'globalization', and 2) to explore the relevance and impact of globalization as a framework for understanding educational processes in comparative and international contexts.
Taught by: Ghaffar-Kucher
Course usually offered in spring term
Activity: Lecture
1 Course Unit

EDUC 612 LGBT Counseling & Development
In the past quarter century, the awareness of the unique issues facing lesbian, gay, bisexual and transgender (LGBT) individuals has expanded and become essential knowledge in our work as educators, providers of psychological services, and other service provision fields. This course provides a contextual and applied understanding the interactional processes facing LGBT individuals.
Course not offered every year
Also Offered As: GSWS 612
Activity: Lecture
1 Course Unit

EDUC 613 Group Counseling
Through didactic and experimental learning activities, students will explore various theoretical approaches to groups, learn and apply principles of group dynamics, develop familiarity with ethical, legal and professional standards relative to group leadership, learn member roles and functions in group, examine group counseling in a multicultural context, and relate these issues to the leader's interpersonal style and behavior. Applications to specific developmental stages and contexts will be explored.
Activity: Lecture
1 Course Unit
EDUC 614 Child Development and Social Policy
The purpose of this course is to focus on major US social policies impacting our most vulnerable subpopulations of children living in poverty. The class will explore how developmental science can provide a broad conceptual framework to inform the construction of social policies for children and evaluate their effectiveness. Since much of the social policy issues for children in the US public square are currently hotly debated, the class format will incorporate debate and require students to actively research and defend positions on existing policies. Class size will be set at a level to maximize interaction and involvement.
Taught by: Fantuzzo
Course usually offered in fall term
Activity: Lecture
1 Course Unit

EDUC 615 Parenting and Children's Educational Development
Theory and research on family influences on achievement development, models of the home-learning environment; parental involvement in schools.
Course not offered every year
Activity: Lecture
1 Course Unit

EDUC 616 Master's Foundations of Teaching and Learning
The course explores theoretical and empirical perspectives on the questions: What is knowledge and knowing? What is learning? What is teaching? How do contexts influence teaching, knowing, and learning? A central goal of the course is to encourage students to consider these questions and their interconnections for themselves, to examine ways scholars and practitioners have answered them, and to develop an analytical framework to use in examining contemporary practices in settings that include formal and informal, urban and international.
Taught by: Kafai/Yoon/Staff
Course usually offered in fall term
Prerequisites: Permission needed from department.
Activity: Lecture
1 Course Unit

EDUC 617 Counseling for School to Career Transitions
This psychology course will focus on the developmental and emotional changes that coincide with adolescents’ conceptions of work and work-related activities. As a course in career psychology, students will be exposed to readings from multiple disciplinary perspectives and will be expected to learn how to work with youth as they struggle through decisions on career and moving beyond the safety of childhood and adolescence. In addition, students will learn about the family-youth and school-student relational dynamics and that occur simultaneous to the adolescent’s development of a work ethic.
Taught by: Nakulka
Course usually offered in spring term
Activity: Lecture
1 Course Unit

EDUC 618 Leadership in Educational Institutions
In this course class members will simultaneously engage in an academic study of educational leadership focusing on Pre-K-12 schools and school districts, and in a continuing leadership development laboratory experience designed to increase one's personal efficacy as leader. A basic assumption for the course is that leadership is a central component of schooling; teaching is considered as foremost a leadership activity, whether with five year olds or high school seniors, and successful schools and districts are assumed to have capable leaders. The course will give particular attention to the recent shift in role expectations for school leaders - from competent manager to accountable instructional leader - and what this shift means in relation to the day-to-day work of educational leaders.
Course usually offered in spring term
Activity: Lecture
1 Course Unit

EDUC 620 Enrollment Management
Enrollment management is an organizational concept of strategies for achieving institutional goals. The course provides an overview of multiple enrollment management models, the evolution and maturation of these models, the related implications of these organizational structures and strategies, and the benefits and drawbacks on institutions and their markets. This course is designed primarily for masters-level students.
Taught by: Kaplan
Course usually offered in spring term
Activity: Seminar
1 Course Unit

EDUC 621 Proseminar in Professional Education
An integrative seminar that will provide an opportunity to reflect, orally and in writing, on the issues of quality, stability, and change in teaching, curriculum and school organization, toward the aim of fundamental reform in educational practice.
One-term course offered either term
Activity: Seminar
1 Course Unit

EDUC 622 International Educational Development Program (IEDP)
International Field Experience/Internship
Conceptual background on the role and utility of non-profit organizations in international educational development, combined with 6-8 weeks of field experience working in a developing country, or with an international organization that has programs in developing countries. The pre-fieldwork phase of the course seeks to acquaint students with the stages of a project cycle and will introduce students to tools and techniques employed by a variety of international development organizations. Students will work in small groups on a technical proposal throughout the semester. For the fieldwork phase, students are required to write multiple reports from the field.
Taught by: Ghaffer-Kucher
Two terms. student must enter first term.
Prerequisites: Required of (and limited to) IEDP students in order to complete their Master’s Degree.
Activity: Full Time Internship
1 Course Unit
EDUC 623 Childhood Interventions
The course addresses the following key questions: what is early childhood intervention? What was it, and what has it become? What are its historical roots in child development research, early childhood education, special education, and maternal and child health? However, while addressing earlier conceptual issues, this course also examines the conceptualizations to contemporary developments in the field that are of special significance to educators.
Course not offered every year
Prerequisite: EDUC 560 Human Development
Activity: Lecture
1 Course Unit

EDUC 624 Gender in College
Examined in this course are theories and interdisciplinary perspectives pertaining to gender on college and university campuses. Emphasis is placed on the social construction of gender, gendered institutional norms and practices, gender disparities on college campuses, and the unique experiential realities of women, men, and transgender persons in a variety of roles and postsecondary educational contexts.
Course usually offered in fall term
Activity: Seminar
1 Course Unit

EDUC 625 Data Processing and Analysis
Use of Statistical Software including Statistical Analysis (SAS) to effectively build a wide variety of datasets for use to address a range of empirical research questions. Evaluate conventional methods for dealing with missing data and apply contemporary methods using SAS.
Course usually offered in fall term
Prerequisite: Turner
Activity: Lecture
1 Course Unit

EDUC 626 The Discourses of Teaching Reading
This course draws on varying pedagogical and personal perspectives to explore conceptions of reading comprehension and how it can be taught to children and adolescents. Focus will be given to how certain ways of structuring dialogue about a text profoundly change how readers think about and do reading.
Course usually offered in spring term
Activity: Lecture
1 Course Unit

EDUC 627 Teaching in the Middle and Secondary Schools
Content-specific sections of this course (math, social studies, science) will examine approaches in planning, implementing and evaluating methods for teaching science, mathematics and social studies in middle and secondary schools. This course is grounded in the belief that teaching and learning require educators to question our teaching purposes and practices through a process of self-reflection, collegial and student-teacher interactions as well as personal and professional growth. Using a variety of learning theories and perspectives as the foundation for interactive teaching strategies, the stories, questions and contradictions of each content area are examined from a variety of perspectives. Offered within the Teacher Education Program.
Activity: Lecture
1 Course Unit

EDUC 628 Education Finance Policy
This course examines the legal, political and economic issues surrounding how public schools are funded, including equity, productivity and the interaction of finance and school reform. Through readings, discussion and written assignments, students will develop and apply policy analysis skills to the area of education finance.
One-term course offered either term
Activity: Lecture
1 Course Unit

EDUC 629 Teaching English/Language and Literacy in Middle and Secondary Schools
This course is a collaborative inquiry into the dynamic concept of adolescent literacy and its potential as an organizing construct for improving teaching and learning. It provides opportunities to investigate a variety of resources including our own histories as well as a range of print, digital and visual texts and to conduct fieldwork in various middle and secondary school classrooms where youth are being positioned (and positioning themselves) as literacy learners and literacy is being defined, performed, practiced, interrogated, and interpreted, within and beyond the school curricula. By engaging with youth, in various texts and contexts and for a range of purposes, participants will try to make sense of how adolescents negotiate their worlds, in school and out. The approach to literacy is interdisciplinary, drawing from the domains of literature, composition, linguistics, curriculum theory, anthropology and psychology and from theory, research and practice of both university-based and school-based teachers, writers and researchers. The intent is to pose and refine questions about what it means to teach literacy in ways that take seriously what youth bring to school as their own knowledge and passions, cultural and linguistic resources.
Course offered in fall term
Activity: Lecture
1 Course Unit

EDUC 631 Research Topics
This seminar offers students a collaborative setting in which to explore a topical area, craft a literature review and refine their research questions. The course will be of special interest to doctoral candidates who are drawn to an area of inquiry (e.g., presidential leadership, diversity, access, organizational change) but now wish to elicit from it a discrete "researchable" question.
Activity: Lecture
1 Course Unit
EDUC 632 Leadership in Independent, Public and Parochial Schools
The challenges of leadership in both independent and parochial schools are important to consider as part of the broader discussion of educational leadership in elementary and secondary education. The course will identify themes that have implications for both private and public schools and will seek to establish interconnections. This course will examine the history and social foundations of independent and parochial education, and will consider issues of leadership that involve working with the various constituencies within schools including board members, faculty, parents, alumni and students. This course will conclude with a consideration of the relationship of independent and parochial schools to public purpose and the overall goals of education within the contemporary society. Offered within the School Leadership Program.
Taught by: Ball, E
Prerequisites: Admission to School Leadership Program.
Activity: Seminar
1 Course Unit

EDUC 633 Selected Topics in Reading/Writing
Examines a topic of current interest to theory, research, and practice in writing.
Course not offered every year
Activity: Lecture
1 Course Unit

EDUC 634 Language Assessment
This course concerns a basic theoretical and practical foundation in language assessment, with particular emphasis on assessments used in second and foreign language education. The course covers various kinds of testing (both formal testing and performance-based assessment), theoretical and technical issues associated with test development, administration, the social influences of testing, and future directions in language assessment.
Taught by: Butler
Course usually offered in spring term
Activity: Lecture
1 Course Unit

EDUC 635 Assessing Language and Learning Differences
This course exposes students to a wide variety of assessments used to look closely at growth in reading/writing/literacy. Students critique both formal and informal approaches to assessment as well as complete structured observations of learners within diverse instructional contexts. Emphases include contextual and affective components of reading/language difficulties, innovative assessment procedures, observational strategies and collaborative inquiry.
Taught by: Gadsden/Campano
Course usually offered in spring term
Prerequisite: EDUC 533
Activity: Lecture
1 Course Unit
Notes: Auditors not permitted

EDUC 636 Young Adult Literature, Media & Culture
This course acquaints students with the ever-expanding body of literature written for young adults, considering the theoretical and pedagogical issues it raises. Readings include many young adult novels; empirical research on adolescent response to literature; and literary theory.
Taught by: Thomas
Course usually offered in spring term
Activity: Lecture
1 Course Unit

EDUC 637 Advanced Methods in TESOL
Students employ action research techniques and case studies to investigate challenges in teaching second languages in a variety of classroom settings. Fieldwork in teaching ESL forms the basis for a course paper. Based on student self-evaluation, class members also review and deepen knowledge of such L2 teaching issues as form focus within task-based and content-based instruction, learning strategies in second language teaching, and materials adaptation. Readings on research and theory in second language pedagogy lead to a critical consideration of the construct of "methodology" within the diverse sociocultural contexts in which they plan to teach.
Course not offered every year
Activity: Lecture
1 Course Unit

EDUC 639 Design of Learning Environments
This course examines different theoretical frames and strategies related to the study and design of learning environments in school, community and online contexts. Physical, social and cognitive aspects of learning situations are considered as students evaluate current research and applications in a variety of existing educational learning environments.
Taught by: Yoon/Staff
Activity: Lecture
1 Course Unit

EDUC 640 History of American Higher Education
This interactive course focuses on the history of American higher education from the Colonial period through the current day. An emphasis is placed on underrepresented institutions and individuals. Students will have the opportunity to make connections between historical trends and movements and current issues.
Taught by: Gasman
Course usually offered in fall term
Activity: Lecture
1 Course Unit

EDUC 641 Language and the Professions
This course takes a micro-analytical perspective on interaction and language use in various institutional domains. Topics include doctor-patient interaction in diagnosis and treatment, trial examination and jury deliberations, as well as informal modes of conflict resolution; and news and political communications. Attention is focused on the interrelationships between interactional practices, institutional tasks and social identities. Students will be given opportunities to mutually engage in hands-on data analysis during the class.
Taught by: Wagner,S.
Course usually offered summer term only
Activity: Lecture
1 Course Unit

EDUC 642 Higher Education in American Society
Our nation's colleges and universities are affected by social, economic, and political forces. Societal forces impose a variety of demand on higher education institutions, as reflected by calls for greater accountability; improved access, cost containment, and incorporation of new technologies. This course considers the ways that colleges and universities are challenged to respond to demands for increased accountability while maintaining their commitment to such core values as academic freedom and institutional autonomy.
Taught by: Perna
Course usually offered in fall term
Activity: Lecture
1 Course Unit
EDUC 644 Technology-Mediated Teaching & Learning
Students in this course will critically evaluate the role of technology in education. Through a range of inquiry projects, research analysis and hands-on experience, students will examine the potential risks and benefits, as well as strategies of use for technology-mediated teaching and learning. Technologies considered will include: skill-building software, microworld software, visualization and modeling tools, internet search tools, media production tools, and collaboration technologies.
Course usually offered in spring term
Activity: Lecture
1 Course Unit

EDUC 645 Issues in Education and Health: Disparities and Prevention in Schools and Communities
Drawing upon research and scholarship in health and education, this course aims to deepen our knowledge, understanding, and ability to effect positive change in the health and health practices of students and families in urban settings, using schools and community agencies as sites of engagement.
Taught by: Harper
Course usually offered in spring term
Activity: Seminar
1 Course Unit

EDUC 646 Contextualizing the School to Prison Pipeline: Implications of History, Policy, and Race
The term school-to-prison pipeline typically refers to a disturbing trend in which punitive policies have led to children being funneled out of schools and into the criminal justice system at an alarming rate. This course: 1. Examines the historical context and policies that have contributed to the school-to-prison pipeline.
Taught by: Harper
Course usually offered in spring term
Activity: Seminar
1 Course Unit

EDUC 650 Communication and Culture in Context
This course brings together scholarship in pragmatics, interactional sociolinguistics, and critical discourse analysis to help language teachers and intercultural educators foster pedagogies that respond to the complexities of living in a multilingual/multicultural society. Through a series of readings, small research projects, and activities, participants will develop a collection of educational practices that focus on 1) raising metalinguistic awareness, 2) developing resources and strategies for communicating across perceived social and cultural boundaries, and 3) assessing intercultural interactional competence.
Taught by: Pomerantz/Paninos
Course usually offered in spring term
Activity: Lecture
1 Course Unit

EDUC 652 Developing Instructional Leadership in Practice
This course emphasizes how to connect organizational systems with the school’s instructional mission. Students investigate how distributive leadership is a key factor in consistent implementation of the instructional mission. The significance of building a community of learners for both adults and children is explored. Participants study the importance of aligning, managing, and evaluating curriculum, instruction, assessment, professional development and instructional support systems with a focus on K-12 student achievement in mathematics and science. Inquiry into effective uses of technology, begun in the fall term, is intensified in this term. Coursework includes interactive case studies, debates, inquiry projects and field investigations. Offered within the School Leadership Program.
Taught by: Ball, Brody, Dawson, and Mata
Course usually offered in spring term
Prerequisites: Admission to School Leadership Program.
Activity: Lecture
1 Course Unit

EDUC 653 Field Internship Seminar: Inquiring into Organizational and Legal Dimensions to Principal Leadership
The course emphasizes that effective schools commit to the ongoing learning of children and adults. Systems thinking provides the lens through which students inquire into how the principal’s organizational leadership can support continuous school improvement through attention to school climate, program coherence, and effectiveness of instruction. Students deepen their understanding of law and policy, affecting three significant areas: special education, teacher evaluation, and students’ rights. Three focused observations provide opportunities to visit schools engaged in continuous school improvement in mathematics, science and the arts. A University-assigned mentor supervises the work of each student, as the 360 hour on-site internship continues. Offered within the School Leadership Program.
Taught by: Ball, Brody, Dawson, and Mata
Course usually offered in spring term
Prerequisites: Admission to School Leadership Program.
Activity: Lecture
1 Course Unit

EDUC 654 Aligning Fiscal, Human and Community Resources in Support of the School’s Instructional Mission
This course focuses on the effective utilization of resources to serve the mission of improving student achievement. Connecting the daily decision-making of the school, including managing budgets and funding streams, utilization of space, use of time, and scheduling and assignments of staff and students in accordance with the school’s mission are emphasized. Students pursue an understanding of how a school leader has a public role as an advocate, catalyst, and broker, in spanning the boundaries between schools and the communities they serve. Students develop inquiry projects to further their knowledge of community resources, budgeting, legal principles, school law and school district policies. The Cumulative Portfolio is presented at the end of this course. Offered within the School Leadership Program.
Taught by: Brody, Dawson and Mata
Course usually offered summer term only
Prerequisites: Admission to School Leadership Program.
Activity: Lecture
1 Course Unit
EDUC 656 College and University Teaching
In this class, students will learn how to systematically plan for a university course, develop a teaching philosophy, create a course syllabus relevant to their discipline and expertise, design and implement evaluation instruments to assess teaching and learning, experiment with a range of technologies to advance teaching, and participate in a teaching simulation. This course also incorporates issues of diversity with regard to teaching.
One-term course offered either term
Activity: Lecture
1 Course Unit

EDUC 657 Advanced Methods in Middle & Secondary Education
Formal teaching and learning are on-going processes that require an examination of our practice and purpose through self-reflection, self-evaluation, collegial and student/teacher interaction, and personal and professional growth. This course is the second half of a content-specific secondary methods sequence that is geared toward teaching middle and high school English, math, science and social studies in an urban setting. Special focus will be on content, pedagogical strategies as well as specific skills and Pennsylvania and national standards. We will work together as teacher-researchers to combine theory with practice to increase our understanding and utilization of an inquiry based, multiple perspective, constructivist approach to teaching. Offered within the Teacher Education Program.
Activity: Lecture
1 Course Unit

EDUC 658 Diagnosis and Psychopathology
In this course, students will explore the etiology, course, and prevalence of psychological disorders of childhood and adolescence. Particular focus is on the role of these issues in the developing person within the context of family, school, and culture. Major clinical and empirical classification systems (DSMIV and the new DSM5) are examined, as well as some of the diagnostic and assessment strategies used to aid the conceptualization and treatment of these disorders.
Taught by: Richardson
Activity: Lecture
1 Course Unit

EDUC 659 Language Diversity and Education
Exploration of issues affecting educational policy and classroom practice in multilingual, multicultural settings, with an emphasis on ethnographic research. Selected U.S. and international cases illustrate concerns relating to learners' bilingual/bicultural/biliterate development in formal educational settings. Topics include policy contexts, program structures, teaching and learning in the multilingual classroom, discourses and identities in multilingual education policy and practice, and the role of teachers, researchers, and communities in implementing change in schools.
Taught by: Hornberger
Course usually offered in fall term
Also Offered As: LALS 661
Activity: Lecture
1 Course Unit
Notes: Permission needed from the department

EDUC 661 Language Diversity and Education
This course examines the formal properties of picturebooks and their use in enabling literacy development. The course uses aesthetic theory, theories of text-picture relationships, theories of literacy and theories of literary understanding, and also exposes students to empirical research on children's responses to this literary form.
Taught by: Thomas
Course usually offered in spring term
Activity: Lecture
1 Course Unit

EDUC 662 Picturebooks and the Practice of Literacy
The course provides an understanding of sociocultural concepts essential to the work of counselors and providers of psychological services. This course provides a contextual and applied understanding of working with socioculturally diverse clients. The purpose of this course is to expand one's understanding of the impact of sociocultural and contextual factors, social-psychological influences, the role of values, and the interaction of identities in counseling and psychological services. Both intervention and prevention strategies will be addressed. The student will be required to demonstrate a working knowledge of key concepts in sociocultural psychology and the topical areas addressed in the course.
Taught by: Warren/Staff
Course usually offered in spring term
Activity: Lecture
1 Course Unit

EDUC 663 Sociocultural Foundations in Counseling
Theory and Practice
This course examines participatory models and frameworks in relation to international applied educational development research. Through a critical examination of approaches to international applied development research, the course examines real-world models of development research in order to examine questions regarding the nature of knowledge, post-colonial histories, researcher positionalities, and the relationships between concepts, theory, methodology, community, and identity. Course focuses on participatory methodologies as cross-sector strategy frameworks for sustainable, equitable, locally driven educational development efforts.
Taught by: Ravitch
Course usually offered in spring term
Activity: Seminar
1 Course Unit

EDUC 664 Participatory Educational Research in Global Perspective: Theory and Practice
This course is designed to explore the research literature on classroom teaching processes as well as the contrasting conceptual and methodological approaches upon which this literature is based. The course introduces students to the major substantive areas in the field, develops a critical perspective on contrasting paradigms, and raises questions about the implication of research on teaching for curriculum, instruction, evaluation, and teacher education.
Taught by: Remillard
Course usually offered in fall term
Activity: Lecture
1 Course Unit

EDUC 665 Research on Teaching
This course introduces students to the major substantive areas in the field, develops a critical perspective on contrasting paradigms, and raises questions about the implication of research on teaching for curriculum, instruction, evaluation, and teacher education.
Taught by: Remillard
Course usually offered in fall term
Activity: Lecture
1 Course Unit
EDUC 667 Introductory Statistics for Educational Research
Scales of measurement; indices of central tendency and variability; product-movement correlation; introduction to the chi-squared; Z, T, and F distributions.
Taught by: Boe
One-term course offered either term
Activity: Lecture
1 Course Unit

EDUC 668 Master's Paper Seminar
This seminar explores key foundational questions for graduate-level work: How is academic knowledge formed and reproduced? How do we engage with and interrogate the scholarly research? And, how do we participate in the academic conversation around a topic? The Master’s Paper Seminar introduces students to academic discourse, disciplinary writing conventions, and research practices. As part of this course, students are guided through preparing a literature review of a topic of their choice. This review, in turn, forms the foundation of their 30-40 page Master's Paper that is required for the completion of the M.S.Ed degree.
Taught by: Aplenc
Course usually offered in spring term
Activity: Lecture
0.5 Course Units

EDUC 669 Seminar in Practitioner Inquiry
This course is designed as a collaborative investigation into practitioner inquiry and the work of inquiry communities in K-16 and graduate/professional school settings, professional networks and community-based organizations. The focus is on conceptual and methodological frameworks and methods of practitioner inquiry and the contexts, purposes and practices of differently situated inquiry communities. Participants will explore a range of practitioner inquiry traditions and texts that go by terms such as action, collaborative, critical, community-based, participatory, autobiographical, emancipatory, narrative and pedagogical. They will also conduct an inquiry based on their particular interests and contexts. The course will emphasize practitioner inquiry that intentionally engages issues of equity, access and culture in educational settings.
Taught by: Campano and Hartley
Course usually offered in spring term
Activity: Lecture
1 Course Unit

EDUC 670 Second Language Development
This course provides an introduction to theory and research on second language acquisition. Linguistic, cognitive, social and pedagogical perspectives are considered through readings, lectures, activities, and assignments. Students gain an understanding of research design, methodology, and documentation through guided analysis of published studies and an opportunity to design and implement research projects.
Taught by: Butler/Larsen-Freeman/Hondo
One-term course offered either term
Activity: Lecture
1 Course Unit

EDUC 671 Adult Literacy
Teaching reading/writing/literacy to adults for whom English is a first or second language. Topics include contrasting conceptions of literacy and learning; participatory literacy programs; instruction and curriculum for adults with diverse cultural and linguistic backgrounds and nationalities; alternative/performance-based assessment; and practitioner research in adult literacy education.
Course usually offered in fall term
Activity: Lecture
1 Course Unit

EDUC 673 Curriculum & Pedagogy in International Contexts
This course explores the problems, issues, and approaches to teacher preparation and the development of curricula and instructional materials, particularly (though not exclusively) in developing country contexts through a seminar styled class and a hands-on semester long project.
Taught by: Ghaffar-Kucher, Ameena
Course usually offered in spring term
Activity: Seminar
1 Course Unit

EDUC 674 Curriculum and Materials Development for English Language Teaching
This course is designed for those who are ready to develop skills in curriculum, course and materials design. The objectives of the course include learning how (a) to become able to analytically respond to readings on curriculum, course and materials development; (b) to analyze the sociocultural, economic, linguistic and occupational contexts of language teaching programs; (c) to design an original semester-long ESL/EFL course; (d) to design original pedagogical tasks and supplementary materials; and (e) to design in a group. EDUC 527 & EDUC 537 provide essential background for this advanced course.
Taught by: Hondo
Course usually offered in fall term
Prerequisite: EDUC 527 & EDUC 537 or permission from instructor
Activity: Lecture
1 Course Unit

EDUC 675 Structure of English
The goal of this course is to increase students’ explicit knowledge of selected isolatable parts of the English language and to identify their pedagogical applications with respect to the needs of learners of English as a foreign/second language. This goal is realized through an investigation of: 1) frequently occurring linguistic forms and the rules and principles that govern the way that these forms can be combined and ordered; 2) the meanings that can attach to these forms; and 3) the social functions associated with these forms.
One-term course offered either term
Activity: Lecture
1 Course Unit
EDUC 676 Discursive Approaches in Intercultural Communication
This course offers a discourse-based approach and hands-on introduction to the field of intercultural communication, from the micro-level of interpersonal interaction to the macro-level of institutional practice. Through a series of readings and service learning projects in multicultural settings, students will hone their observational and analytic abilities, while gaining an appreciation of and facility for participating in the communicative diversity around them. Topics will include a repertoire approach to examining language in use, interpretation and metacommentary, and the possibility of intervention to facilitate new communicative patterns.
Taught by: Rymes/Moore
Course usually offered in fall term
Activity: Lecture
1 Course Unit

EDUC 677 Information and Communications Technologies for Education and Development in Global Perspective
The importance of the relationship between education, technology, and social-economic development is increasing in the U.S. and around the world. What are new information and communications technologies (ICTs), how are they being deployed, and for what reasons? Are new ICTs a means for delivering skill-based or distance education information, and in what ways are they becoming a part of societies today? What constitute, then, ICTs for Development (ICT4D), and what role do they play in societies that are 'industrialized' and 'developing'.
Taught by: Wagner
Course usually offered in spring term
Activity: Lecture
1 Course Unit

EDUC 678 Gender and Sexuality in Education
This seminar gives an overview of the intersections and interplay among gender, sexuality, and education through theory, practice, current discussions, and analysis of varied contexts in English speaking countries (e.g. the United States, Canada, Great Britain, and Australia). After examining the theoretical foundations of genders and sexualities, we will look at their histories and effects in K-12 schools and colleges and universities as well as explore special topics.
Taught by: Cross E
Course usually offered in fall term
Activity: Seminar
1 Course Unit

EDUC 679 Reading, Writing, and Critical Thinking for Applied Linguistics
This course offers international students a hands-on introduction to the practices that constitute academic language use in the fields of TESOL/ICC through a variety of scholarly readings that also serve as an introduction to multilingual writing research. Participants will focus on developing skills and strategies that will strengthen their existing expertise in the following areas: locating, reading, and critiquing academic articles; producing graduate-level written work across a variety of genres; and participating in oral activities.
Taught by: Pomerantz/Paninos
One-term course offered either term
Activity: Lecture
1 Course Unit

EDUC 680 Evaluation of Policies, Programs and Projects
Basic evaluation policy and methods for determining nature and severity of problems, implementation of programs relative effects and cost-effectiveness of interventions to reduce problems, design and conduct of evaluation studies in education, social services, crime and delinquency, in the U.S. and other countries.
Taught by: Boruch
Course usually offered in fall term
Prerequisite: EDUC 667 or equivalent
Activity: Lecture
1 Course Unit

EDUC 681 Literacy and Illustrated Texts: Picturebooks, Comics and Graphic Novels
Students develop familiarity with illustrated materials - including picturebooks, comics, and graphic novels - while cultivating understanding of how illustrated texts like these can be used in 21st century elementary/middle/secondary literacy curricula. Students complete individualized and group course projects that focus on illustrated texts in specific classroom, research, critical, theoretical, home, community, and/or professional contexts.
Taught by: Thomas
Course not offered every year
Activity: Lecture
1 Course Unit

EDUC 682 Qualitative Modes of Inquiry
This course surveys the field of qualitative research and focuses on foundational philosophies of and approaches to qualitative research. The course focuses on the stages of qualitative research including the development of researchable questions, research designs, conceptual frameworks, methodological stances, data collection and analysis and instrument design and implementation.
Taught by: Ravitch/Strong/Staff
One-term course offered either term
Activity: Lecture
1 Course Unit

EDUC 683 Survey Methods & Design
This course covers the methods and design of field surveys in the U.S. and other countries in education, the social sciences, criminal justice research, and other areas. It covers methods of eliciting information through household, mail, telephone surveys, methods of assuring privacy, enhancing cooperation rates and related matters. Finally, the fundamentals of statistical sampling and sample design are handled. Much of the course is based on contemporary surveys sponsored by the National Center for Education Statistics and other federal, state and local agencies.
Taught by: Boruch
Course usually offered in spring term
Also Offered As: STAT 502
Prerequisites: Educ 667 or equivalent. Undergraduate statistics or tests and measurement.
Activity: Lecture
1 Course Unit
EDUC 684 Measurement & Assessment
Analysis of primary assessment concepts including basic theoretical principles, types and purposes of assessment devices, levels of measurement, standardization and norming, and methods to support reliability and validity; special focus on appropriate test interpretation, fairness, measurement of change, and incremental validity; application of standards for test development, usage, and critique in education, health care, public policy, and scientific inquiry.
Taught by: McDermtt
Course usually offered in fall term
Activity: Lecture
1 Course Unit

EDUC 685 Career Counseling and Development
Career development is studied as an aspect of general development theories of educational and vocational choice and adjustment; psychological aspects of occupations.
Course usually offered summer term only
Prerequisites: Permission needed from instructor.
Activity: Lecture
1 Course Unit

EDUC 686 Counseling Interventions
This course will provide an overview of the approaches to various psychological interventions with a focus on theory, key concepts, and therapeutic processes. The purpose of this course is to develop a knowledge base of the underlying principles and approaches of psychological interventions. Students will be required to demonstrate a working knowledge of the key concepts of the psychotherapeutic approaches presented, distinguish between different approaches, and make a preliminary rationale for the use of a particular approach. Students also are expected to develop a critical perspective and demonstrate the ability to analyze theories and interventions.
Course usually offered in fall term
Prerequisites: Admission to Counseling and Mental Health Services.
Activity: Lecture
1 Course Unit

EDUC 687 Counseling Ethics & Professional Principles
This course will provide the student with an opportunity to learn and incorporate the multifaceted roles of the professional counselor and assist the student in developing a sense of their professional identity. In this process, the course will focus on the professional role of the counselor; ethics and their application across situations and professional settings; and gaining strong professional communication abilities. The primary goals of the course are to develop the student's awareness of their roles and responsibilities as a professional, incorporating ethical standards as a counselor, increasing professional communication skills, and understanding the roles of counselor across professional settings.
Course usually offered in fall term
Activity: Lecture
1 Course Unit

EDUC 688 Counseling Practicum
Seminar and lab to accompany supervised practicum or apprenticeship experiences in schools, colleges, or community agencies. Placement to be arranged by instructor.
Two terms. Student must enter first term.
Activity: Lecture
1 Course Unit

EDUC 689 Contemporary Issues in Mathematics Curriculum
Educational leaders and policy makers in the U.S. have long used curriculum reform to drive change in K-12 teaching and schooling practices. This course examines the assumptions underlying this approach and examines the related research evidence.
Taught by: Remillard
Course usually offered in spring term
Activity: Seminar
1 Course Unit

EDUC 690 Contemporary Issues in Science and Technology Education Research
This course focuses on topics that represent some of the most salient and contemporary issues in science education research today. The syllabus moves through four sections that address: 1) Curriculum and Content (What and Why); 2) Learning Processes (How); 3) Contexts (When and Where); 4) Teaching and Teacher Education (Who).
Taught by: Yoon, Susan
Course usually offered in spring term
Activity: Seminar
1 Course Unit

EDUC 692 Education Policy Issues
This course is an introduction to the process of conducting educational research. Its purpose is to help students learn to approach problems like researchers by examining and critiquing existing research and developing coherent "researchable" questions. Students will carry out a substantial independent project where they will develop elements of a research proposal.
Taught by: Maynard
Course usually offered in spring term
Activity: Lecture
1 Course Unit

EDUC 693 Student Development in College Environments
An overview of college student development theory is offered in this course. Specifically, three families of theory are explored: 1) Psychosocial and identity, 2) cognitive-structural, and 3) environmental. The theories are discussed in terms of their foundations, constructs, and applicability to work in various functional areas of higher education.
Course usually offered in fall term
Activity: Seminar
1 Course Unit

EDUC 694 Organization and Administration of Intercollegiate Athletics
Athletics play a critical role at colleges and universities. This course examines the role of intercollegiate athletics, how they are structured, what educational purposes they serve and how such programs influence the social and academic development of students.
Taught by: Weaver/Staff
Activity: Lecture
1 Course Unit

EDUC 695 Proseminar in International Educational Development
The IEDP Prosminar covers the broad arena of international educational development. The course is designed to provide an analytical perspective on applied research and policy as undertaken by UN, donor and non-profit agencies, with a focus on developing countries. Several invited specialists will participate in the course. This Prosminar is a required course for IEDP Masters students.
Taught by: Wagner
Two terms. Student must enter first term.
Activity: Seminar
1 Course Unit
EDUC 696 In/ormal Learning Experience Internship
The In/ormal Learning Experiences Internship is a two-semester course that meets throughout the academic year to cover theory, research, and practice of informal learning. The internship is undertaken from October to March each academic year in one of our partnership institutions and includes about 120 hours field work. The course is designed to provide background readings, a discussion forum of central issues in informal learning, and a place to share and exchange internship experiences. This course will be required for all LST MSEd and TLL MSEd students as part of the required Internship Program.
Two terms. student must enter first term.
Activity: Lecture
0.5 Course Units

EDUC 697 Post-Master’s Internship in School Counseling
Seminar to accompany post-master’s internship. Meets requirements for certification in school counseling and special education. Instructor must approve placement.
Course not offered every year
Prerequisites: Successful completion of the master’s program in Psychological Services.
Activity: Lecture
1 Course Unit

EDUC 698 Politics of School Reform
In this seminar we’ll explore the political causes and consequences of school reform in the post-Brown era. Coverage will be eclectic so as to give participants a broad, interdisciplinary background in the field. We’ll draw primarily from the politics of education literature, but we’ll reach beyond and examine work from political science, sociology and history. Rather than the standard categories organizing this scholarship—by level (local, state, federal), decision-making body (school board, legislature, judiciary), or issue area (standards, decentralization, funding)—we’ll structure our exploration by considering fundamental conclusions about the politics of school reform: (1) School reform as contained politics, (2) School reform as transgressive politics, (3) School reform as collaborative politics, and (4) Institutions, ideas, & interests as constraints on the politics of school reform.
Taught by: Quinn
Course usually offered in fall term
Activity: Lecture
1 Course Unit

EDUC 700 Craft of Ethnography
This course is designed to follow after Ethnographic Research Methods (EDUC 721). In the introductory course, students learned how to use qualitative methods in conducting a brief field study. This advanced level course focuses on research design and specifically the craft of ethnographic research. Students will apply what they learn in the course in writing a proposal for a dissertation research project.
Taught by: Hall
Course usually offered in spring term
Also Offered As: ANTH 707
Prerequisites: Must have completed EDUC 721 or equivalent introductory qualitative methods course.
Activity: Lecture
1 Course Unit

EDUC 702 Conceptual Models of School Leadership & Organization
This graduate seminar has three components. One, we will explore contemporary theories of organization as frameworks for understanding how classrooms, schools, and districts function. Two, we will employ a case method approach on several real-world cases developed by Harvard Business School and the Public Education Leadership Project at Harvard University. Three, we will learn from and interact directly with local education leaders and their communities through a series of school leadership study tours.
Taught by: Quinn
One-term course offered either term
Activity: Lecture
1 Course Unit

EDUC 703 Advanced Qualitative and Case Study Research
This course explores epistemological and methodological choices and stances in qualitative research as well as advanced research methods including qualitative research design and concept mapping, sampling/participant selection, interviewing, coding and data analysis, instrument development and triangulation techniques.
Taught by: Ravitch
Course usually offered in spring term
Prerequisite: EDUC 682 Qualitative Modes of Inquiry
Activity: Lecture
1 Course Unit

EDUC 704 Economics of Higher Education
Covers selected topics in the economics of higher education, including investment and consumption theories, cost functions, university investment practices and principles, and academic labor markets.
Taught by: Presley
Course not offered every year
Activity: Lecture
1 Course Unit

EDUC 705 Proseminar in Research & Analysis
This course is designed to provide students with the skills, information, and resources that are necessary to develop a research proposal. This course will also examine strategies for completing proposals and dissertations. A variety of research designs and approaches to educational research will be explored. Through this course, students will become both informed consumers of research and effective designers of research.
Taught by: Perna/Hartley
Course usually offered in fall term
Prerequisites: Permission needed from department.
Activity: Lecture
1 Course Unit
EDUC 706 Culture/Power/Subjectivities
This doctoral level course will introduce students to a conceptual language and theoretical tools for analyzing and explaining the complex intersection of racialized, ethnic, gendered, sexual, and classed differences and asymmetrical social relations. The students will examine critically the interrelationships between culture, power, and subjectivity through a close reading of classical and contemporary social theory. Emphasis will be given to assessing the power of various theories for conceptualizing and explaining mechanisms of social stratification as well as the basis of social order and processes of social change.
Taught by: Hall
Course usually offered in fall term
Also Offered As: ANTH 704, FOLK 706, URBS 706
Prerequisite: EDUC 547
Activity: Lecture
1 Course Unit

EDUC 707 Improving Schools: What Works, What Doesn't, and Why
Designed to increase knowledge of what works to improve public schools, what doesn't, and why. Topics include accountability, turnaround and charter schools, Common Core Standards, and other organizational, curricular, teacher and leader reforms. Focuses on how reforms are translated to the classroom, and effects on districts, principals, teachers, and students.
Taught by: Desimone
Course usually offered in fall term
Activity: Lecture
1 Course Unit

EDUC 708 Schools as Organizations
Schools are places of learning - but they are also workplaces, teachers are employees and teaching is a job. This in-depth doctoral-level course focuses on theory and research concerned with the organizational and occupational side to schools and teaching. It draws from multiple fields and perspectives, including: organizational theory; the sociology of organizations, occupations and work; educational administration; and school leadership. The objective is to have students understand and evaluate a series of different perspectives from theory, research and policy concerned with the character of the teaching occupation and the organization of schools.
Taught by: Ingersoll
Course usually offered in fall term
Activity: Lecture
1 Course Unit

EDUC 709 Peer Relationships in Childhood and Adolescence.
This course focuses on various aspects of children's peer relationships, especially with regard to their significance for human development. The roles of family, community, and socio-cultural contexts in the development of interpersonal competence and relationships are discussed. The course explores possible intervention strategies to help children with peer relationship difficulties.
Taught by: Chen
Course usually offered in spring term
Activity: Lecture
1 Course Unit

EDUC 710 Methods of Discourse Analysis
This course introduces several methodological approaches that have been developed to do discourse analysis. The course intends primarily to provide students with various methodological tools for studying naturally-occurring speech. Assignments include both reading and weekly data analysis exercises.
Taught by: Rymes
Course usually offered summer term only
Prerequisites: This course is designed to follow after Qualitative Modes of Inquiry (EDUC 682) and as such it is suggested that students have some background in qualitative methods before enrolling.
Activity: Lecture
1 Course Unit

EDUC 712 Comprehensive School Reform: From 'No Child Left Behind' through 'Race to the Top' to 'Every Student Succeeds Act'
This course examines how K-12 education policy is designed and implemented in the United States. It uses a systems analysis as the framework for looking at who makes what kinds of demands on the education policy system, how these demands are placed on the policy agenda, the decision making process, and resulting education policies and policy outcomes. The course pays particular attention to the roles of federal, state and local governments in education policy, and the impact of our intergovernmental system on the design and implementation of policy. Students will also examine major education policies and debate key education policy issues that arise at each level of government.
Taught by: Hershberg
One-term course offered either term
Also Offered As: AFRC 712, SWRK 716
Activity: Seminar
1 Course Unit

EDUC 713 Responding to Literature: An Interdisciplinary Perspective
This course deals with the ways in which readers respond to and transact with literary texts, and aims at helping students understand the nature of the variety of ways in which literature interfaces with our lives. Three different types of discourse are read: literary criticism; empirical research on response to literature; and literary texts themselves. Various types of literary criticism are considered, including (but certainly not limited to) what is commonly called "reader response criticism"; text-based criticism; and criticism that contextualizes literature socially and historically. The empirical research on response deals with ways in which readers of various ages interact with literature, mostly in school settings; some attention is given to instructional design and critique of methodology. The literary texts range from picturebooks to literature for young adults.
Taught by: Thomas
Course usually offered in fall term
Activity: Seminar
1 Course Unit

EDUC 714 Law and Higher Education
An examination of the most important state and federal laws governing U.S. colleges and universities, with an emphasis on current legal problems.
Taught by: Roth
Course usually offered in spring term
Activity: Lecture
1 Course Unit
EDUC 715 Case Studies in Higher Education Administration
This course is designed to enhance understanding of decision making in higher education administration. Based on case studies, students will analyze, propose policies, generate action plans and implementation procedures, and assess the potential consequences of their administrative decisions.
Course not offered every year
Activity: Lecture
1 Course Unit

EDUC 716 Public Policy Issues in Higher Education
A study of the most influential federal and state policies, legislation and practices affecting colleges and universities.
Taught by: Finney
Course not offered every year
Activity: Lecture
1 Course Unit

EDUC 717 Professional Internship in Counseling I
The course will consist of experiential and small group learning, with a focus on practicing and refining skills related to advanced work in psychological services, including the application of various techniques of counseling, ethical considerations, and critiques of live and simulated counseling sessions through role-playing, audio and visual taping.
Taught by: Watts
Course usually offered in fall term
Prerequisites: Formal admission into Professional Counseling and Psychology M.Phil. Program.
Activity: Lecture
1 Course Unit

EDUC 718 Professional Internship in Counseling II
Lab seminar group with a seminar group leader is the second component of the Professional Counseling Internship course. Lab will provide students with exposure to others' experiences in different types of internships, working with a variety of different client populations. A primary goal of the course is to help each student refine his/her evolving knowledge of self as a provider of psychological services to others. Students will also evaluate contexts of practice and the professional skills, ethics and practices inherent in effective provision of counseling and psychological services. This course is designed to follow Qualitative Modes of Inquiry (EDUC 682) and as such it is suggested that students have some background in qualitative methods before enrolling.
Taught by: Watts
Course usually offered in spring term
Prerequisites: Students must be enrolled in the M.Phil.Ed. in Professional Counseling Program.
Activity: Lecture
1 Course Unit

EDUC 719 Research on Teacher Education and Learning to Teach
This course focuses on issues of research, practice, and policy related to teacher education at the preservice, induction, and continuing education levels in the United States and internationally. The course is designed as a seminar to engage participants in the study of teacher education through interaction with researchers and policy-makers, through in-depth study of critical issues in the field, and through engagement with teacher education programs. It is anticipated that each course participant will develop a literature review focusing on one or more topics related to critical issues in teacher education.
Course usually offered in spring term
Activity: Lecture
1 Course Unit

EDUC 720 Teachers and Teaching Policy
Explores research, policies, and practices that promote a high-quality teacher workforce, and effective instruction. Topics include recruitment, retention, mentoring, induction, professional development, certification, value-added, merit pay, etc. Appropriate for students from different programs, including education, social/public policy, psychology, political science, sociology, business, and current and future teachers and school leaders.
Taught by: Desimone
One-term course offered either term
Activity: Lecture
1 Course Unit

EDUC 721 Ethnographic Research Methods
A course in ethnographic participant observational research; its substantive orientation, literature, and methods. Emphasis is on the interpretive study of social organization and culture in educational settings, formal and informal. Methods of data collection and analysis, critical review of examples of ethnographic research reports, and research design and proposal preparation are among the topics and activities included in this course.
Taught by: Hall/Strong
One-term course offered either term
Also Offered As: FOLK 672, URBS 672
Prerequisites: This course is designed to follow Qualitative Modes of Inquiry (EDUC 682) and as such it is suggested that students have some background in qualitative methods before enrolling.
Activity: Lecture
1 Course Unit

EDUC 723 Multicultural Issues in Education
This course examines critical issues, problems, and perspectives in multicultural education. Intended to focus on access to literacy and educational opportunity, the course will engage class members in discussions around a variety of topics in educational practice, research, and policy. Specifically, the course will (1) review theoretical frameworks in multicultural education, (2) analyze the issues of race, racism, and culture in historical and contemporary perspective, and (3) identify obstacles to participation in the educational process by diverse cultural and ethnic groups. Students will be required to complete field experiences and classroom activities that enable them to reflect on their own belief systems, practices, and educational experiences.
Taught by: Gadsden
Course usually offered in fall term
Also Offered As: AFRC 723
Activity: Lecture
1 Course Unit
EDUC 724 Literacy: Social and Historical Perspectives
A review of the cross-cultural and historical literature on writing and reading with emphasis on the identification of norms and practices which affect the teaching and learning of reading and literacy today. Special attention to the social functions of literacy in work, home, and school settings and to myths regarding the consequences of literacy for cognition, socio-economic mobility, and predictability, and the predictability of citizen behaviors.
Course not offered every year
Activity: Lecture
1 Course Unit

EDUC 725 Advanced Professional Development & Ethics in Counseling
The purpose of this course is to expand the student's awareness of the multifaceted responsibilities and roles of school counselors in primary and secondary school settings. Through readings, class discussions and guest lectures, it is intended that students will acquire additional competencies and a broader appreciation for professional issues confronted by school counselors and varied responsibilities they have in helping students focus on academic, personal, social and career development in an effort to achieve success in school and lead fulfilling lives. An important emphasis of this course will be on school counseling from an ecological and multicultural perspective.
Prerequisites: Students must be enrolled in the M.Phil.Ed. in Professional Counseling Program.
Activity: Lecture
1 Course Unit

EDUC 726 Doctoral Foundations of Teaching and Learning
The course explores theoretical and empirical perspectives on the questions: What is knowledge and knowing? What is learning? What is teaching? How do contexts influence teaching, knowing and learning?
A central goal of the course is to encourage students to consider these questions and their interconnections for themselves, to examine ways scholars and practitioners have answered them, and to develop an analytical framework to use in examining contemporary practices in settings that include formal and informal, urban and international.
Taught by: Kafai/Remillard/Yoon/Reisman/Staff
One-term course offered either term
Activity: Lecture
1 Course Unit

EDUC 727 Education, Culture and Society
This course surveys basic issues in the philosophical and social foundations of education, addressing basic questions about the purpose of education, mostly through reading primary texts. Intended for incoming doctoral students.
Taught by: Ben-Porath
Course usually offered in fall term
Activity: Lecture
1 Course Unit

EDUC 729 International Educational Development Doctoral Proseminar
The IEDP Doctoral Proseminar covers the broad arena of international educational development. Drawing on the research experiences of the faculty and of the enrolled doctoral students, the course allows for the analysis of intellectual and technical challenges of working in international education and development, especially around issues of social and public policy.
Taught by: Ghaffar-Kucher, Ameena & Wagner, Dan
Course usually offered in spring term
Activity: Lecture
1 Course Unit

EDUC 731 Risk, Resilience, and Prevention Science
Examines the definition and measurement of risk and resilience from the perspectives of developmental psychology and ecological theories of development; introduces students to the conceptual and practical integration of intervention and prevention sciences to address social, emotional, educational, and health problems across childhood.
Taught by: Wolf
Course usually offered in fall term
Activity: Seminar
1 Course Unit

EDUC 735 Tutorial Work in Reading/Writing/Literacy
Tutorial in Reading Writing and Literacy, is designed for participants to gain knowledge and insight into the major challenges facing learners in their quest for proficiency in literacy. The course participants investigate and develop instructional plans for the literacy needs of learners in pre-K to 12th grade settings. Course participants will investigate the roles and responsibilities of the literacy specialist as related to identifying the needs of learners and planning appropriate instruction to meet those needs.
Taught by: Gross
Course usually offered in spring term
Prerequisites: Permission needed from instructor.
Activity: Lecture
1 Course Unit

EDUC 737 Research in Teaching Writing
This doctoral seminar explores theories and research on writing, investigating current and traditional areas of inquiry in the field of writing studies. As class participants review and analyze theoretical and empirical literature on writing and teaching writing, the seminar will offer students opportunities to compose texts and reflect on their roles as writers in the academy through collaborative inquiry. Participants will think together about the purposes, functions, and consequences of writing in diverse communities and across school and out-of-school settings. The course will pay particular attention to how writing is shifting in a mobile, networked, global age, and how multimodality, interactivity, and hybridity characterize our composing lives.
Taught by: Stornaiuolo, A
Course not offered every year
Activity: Lecture
1 Course Unit

EDUC 747 Biological Psychology
The biological bases of behavior, including genetics, physiology, endocrinology and bioethology.
Course not offered every year
Activity: Lecture
1 Course Unit

EDUC 751 Introduction to Applied Quantitative Methods for Education Research: Pre-K to 20
An introduction to the interpretation and use of data about education policy issues through the use of computer-assisted methods of statistical analysis. Emphasis is on the implications for educational policy and research design.
Course not offered every year
Activity: Lecture
1 Course Unit
EDUC 764 Cognitive Processes
Basic concepts, theory, and research in cognitive science, problem-solving, psycholinguistics, memory, perception and social cognition. Special topics may include reading, bilingualism, computer modeling, and cognitive theory applied to education and non-education settings.
Taught by: Fyre
Prerequisite: EDUC 568 or equivalent
Activity: Lecture
1 Course Unit

EDUC 765 Developmental Deviations
Theoretical orientations toward handicapping conditions in children; controversial issues in description and categorization; the relationship of disabilities to developmental (cognitive, social, emotional) processes.
Course not offered every year
Prerequisite: EDUC 560 or equivalent
Activity: Lecture
1 Course Unit

EDUC 766 Advanced Professional Counseling Interventions
This course will focus on advanced issues in the clinical practice of professional psychology with children, adolescents and adults where students will practice clinical skills in role-played therapeutic situations. Students will be using this class as preparation for the formal clinical examination required by all Master of Philosophy in Education students prior to graduation from the Professional Psychology and Counseling program.
Taught by: Morris/Stevenson
Course usually offered in fall term
Prerequisites: Admission into Professional Counseling M.Phil.Ed. Program
Activity: Lecture
1 Course Unit

EDUC 767 Regression and Analysis of Variance
This course covers design of controlled randomized experiments, analysis of survey data and controlled field experiments, including statistical models, regression, hypothesis testing, relevant data analysis and reporting.
Taught by: Boruch
One-term course offered either term
Prerequisite: EDUC 667 or equivalent
Activity: Lecture
1 Course Unit

EDUC 768 Measurement Theory and Test Construction
Design of ability, achievement, and performance measures such as those applied for high-stakes decision making in large-scale assessment and for diagnosis and classification of individuals; advanced true-score and item response theory; item formatting, analysis, selection, calibration, linking, and scaling; analysis of reliability for continuous, ordinal, nominal, and composite scales; analysis of differential item functioning; unidimensionality, and local independence; model contrasting, test equating, and scaling for longitudinal assessment; standards and cut-point setting.
Taught by: McDermott
Course not offered every year
Prerequisite: EDUC 684 or equivalent
Activity: Lecture
1 Course Unit

EDUC 770 New Models for Postsecondary Education
Taught by: Pritchett
Activity: Seminar
1 Course Unit

EDUC 771 Factor Analysis and Scale Development
Advanced measurement theory; exploratory and confirmatory item factoring and clustering for self-report, observational, rating, performance, and personality instruments; factoring of dichotomous and ordered categorical data, full-information factoring; scaling procedures, hierarchical structure, full-information bifactor structure, invariance, generality, reliability, validity, interpretation, and scientific reporting.
Taught by: McDermott
Course usually offered in fall term
Prerequisites: EDUC 684 or equivalent.
Activity: Lecture
1 Course Unit

EDUC 777 Structural Equations Modeling
Theory and application of means modeling and longitudinal analysis through structural equations, including observed variable regression with multiple equations simultaneously estimated, confirmatory factor analysis measurement models using multiple observed indicators to define sets of latent variables, and regression relationships among multiple latent variables; advanced applications for repeated measures and multilevel growth modeling in educational and social science research.
Taught by: Rovine/McDermott
Course usually offered in fall term
Prerequisite: Introductory Statistics
Activity: Lecture
1 Course Unit

EDUC 782 Assessment for Counselors I
A critical analysis of tests and clinical methods in assessment as related to theories of intelligence, and includes: 1) factors influencing assessments; 2) assessment theory; 3) assessment practices; 4) interpretations of assessments.
Prerequisites: Admission to Professional Counseling M.Phil.Program
Activity: Lecture
1 Course Unit

EDUC 783 Assessment for Counselors II
Review and administration of assessment instruments in the areas of adaptive behavior, perceptual abilities, neurological functioning, diagnostic and achievement measures, vocational interests, and objective personality measures. Integration and interpretation of results and intervention.
Course usually offered in spring term
Prerequisites: Admission to Counseling and Mental Health Services or Professional Counseling M.Phil.Program
Activity: Lecture
1 Course Unit

EDUC 784 Psychological Consultation
Study of theories of consultation and their applications at the professional level. Methods and procedures in applied behavior analysis are introduced as skills for successful consultation.
Course not offered every year
Prerequisites: Admission to Counseling & Mental Health Services or Professional Counseling M. Phil. Program
Activity: Lecture
0.5 Course Units
EDUC 785 Selected Topics in Professional Psychology
Consideration of research and theory, on selected advanced topics. Course not offered every year
Prerequisites: Admission to Counseling & Mental Health Services or Professional Counseling M. Phil. Program
Activity: Lecture
1 Course Unit

EDUC 806 Narrating the Self
This seminar explores, in some linguistic detail, how narrators can partly construct their selves while telling autobiographical stories. The seminar addresses three questions: What is the structure of narrative discourse? How might we construct ourselves by telling stories about ourselves? If narrative is central to self-constructions, what is *the self*?
Taught by: Rymes
Course usually offered in spring term
Activity: Lecture
1 Course Unit

EDUC 829 Policy Research Seminar
Study of the roles of scientific inquiry in development and assessment of contemporary educational and social policy. Analysis and application of foundational research, statistical and psychometric methods to inform a variety of policy topics and related issues and problems encountered in policy formation and evaluation.
Taught by: Boe
One-term course offered either term
Prerequisites: EDUC 667 or equivalent.
Activity: Lecture
1 Course Unit

EDUC 834 Theories of Reading
This course is designed as a collaborative inquiry toward constructing and elaborating theories of practice as teachers and/or researchers of reading. Using a seminar or working group format, participants explore the relationships among theory, reading, practice, pedagogy and research. The course's conceptualization is informed primarily by (1) frameworks from critical, feminist and culturally-centered literatures which foreground issues of equity, representation, and ethics; and (2) current conversations in the field of literacy where the definitions, purposes, and practices of reading have been made problematic. It also invites participants to engage the notion that knowledge for teaching and research comes from inquiry into the questions, issues, and contradictions that arise from everyday life. The course provides historical lenses for comparative analyses of theoretical frameworks and research paradigms as well as opportunities to investigate participants' individual histories as well as teaching and research interests.
Taught by: Campano
Course not offered every year
Activity: Lecture
1 Course Unit

EDUC 835 Seminar in Reading and Writing
Participants in the course examine landmark studies in the field of reading, writing, and literacy; explore different approaches to composing critical reviews of the literature for academic journals, dissertations and other research projects; and select, search, and review the theoretical and empirical literature related to a topic of their own interest in the domains of reading, writing and literacy.
Course not offered every year
Activity: Seminar
1 Course Unit

EDUC 836 Issues in Instructional Leadership in Reading and Writing
Participants will consider current critical issues in Reading, Writing, and Literacy, such as: improving accountability and assessment; approaches to professional development and curriculum development; and the use of scientifically "valid" research to advance literacy learning.
Taught by: Waff
Course usually offered in spring term
Activity: Lecture
1 Course Unit

EDUC 838 Applied Research & Reporting
Hands-on experience conducting applied research. Students will be guided through a research project of relevance to education or social policy chosen by the student, with assistance from the instructor. The research entails analysis of one or more public or quasi-public use data sets, such as the National Longitudinal Survey of Youth; the National Longitudinal Survey of Youth Child Supplement; The Teenage Parent Demonstration Data Base; the National Profile of Child Care Settings Data Base; or the National Post Secondary Student Aid Survey. The students will prepare journal-length papers based on their research and respond to the reviews of classmates and the instructor.
Taught by: Maynard
Course usually offered in fall term
Prerequisites: Competence in basic statistics and computer literacy.
Activity: Lecture
1 Course Unit

EDUC 845 Seminar in Microethnography
This course provides an introduction to theory and method in the unified analysis of verbal and nonverbal behavior as it is culturally patterned, socially organized, and socially organizing in face-to-face interaction, in an approach that integrates participant observation with the detailed analysis of audiovisual records. Students read relevant literature in linguistic anthropology, interactional sociolinguistics, conversation analysis, and embodiment in social interaction. Class requirements include in-class reading presentations, a small microethnographic research project, and several short data analysis reports drawing on differing levels of analysis and differing theoretical orientations. Students review and apply methods of audiovisual data collection, transcription, processing, archiving, and presentation.
Course not offered every year
Activity: Seminar
1 Course Unit

EDUC 860 ISHD Proseminar: Exploring Self in Developmental Context
This course gives students the opportunity to better understand their own psychological development and how this interacts with their scholarship and professional development. Required course for ISHD students.
Taught by: Stevenson
Course usually offered in fall term
Activity: Seminar
1 Course Unit
EDUC 871 Randomized Trials and Experiments
This course will cover three alternatives to conventional modeling in the social sciences: (1) design and execution of field trials in education and other social sectors including criminology, (2) quasi-experiments especially contemporary research comparing results of randomized and non-randomized trials, and (3) analysis for descriptive and exploratory purposes. The course themes include causal inference, vulnerability of models applied to observational data, recent developments computer-intensive inductive approaches to data, and related matters. Although some methodological background papers will be discussed, the seminar is case study oriented with readings from contemporary research on the topics from peer reviewed journals and well-vetted reports issued by governmental and nongovernment agencies. Cases will include work supported by IES on effects of Odyssey Math, for example, and work in the crime and justice arena. We will study the work of scholars affiliated with Penn who are actively involved in randomized and non-randomized trials, for instance, and the work of colleagues at other universities (Berkeley, Northwestern, Wisconsin, Princeton, others) and colleagues in non-profit and for profit research organizations such as Analytica, AIR, Mathematica and others that contribute to learning in this arena.
Taught by: Boruch
Course usually offered in fall term
Also Offered As: CRIM 871
Activity: Lecture
1 Course Unit

EDUC 880 Complex, Multilevel, and Longitudinal Research Models
Design construction, sampling, internal and external validity principles; univariate and multivariate statistical treatment of experimental and quasi-experimental data; computer processing, interpretation, and reporting for simple and complex factorial, repeated measures, time series, growth trajectory, unbalanced, and multiple consistent and inconsistent covariates designs; error covariance structure modeling, hierarchical linear (and nonlinear) modeling, and multilevel individual growth-curve modeling.
Taught by: McDermott
Course usually offered in fall term
Activity: Lecture
1 Course Unit
Notes: EDUC 767 or equivalent

EDUC 881 Applied Multivariate Statistics
Multivariate strategies for hypothesis testing, prediction, and classification including multiple regression, multivariate multiple regression, canonical regression, multiple logistic regression, multiple discriminant functions, factor analysis of scaled variables, hierarchical cluster analysis, and multivariate classification analysis; computer processing, interpretation, and reporting.
Taught by: McDermott
Course usually offered in spring term
Prerequisite: EDUC 767 or equivalent and permission of instructor.
Activity: Lecture
1 Course Unit

EDUC 900 Research Seminar in Applied Research Synthesis Methods
Issues in research design, development of a literature review, and dissertation proposal.
Taught by: Maynard
Course usually offered in fall term
Activity: Seminar
1 Course Unit

EDUC 911 Issues in Second Language Acquisition
This course is designed for students to be able to analyze, synthesize and discuss second language acquisition theory and research on the basis of intensive reading of work that reflects perennial and current issues in the field. Comparisons and connections are drawn from theoretical and empirical literature on second language acquisition processes, constraints, and interventions. Relevant research methods are also addressed. Topics, issues, and readings are updated each time the course is offered.
Taught by: Butler
Course not offered every year
Prerequisite: EDUC 670
Activity: Lecture
1 Course Unit
Notes: Permission needed from instructor

EDUC 917 Research Seminar: Language and Power
The course examines the relationship between language, meaning and power in their social context. The course is organised around a number of core themes: Language studies rooted in Critical Discourse analysis; The application of Bourdieu’s concepts to this field; multi modality; the growing concern with ‘Superdiversity’ that links Local/Global, academic literacies, with particular reference to the writing required in students’ own contexts; and methodological issues in researching language and power; and we then bring all of this to bear on our own context under the heading ‘language in education’.
Taught by: Street
Course not offered every year
Activity: Seminar
1 Course Unit

EDUC 920 Research Seminar in Reading and Writing
For doctoral candidates and others engaged in research and advanced professional study in the field of literacy.
Taught by: Campano
Course usually offered in spring term
Activity: Seminar
1 Course Unit

EDUC 927 Research Seminar: Language Policy and Education
Seminar participants are introduced to concepts, theories, and methods in the field of language planning and policy, which they then apply in developing their own library-based research on specific language planning cases from around the world. Cases may include: official language decisions, instructional medium choices, literacy initiatives, gender-neutral language reforms, foreign/heritage/second language pedagogy and policy, indigenous language revitalization efforts, or other language-related decisions and policies at international, national or local levels.
Taught by: Hornberger
Course not offered every year
Activity: Seminar
1 Course Unit
Notes: Permission needed from instructor

EDUC 960 Advanced Research in Human Learning and Development
Selected topics from human learning, human development, cognitive processes, social psychology, and personality.
Taught by: Frye
Activity: Lecture
1 Course Unit
EDUC 980 Research Seminar in Counseling
This course is designed to position students to acquire a more sophisticated understanding of research methods in order to conduct and critically evaluate empirical research in applied and clinical settings.
Activity: Seminar
1 Course Unit

Electrical & Systems Engineering (ESE)

ESE 099 Undergraduate Research and/or Independent Study
An opportunity for the student to become closely associated with a professor in (1) a research effort to develop research skills and technique and/or (2) to develop a program of independent in-depth study in a subject area in which the professor and student have a common interest. The challenge of the task undertaken must be consistent with the student's academic level. To register for this course, the student and professor jointly submit a detailed proposal to the undergraduate curriculum chairman no later than the end of the first week of the term.
One-term course offered either term
Activity: Independent Study
1 Course Unit
Notes: A maximum of 2 c.u. of ESE 099 may be applied toward the B.A.S. or B.S.E. degree requirements

ESE 111 Atoms, Bits, Circuits and Systems
Introduction to the principles underlying electrical and systems engineering. Concepts used in designing circuits, processing signals on analog and digital devices, implementing computation on embedded systems, analyzing communication networks, and understanding complex systems will be discussed in lectures and illustrated in the laboratory. This course provides an overview of the challenges and tools that Electrical Engineers and Systems Engineers address and some of the necessary foundations for students interested in more advanced courses in ESE.
Course usually offered in fall term
Activity: Lecture
1 Course Unit
Notes: FOR FRESHMEN ONLY

ESE 112 Engineering Electromagnetics
This course covers basic topics in engineering electromagnetics, namely, electric charge, electric field, electric energy, conductors, insulators, dielectric materials, capacitors, electric current, magnetic field, inductors, Faraday's law of induction, alternating current (AC), impedance, Maxwell's equations, electromagnetic and optical wave propagation, with emphasis on engineering issues. Relevant engineering topics are emphasized in our lectures in order to prepare students for other courses in ESE that rely on the contents on this course. Several laboratory experiments accompany the course to provide hands-on experience on some of the topics in the lecture and prepare students for the capstone project.
One-term course offered either term
Activity: Lecture
1.5 Course Unit

ESE 150 Digital Audio Basics
Primer on digital audio. Overview of signal processing, sampling, compression, human psychoacoustics, MP3, intellectual property, hardware and software platform components, and networking (i.e., the basic technical underpinnings of modern MP3 players and cell phones).
Course usually offered in spring term
Activity: Lecture
1 Course Unit
Notes: FOR FRESHMEN ONLY

ESE 190 Silicon Garage: Introduction to Open Source Hardware and Software Platforms
Project-centric learning course for non-ESE majors on microprocessor control of physical systems using open-source hardware and software platforms. Students will work in teams to develop software controlled systems based on the Arduino and Raspberry-Pi that interface with the real world (sensors, actuators, motors) and each other (networking).
One-term course offered either term
Prerequisites: High School Physics and Math
Activity: Lecture
0.5 Course Units

ESE 204 Decision Models
This first course in decision models will introduce students to quantitative models for decision making, using optimization and monte-carlo simulation. Examples will be drawn from manufacturing, finance, logistics and supply chain management. Students will use EXCEL and @Risk to build and analyze models.
Course usually offered in fall term
Prerequisite: MATH 104
Activity: Lecture
1 Course Unit

ESE 210 Introduction to Dynamic Systems
This first course in systems modelling covers linear and nonlinear systems in both continuous and discrete time. Topics covered include linearization and stability analysis, elementary bifurcations, and an introduction to chaotic dynamics. Extensive applications to mechanical, electrical, biological, social, and economic/financial systems are included. The course will use both analytical and numerical/symbolic tools.
Course usually offered in fall term
Corequisite: MATH 240
Activity: Lecture
1 Course Unit
ESE 215 Electrical Circuits and Systems
This course gives an introduction of modern electric and electronic circuits and systems. Designing, building and experimenting with electrical and electronic circuits are challenging and fun. It starts with basic electric circuit analysis techniques of linear circuits. Today mathematical analysis is used to gain insight that supports design; and more detailed and accurate representations of circuit performance are obtained using computer simulation. It continues with 1st order and 2nd order circuits in both the time and frequency domains. It discusses the frequency behavior of circuits and the use of transfer functions. It continues with introduction of non-linear elements such as diodes and MOSFET (MOS) transistors. Applications include analog and digital circuits, such as single stage amplifiers and simple logic gates. A weekly lab accompanies the course where concepts discussed in class will be illustrated by hands-on projects; students will be exposed to state-of-the-art test equipment and software tools (LabView, Spice).
Course usually offered in fall term
Prerequisites: PHYS 150, PHYS 151
Corequisite: MATH 240
Activity: Lecture
1.5 Course Unit

ESE 218 Electronic, Photonic, and Electromechanical Devices
This first course in electronic, photonic and electromechanical devices introduces students to the design, physics and operation of physical devices found in today's applications. The course describes semiconductor electronic and optoelectronic devices, including light-emitting diodes, photodetectors, photovoltaics, transistors and memory; optical and electromagnetic devices, such as waveguides, fibers, transmission lines, antennas, gratings, and imaging devices; and electromechanical actuators, sensors, transducers, machines and systems.
Course usually offered in fall term
Prerequisites: PHYS 150, PHYS 151
Corequisite: MATH 240
Activity: Lecture
1.5 Course Unit

ESE 224 Signal and Information Processing
Introduction to signal and information processing (SIP). In SIP we discern patterns in data and extract the patterns from noise. Foundations of deterministic SIP in the form of frequency domain analysis, sampling, and linear filtering. Random signals and the modifications of deterministic tools that are necessary to deal with them. Multidimensional SIP where the goal is to analyze signals that are indexed by more than one parameter. Includes a hands-on lab component that implements SIP as standalone applications on modern mobile platforms.
Course usually offered in spring term
Prerequisite: MATH 104
Corequisite: MATH 240
Activity: Lecture
1.5 Course Unit

ESE 290 Introduction to Electrical and Systems Engineering Research Methodology
Introduction to the nature and process of engineering research as represented by ongoing ESE faculty (and collaborating colleagues’ and industrial partners’) research projects. Joint class exercises in how to pursue effective background technical reading, pitch a proposal, and aim for the discovery of new human knowledge to complement the individually mentored topic specific project work.
Course usually offered in spring term
Prerequisites: MATH 240, PHYS 150, ESE 215 and ESE 218, or ESE 204 and 210, or ESE 215 and CIS 240
Corequisite: ESE 291
Activity: Lecture
0.5 Course Units

ESE 291 Introduction to Electrical and Systems Engineering Research and Design
Students contract with a faculty mentor to conduct scaffolded original research in a topic of mutual interest. Prepare project report on research findings.
One-term course offered either term
Corequisite: ESE 290
Activity: Laboratory
1 Course Unit

ESE 292 Introduction to Electromechanical Prototyping
This is a project-centric course for ESE majors to engage in circuit layout and prototype design skills. Students will work in teams to develop printed circuit boards using industry standard tools like Altium and learn mechanical prototyping skills using Solidworks. Emphasis will be on developing sound printed circuit board layout practices using circuitry knowledge that they acquire in ESE 215 and ESE 370. A module on using Cypress PSoC will introduce students to recent developments in analog/digital co-design.
One-term course offered either term
Activity: Lecture
0.5 Course Units

ESE 296 Study Abroad
Activity: Lecture
1 Course Unit
ESE 301 Engineering Probability
This course introduces students to the mathematical foundations of the
theory of probability and its rich applications. The course begins with
an exploration of combinatorial probabilities in the classical setting of
games of chance, proceeds to the development of an axiomatic, fully
mathematical theory of probability, and concludes with the discovery
of the remarkable limit laws and the eminence grise of the classical
theory, the central limit theorem. The topics covered include: discrete and
continuous probability spaces, distributions, mass functions, densities;
conditional probability; independence; the Bernoulli schema: the binomial,
Poisson, and waiting time distributions; uniform, exponential, normal,
and related densities; expectation, variance, moments; conditional
expectation; generating functions, characteristic functions; inequalities,
tail bounds, and limit laws. But a bald listing of topics does not do justice
to the subject: the material is presented in its lush and glorious historical
context, the mathematical theory buttressed and made vivid by rich and
beautiful applications drawn from the world around us. The student will
see surprises in election-day counting of ballots, a historical wager the
sun will rise tomorrow, the folly of gambling, the sad news about lethal
genes, the curiously persistent illusion of the hot hand in sports, the
unreasonable efficacy of polls and its implications to medical testing, and
a host of other beguiling settings.
Course usually offered in spring term
Prerequisite: MATH 114
Activity: Lecture
1 Course Unit

ESE 302 Engineering Applications of Statistics
Principles and engineering applications of statistical inference. The
basic topics covered are parameter estimation, confidence intervals, and
hypothesis testing. Additional topics may include analysis of variance
(ANOVA) and/or linear regression. Each method is treated both from
theoretical and applied viewpoints, including software analysis of
selected data sets.
One-term course offered either term
Prerequisite: ESE 301 or equivalent course in Probability
Activity: Lecture
1 Course Unit

ESE 303 Stochastic Systems Analysis and Simulation
Stochastic systems analysis and simulation (ESE 303) is a class that
explores stochastic systems which we could loosely define as anything
random that changes in time. Stochastic systems are at the core of
a number of disciplines in engineering, for example communication
systems and machine learning. They also find application elsewhere,
including social systems, markets, molecular biology and epidemiology.
The goal of the class is to learn how to model, analyze and simulate
stochastic systems. With respect to analysis we distinguish between
what we could call theoretical and experimental analysis. By theoretical
analysis we refer to a set of tools which let us discover and understand
properties of the system. These analysis can only take us so far and
is usually complemented with numerical analysis of experimental
outcomes. Although we use the word experiment more often than not
we simulate the stochastic system in a computer and analyze the
outcomes of these virtual experiments. The class’s material is divided
in four blocks respectively dealing with Markov chains, continuous time
Markov chains, Gaussian processes and stationary processes. Emphasis
is placed in the development of toolboxes to analyze these different
classes of processes and on describing their applications to complex
stochastic systems in different disciplines. Particular examples include:
(i) the problem of ranking web pages by a search engine; (ii) the study
of reputation and trust in social networks; (iii) modeling and analysis
of communication networks; (iv) the use of queues in the modeling of
transportation networks; (v) stochastic modeling and simulation of
biochemical reactions and gene networks; (vi) arbitrages, pricing of
stocks, and pricing of options through Black-Scholes formula; and (vii)
linear filtering of stochastic processes to separate signals of interest
from background noise. For more information visit the class’s web page
at http://alliance.seas.upenn.edu/~ese303/wiki/.
Course usually offered in fall term
Prerequisites: ESE 301 or equivalent and one computer language
Activity: Lecture
1 Course Unit

ESE 304 Optimization of Systems
Model Building and Linear Programming: Graphical Methods and
The Simplex Method, the LINDO and LINGO Computer Packages,
Degeneracies, Minimization and the BigM and the Two-Phase Methods,
and Goal Programming. Sensitivity Analysis: Geometric and Algebraic
Approaches, The Computer and Sensitivity Analysis, The Dual of An LP
Problem, The Dual Theorem, Shadow Prices, Complementary Slackness,
The Dual Simplex Method, and The Revised Simplex Method. Integer
Programming: The Branch and Bound Method, Enumeration Methods,
and the Cutting Plane Method. Nonlinear Programming: Review of
Differential Calculus, Convex and Concave Functions, Solving NLP
Problems with One Variable, Unconstrained Nonlinear Optimization
with Several Variables, Lagrange Multipliers and Constraint Nonlinear
Optimization with Several Variables, The Kuhn-Tucker Conditions and
Quadratic Programming.
Course usually offered in spring term
Corequisite: MATH 240
Activity: Lecture
1 Course Unit
ESE 305 Foundations of Data Science
Introduction to a broad range of tools to analyze large volumes of data in order to transform them into actionable decisions. Using case studies and hands-on exercises, the student will have the opportunity to practice and increase their data analysis skills.
Course usually offered in fall term
Prerequisite: EAS 205 or MATH 312; CIS 120; ESE 301
Activity: Lecture
1 Course Unit

ESE 310 Electric and Magnetic Fields I
This course examines concepts of electromagnetism, vector analysis, electrostatic fields, Coulomb's Law, Gauss's Law, magnetostatic fields, Biot-Savart Law, Ampere's Law, electromagnetic induction, Faraday's Law, transformers, Maxwell equations and time-varying fields, wave equations, wave propagation, dipole antenna, polarization, energy flow, and applications.
Course usually offered in spring term
Prerequisites: PHYS 151 and MATH 114
Activity: Lecture
1 Course Unit

ESE 319 Fundamentals of Solid-State Circuits
Analysis and design of basic active circuits involving semiconductor devices including diodes and bipolar transistors. Single stage, differential, multi-stage, and operational amplifiers will be discussed including their high frequency response. Wave shaping circuits, filters, feedback, stability, and power amplifiers will also be covered. A weekly three-hour laboratory will illustrate concepts and circuits discussed in the class.
Course usually offered in spring term
Prerequisite: ESE 215
Activity: Lecture
1 Course Unit

ESE 321 Physics and Models of Semiconductor Devices
Semiconductor materials form the basis of modern electronic technology. This course develops the physics of semiconductor devices, the evolution of modern semiconductor technology, device engineering considerations, and introduces emerging technologies. The course stresses intuitive understanding of the physics through interactive exercises, instructional videos, in-class examples and a research project. Topics covered include an introduction to quantum mechanics and band theory of solids; physics governing charge carriers in semiconductors; fundamental operating mechanisms for p-n junctions, bipolar and field-effect transistors, and optoelectronic devices; and an introduction to nanoscale devices and the limits of transistor scaling.
Course usually offered in fall term
Prerequisite: ESE 218 or by permission of the instructor
Activity: Lecture
1 Course Unit

ESE 325 Fourier Analysis and Applications in Engineering, Mathematics, and the Sciences
This course focuses on the mathematics behind Fourier theory and a wide variety of its applications in diverse problems in mathematics, engineering, and the sciences. The course is very mathematical in content and students signing up for it should have junior or senior standing. The topics covered are chosen from: functions and signals; systems of differential equations; superposition, memory, and nonlinearity; resonance, eigenfunctions; the Fourier series and transforms, spectra; convergence theorems; inner product spaces; mean-square approximation; interpolation and prediction, sampling; random processes, stationarity; wavelets, Brownian motion; stability and control, Laplace transforms. The applications of the mathematical theory that will be presented vary from year to year but a representative sample include: polynomial approximation, Weierstrass's theorem; efficient computation via Monte Carlo; linear and non-linear oscillators; the isoperimetric problem; the heat equation, underwater communication; the wave equation, tides; testing for randomness, fraud; nowhere differentiable continuous functions; does Brownian motion exist?; error-correction; phase conjugate optics and four-wave mixing; cryptography and secure communications; how fast can we compute?; X-ray crystallography; cosmology; and what the diffusion equation has to say about mathematical finance and arbitrage opportunities.
Course usually offered in fall term
Prerequisites: MATH 240, Junior or Senior Standing
Activity: Lecture
1 Course Unit

ESE 350 Embedded Systems/Microcontroller Laboratory
An introduction to interfacing real-world sensors and actuators to embedded microprocessor systems. Concepts needed for building electronic systems for real-time operation and user interaction, such as digital input/outputs, interrupt service routines, serial communications, and analog-to-digital conversion will be covered. The course will conclude with a final project where student-designed projects are featured in presentations and demonstrations.
Course usually offered in spring term
Prerequisite: Knowledge of C programming or permission of the instructor
Activity: Lecture
1.5 Course Unit

ESE 370 Circuit-Level Modeling, Design, and Optimization for Digital Systems
Circuit-level design and modeling of gates, storage, and interconnect. Emphasis on understanding physical aspects which drive energy, delay, area, and noise in digital circuits. Impact of physical effects on design and achievable performance.
Course usually offered in fall term
Prerequisites: ESE 150, ESE 215
Activity: Lecture
1 Course Unit
ESE 400 Engineering Economics
This course investigates methods of economic analysis for decision making among alternative courses of action in engineering applications. Topics include: cost-driven design economics, break-even analysis, money-time relationships, rates of return, cost estimation, depreciation and taxes, foreign exchange rates, life cycle analysis, benefit-cost ratios, risk analysis, capital financing and allocation, and financial statement analysis. Case studies apply these topics to actual engineering problems.
One-term course offered either term
Also Offered As: ESE 540
Prerequisite: Knowledge of Differential Calculus
Activity: Lecture
1 Course Unit

ESE 407 Introduction to Networks and Protocols
This is an introductory course on packet networks and associated protocols, with a particular emphasis on IP-based networks such as the Internet. The course introduces design and implementation choices that underlie the development of modern networks, and emphasizes basic analytical understanding of the concepts. Topics are covered in a mostly "bottom-up" approach starting with a brief review of physical layer issues such as digital transmission, error correction and error recovery strategies. This is followed by a discussion of link layer aspects, including multiple access strategies, local area networks (Ethernet and 802.11 wireless LANs), and general store-and-forward packet switching. Network layer solutions, including IP addressing, naming, and routing are covered next, before exploring transport layer and congestion control protocols (UDP and TCP). Finally, basic approaches for quality-of-service and network security are examined. Specific applications and aspects of data compression and streaming may also be covered.
One-term course offered either term
Also Offered As: ESE 507
Prerequisite: ESE 301 or equivalent
Activity: Lecture
1 Course Unit
Notes: Course open to Seniors in SEAS and Wharton

ESE 411 Electromagnetic Waves and Applications
Key concepts of electromagnetic and optical fields and waves, and their implications in modern communication systems. Selected topics from areas such as plane waves in lossy media, reflection and refraction, transmission lines, optical fibers, microwave and photonic waveguides, and antennas and sensors and their applications in communication systems are discussed.
Course not offered every year
Prerequisite: ESE 319 or permission of instructor
Activity: Lecture
1 Course Unit

ESE 419 Analog Integrated Circuits
Design of analog circuits and subsystems using primarily MOS technologies at the transistor and higher levels. Transistor level design of building block circuits such as op amps, comparators, sample and hold circuits, voltage and current references, capacitors and resistor and class AB output stages. The Cadence Design System will be used to capture schematics and run simulations using Spectre for some homework problems and for the course project. Topics of stability, noise, device matching through good layout practice will also be covered. Students who take ESE419 will not be able to take ESE572 later. More will be expected of ESE572 students in the design project.
Course usually offered in fall term
Also Offered As: ESE 572
Prerequisite: ESE 319 or permission of the instructor
Activity: Lecture
1 Course Unit

ESE 420 Agent-Based Modeling and Simulation
Agents are a new technique for trying to model, simulate, and understand systems that are ill-structured and whose mathematics is initially unknown and possibly unknowable. This approach allows the analyst to assemble models of agents and components where micro-decision rules may be understood; to bring the agents and components together as a system where macro-behavior then emerges; and to use that to empirically probe and improve understanding of the whole, the interrelations of the components, and synergies. This approach helps one explore parametrisms, causality, and what-ifs about socio-technical systems (technologies that must support people, groups, crowds, organizations, and societies). It is applicable when trying to model and understand human behavior - consumers, investors, passengers, plant operators, patients, voters, political leaders, terrorists, and so on. This course will allow students to investigate and compare increasingly complex agent based paradigms along three lines - math foundations, heuristic algorithms/knowledge representations, and empirical science. The student will gain a toolbox and methodology for attempting to represent and study complex socio-technical systems.
Course usually offered in fall term
Also Offered As: ESE 520
Activity: Lecture
1 Course Unit

ESE 444 Project Management
The course emphasizes a systems engineering approach to project management including the cycle costing and analysis, project scheduling, project organization and control, contract management, project monitoring and negotiations. In addition, the course will also examine management issues in large infrastructure projects like non-recourse or limited recourse project financing. Examples from the logistics planning process and global software project management will be used to highlight the course topics.
Two terms. student may enter either term.
Also Offered As: ESE 544
Prerequisite: ESE 304 or equivalent
Activity: Lecture
1 Course Unit
ESE 450 Senior Design Project I - EE and SSE
This is the first of a two-semester sequence in electrical and systems engineering senior design. Student work will focus on project/team definition, systems analysis, identification alternative design strategies and determination (experimental or by simulation) or specifications necessary for a detailed design. Project definition is focused on defining a product prototype that provides specific value to a least one identified user group. Students will receive guidance on preparing professional written and oral presentations. Each project team will submit a project proposal and two written project reports that include coherent technical presentations, block diagrams and other illustrations appropriate to the project. Each student will deliver two formal Powerpoint presentations to an audience comprised of peers, instructors and project advisors. During the semester there will be periodic individual-team project reviews.
Course usually offered in fall term
Prerequisite: Senior Standing or permission of the instructor
Activity: Lecture
1 Course Unit

ESE 451 Senior Design Project II - EE and SSE
This is the second of a two term sequence in electrical and systems engineering senior design. Student work will focus on completing the product prototype design undertaken in ESE 450 and successfully implementing the said product prototype. Success will be verified using experimental and/or simulation methods appropriate to the project that test the degree to which the project objectives are achieved. Each project team will prepare a poster to support a final project presentation and demonstration to peers, faculty and external judges. The course will conclude with the submission of a final project written team report. During the semester there will be periodic project reviews with individual teams.
Course usually offered in spring term
Prerequisite: ESE 450
Activity: Lecture
1 Course Unit

ESE 460 Principles of Microfabrication Technology
A laboratory-based course on fabricating microelectronic and micromechanical devices using photolithographic processing and related fabrication technologies. Lectures discuss: clean room procedures; microelectronic and microstructural materials; photolithography; diffusion, oxidation; materials deposition; etching and plasma processes. Basic laboratory processes are covered for the first two thirds of the course with students completing structures appropriate to their major in the final third. Students registering for ESE 574 will be expected to do extra work (including term paper and additional project).
Course usually offered in fall term
Also Offered As: ESE 574, MEAM 564
Prerequisites: Any of the following: ESE 218, MEAM 333, CBE 351, PHYS 250 or permission of the instructor
Activity: Lecture
1 Course Unit

ESE 461 Networking - Theory and Fundamentals
Networks constitute an important component of modern technology and society. Networks have traditionally dominated communication technology in form of communication networks, distribution of energy in form of power grid networks, and have more recently emerged as a tool for social connectivity in form of social networks. In this course, we will study mathematical techniques that are key to the design and analysis of different kinds of networks. First, we will investigate techniques for modeling evolution of networks. Specifically, we will consider random graphs (all or none connectivity, size of components, diameters under random connectivity), small world problem, network formation and the role of topology in the evolution of networks. Next, we will investigate different kinds of stochastic processes that model the flow of information in networks. Specifically, we will develop the theory of markov processes, renewal processes, and basic queueing, diffusion models, epidemics and rumor spreading in networks.
Course usually offered in spring term
Prerequisite: ESE 530 or equivalent
Activity: Lecture
1 Course Unit

ESE 500 Linear Systems Theory
This graduate-level course focuses on continuous and discrete n-dimensional linear systems with m inputs and p outputs in a time domain based on linear operators. The course covers general discussions of linear systems such as, linearization of non-linear systems, existence and uniqueness of state-equation solutions, transition matrices and their properties, methods for computing functions of matrices and transition matrices and state-variable changes. It also includes z-transform and Laplace transform methods for time-invariant systems and Floquet decomposition methods for periodic systems. The course then moves to stability analysis, including: uniform stability, uniform exponential stability, asymptotic stability, uniform asymptotic stability, Lyapunov transformations, Lyapunov stability criteria, eigenvalues conditions and input-output stability analysis. Applications involving the topics of controllability, observability, realizability, minimal realization, controller and observer forms, linear feedback, and state feedback stabilization are included, as time permits.
Course usually offered in fall term

ESE 501 Principles of Microfabrication Technology
A laboratory-based course on fabricating microelectronic and micromechanical devices using photolithographic processing and related fabrication technologies. Lectures discuss: clean room procedures; microelectronic and microstructural materials; photolithography; diffusion, oxidation; materials deposition; etching and plasma processes. Basic laboratory processes are covered for the first two thirds of the course with students completing structures appropriate to their major in the final third. Students registering for ESE 574 will be expected to do extra work (including term paper and additional project).
Course usually offered in fall term
Also Offered As: ESE 574, MEAM 564
Prerequisites: Any of the following: ESE 218, MEAM 333, CBE 351, PHYS 250 or permission of the instructor
Activity: Lecture
1 Course Unit

ESE 502 Introduction to Spatial Analysis
The course is designed to introduce students to modern statistical methods for analyzing spatial data. These methods include nearest-neighbor analyses of spatial point patterns, variogram and kriging analyses of continuous spatial data, and autoregression analyses of area data. The underlying statistical theory of each method is developed and illustrated in terms of selected GIS applications. Students are also given some experience with ARCMAP, JMPIN, and MATLAB software.
Course usually offered in spring term
Prerequisite: ESE 302 or equivalent
Activity: Lecture
1 Course Unit
**ESE 504 Introduction to Optimization Theory**

The course provides a detailed introduction to linear and nonlinear optimization analysis as well as integer optimization analysis. It discusses methods for the mathematical formulation of linear programming (LP), integer programming (IP), and nonlinear programming (NLP) problems, as well as methods of computational tools used for their solutions. In discussions surrounding the solutions to LP problems, the Simplex method and the Revised Simplex method are covered in a fairly rigorous fashion along with the LINDO computational computer package. Sensitivity analysis associated with the optimal solutions to LP problems is also discussed in detail using both geometric and algebraic methods. In discussions surrounding the solutions to IP problems, the course covers: (a) branch and bound, (b) enumeration and (c) cutting-plane methods, and these are applied to numerous classic problems in IP. In discussions surrounding the solutions to NLP problems, the course covers methods involving: (a) differential Calculus, (b) steepest ascent and decent and (c) Lagrange Multipliers. The Kuhn-Tucker Conditions are also presented and applied to problems in Quadratic Programming. Many examples are selected from a broad range of engineering and business problems.

Course usually offered in fall term
Also Offered As: OIDD 910
Prerequisites: ESE 304 and EAS 205 or MATH 313
Activity: Lecture
1 Course Unit

**ESE 505 Control of Systems**

Basic methods for analysis and design of feedback control in systems. Applications to practical systems. Methods presented include time response analysis, frequency response analysis, root locus, Nyquist and Bode plots, and the state-space approach.

Course usually offered in spring term
Also Offered As: MEAM 513
Prerequisites: ESE 224 or equivalent, ESE 210 recommended
Activity: Lecture
1 Course Unit

**ESE 507 Introduction to Networks and Protocols**

This is an introductory course on packet networks and associated protocols, with a particular emphasis on IP-based networks such as the Internet. The course introduces design and implementation choices that underlie the development of modern networks, and emphasizes basic analytical understanding of the concepts. Topics are covered in a mostly "bottom-up" approach starting with a brief review of physical layer issues such as digital transmission, error correction and error recovery strategies. This is followed by a discussion of link layer aspects, including multiple access strategies, local area networks (Ethernet and 802.11 wireless LANs), and general store-and-forward packet switching. Network layer solutions, including IP addressing, naming, and routing are covered next, before exploring transport layer and congestion control protocols (UDP and TCP). Finally, basic approaches for quality-of-service and network security are examined. Specific applications and aspects of data compression and streaming may also be covered.

One-term course offered either term
Also Offered As: ESE 407
Activity: Lecture
1 Course Unit
Notes: Course open to Graduate Students in SEAS and Wharton

**ESE 509 Waves, Fibers and Antennas for Telecommunications**

This course is designed to provide an understanding of the physical aspects of telecommunications systems. This includes an understanding of waves and wave propagation, basic optics, the operation of optical fibers and fiber communication systems, an introduction to optical networks, free-space optical communications, and an understanding of simple antennas and arrays and their use in wireless communication.

Course usually offered in fall term
Activity: Lecture
1 Course Unit

**ESE 510 Electromagnetic and Optical Theory**

This course reviews electrostatics, magnetostatics, electric and magnetic materials, induction, Maxwell's equations, potentials and boundary-value problems. Topics selected from the areas of wave propagation, wave guidance, antennas, and diffraction will be explored with the goal of equipping students to read current research literature in electromagnetics, microwaves, and optics.

Course usually offered in fall term
Activity: Lecture
1 Course Unit

**ESE 511 Modern Optics and Image Understanding**

The goal of this course is to provide a unified approach to modern optics, image formation, analysis, and understanding that form the theoretical basis for advanced imaging systems in use today in science, medicine and technology. The emphasis is on imaging systems that employ electromagnetic energy but the principles covered can be extended to systems employing other forms of radiant energy such as acoustical.

Course usually offered in spring term
Prerequisites: ESE 310, graduate standing, or permission of the instructor
Activity: Lecture
1 Course Unit

**ESE 512 Dynamical Systems for Engineering and Biological Applications**

This midlevel course in nonlinear dynamics focuses on the analysis of low dimensional, continuous time models for describing and understanding complex behavior in physical, biological and engineered systems. We assume some background knowledge of ordinary differential equations, and develop at an engineering applications level the concepts and tools of qualitative dynamical systems theory with major focus on analysis and some on synthesis.

Course usually offered in fall term
Prerequisites: MATH 240, PHYS 150, ESE 210 and a sound background in computational modeling
Activity: Lecture
1 Course Unit

**ESE 514 Physics of Materials I**

Failures of classical physics and the historical basis for quantum theory. Postulates of wave mechanics; uncertainty principle, wave packets and wave-particle duality. Schrodinger equation and operators; eigenvalue problems in 1 and 3 dimensions (barriers, wells, hydrogen, atom). Perturbation theory; scattering of particles and light. Use of computer-aided self-study will be made.

Course usually offered in fall term
Also Offered As: MSE 570
Prerequisites: Undergraduate Physics and Math through modern physics and differential equations
Activity: Lecture
1 Course Unit
ESE 515 Physics of Materials - II
Failures of free electron theory. Crystals and the reciprocal lattice; wave propagation in periodic media; Bloch's theorem. One-electron band structure models: nearly free electrons, tight binding. Semiclassical dynamics and transport. Cohesive energy, lattice dynamics and phonons. Dielectric properties of insulators. Homogeneous semiconductors and p-n junctions. Experimental probes of solid state phenomena: photo emission, energy loss spectroscopy, neutron scattering. As time permits, special topics selected from the following: correlation effects, semiconductor alloys and heterostructures, amorphous semiconductors, electroactive polymers.
Course usually offered in spring term
Also Offered As: MSE 571
Prerequisites: ESE 310 and 325 or equivalent
Activity: Lecture
1 Course Unit

ESE 517 Optical Imaging
Course usually offered in fall term
Also Offered As: BE 517
Prerequisites: ESE 310 and 325 or equivalent
Activity: Lecture
1 Course Unit

ESE 518 Battery and Super-Capacitor Systems
This is a senior / graduate course on scientific and technological fundamentals as they apply to electrochemical batteries and super-capacitors. The perspective utilized will be a combination of materials and systems science. The course will introduce the student to the different categories of electrochemical cells and batteries, and their related chemistry, kinds of super-capacitors, charging and discharging profiles, equivalent series resistance (ESR), power capacities, and lifetimes. For super-capacitors, the student will be introduced to double layer capacitance (DLC) and pseudo-capacitance types of energy storage, super-capacitor fundamentals through Faradaic and non-Faradaic processes, pseudo-capacitance of metal oxides and electro-active polymers (EAPs), non-ideal polarizable electrodes, energetics and kinetics of electrode processes, theories of dielectric polarization, inorganic and organic electro carbonaceous materials, effective surface area (ESA) and functionalizations, as well as the AC impedance behavior of batteries and super-capacitors including the self-discharge characteristics of both. The fundamental electrochemical relations will be discussed, as well as battery / super-caps system modeling, and batteries management systems.
One-term course offered either term
Prerequisites: CHEM 101 (General Chemistry) and MATH 104 (Calculus 1)
Activity: Lecture
1 Course Unit

ESE 519 Real-Time Embedded Systems
The use of distributed wireless sensor networks has surged in popularity in recent years with applications ranging from environmental monitoring, to people- and object-tracking in both cooperative and hostile environments. This course is targeted at understanding and obtaining hands-on experience with the state-of-the-art in such wireless sensor networks which are often composed using relatively inexpensive sensor nodes that have low power consumption, low processing power and bandwidth. The course will span a variety of topics ranging from radio communications, network stack, systems infrastructure including QoS support and energy management, programming paradigms, distributed algorithms and example applications. Some guest lectures may be given. One-term course offered either term
Also Offered As: IPD 519
Prerequisites: CIS 120, ESE 350 or equivalent, one course in computer networks and Senior or Graduate standing
Activity: Lecture
1 Course Unit

ESE 520 Agent-Based Modeling and Simulation
Agents are a new technique for trying to model, simulate, and understand systems that are ill-structured and whose mathematics is initially unknown and possibly unknowable. This approach allows the analyst to assemble models of agents and components where micro-decision rules may be understood; to bring the agents and components together as a system where macro-behavior then emerges; and to use that to empirically probe and improve understanding of the whole, the interrelations of the components, and synergies. This approach helps one explore parametrics, causality, and what-ifs about socio-technical systems (technologies that must support people, groups, crowds, organizations, and societies). It is applicable when trying to model and understand human behavior - consumers, investors, passengers, plant operators, patients, voters, political leaders, terrorists, and so on. This course will allow students to investigate and compare increasingly complex agent based paradigms along three lines - math foundations, heuristic algorithms/knowledge representations, and empirical science. The student will gain a toolbox and methodology for attempting to represent and study complex socio-technical systems. Students taking this for graduate credit will also learn how to design agent-based tools.
Course usually offered in fall term
Also Offered As: ESE 420
Activity: Lecture
1 Course Unit

ESE 521 The Physics of Solid State Energy Devices
An advanced undergraduate course or graduate level course on the fundamental physical principles underlying the operation of traditional semiconducting electronic and optoelectronic devices and extends these concepts to novel nanoscale electronic and optoelectronic devices. The course assumes an undergraduate level understanding of semiconductors physics, as found in ESE 218 or PHYS 240. The course builds on the physics of solid state semiconductor devices to develop the operation and application of semiconductors and their devices in energy conversion devices such as solar photovoltaics, thermophotovoltaics, and thermoelectrics, to supply energy. The course also considers the importance of the design of modern semiconductor transistor technology to operate at low-power in CMOS.
Course usually offered in spring term
Prerequisites: ESE 218 or PHYS 240 or equivalent, or by permission of the instructor.
Activity: Lecture
1 Course Unit
ESE 522 Process Management in Manufacturing
This course builds on OPIM 631 and OPIM 632 in developing the foundations of process management, with applications to manufacturing and supply chain coordination and integration. This course begins with a treatment of the foundations of process management, including quality (e.g., 6-sigma systems) and time (e.g., cycle time) as building blocks for the successful integration of plant operations with vertical and horizontal market structures. On the e-manufacturing side, the course considers recent advances in enterprise-wide planning (ERP) systems, supplier management and contract manufacturing. Industry case studies highlight contrasting approaches to the integration of manufacturing operations and risk management with e-Logistics and e-Procurement providers and exchanges. The course is recommended for those interested in consulting or operations careers, and those wishing to understand the role of manufacturing as a general foundation for economics value creation.
One-term course offered either term
Also Offered As: OIDD 656
Prerequisites: OIDD 621, OIDD 632 or equivalent
Activity: Lecture
1 Course Unit

ESE 523 Quantum Engineering
Quantum engineering - the design, fabrication, and control of quantum coherent devices - has emerged as a multidisciplinary field spanning physics, electrical engineering, materials science, chemistry, and biology, with the potential for transformational advances in computation, secure communication, and nanoscale sensing. This course surveys the state of the art in quantum hardware, beginning with an overview of the physical implementation requirements for a quantum computer and proceeding to a synopsis of the leading contenders for quantum building blocks, including spins in semiconductors, superconducting circuits, photons, and atoms. The course combines background material on the fundamental physics and engineering principles required to build and control these devices with readings drawn from the current literature, including promising architectures for scaling physical qubits into larger devices and secure communication networks, and for nanoscale sensing applications impacting biology, chemistry, and materials science.
Course usually offered in spring term
Prerequisites: One semester of quantum mechanics, e.g. PHYS 411, MSE 570, CHEM 523, or by permission of the instructor
Activity: Lecture
1 Course Unit

ESE 525 Nanoscale Science and Engineering
Overview of existing device and manufacturing technologies in microelectronics, optoelectronics, magnetic storage, Microsystems, and biotechnology. Overview of near- and long-term challenges facing those fields. Near- and long-term prospects of nanoscience and related technologies for the evolutionary suspension of current approaches, and for the development of revolutionary designs and applications.
Course usually offered in fall term
Also Offered As: MSE 525
Prerequisites: ESE 218 or PHYS 240 or MSE 220 or equivalent, or by permission.
Activity: Lecture
1 Course Unit

ESE 526 Photovoltaic Systems Engineering
This course will present the engineering basis for photovoltaic (PV) system design. The overall aim is for engineering students to understand the what, why, and how associated with the electrical, mechanical, economic, and aesthetic aspects of PV system. The course will introduce additional practical design considerations, added to the theoretical background, associated with pertinent electro-mechanical design.
Course usually offered in spring term
Prerequisite: Permission of the Instructor
Activity: Lecture
1 Course Unit

ESE 527 Design of Smart Systems
Smart systems are materials, structures, devices and/or networks that seek to autonomously emulate human capabilities (sensing, nervous system, deliberating, acting) for adapting and continued functioning in potentially adverse conditions. Smart systems are a highly trans-disciplinary field that utilize microsystems technology with other disciplines like biology, information science, nanoscience, or cognitive science to control networks of components. Smart systems are causing a sea-change in hybrid cyber-physical-social systems leading to such breakthroughs as: the internet of Everything, smart cars, smart cities, the next industrial revolution, solutions to reduce global warming, and personalized e-healthcare, among many others. In this course students explore state-of-the-art smart system components, learn a design methodology to integrate the components, and apply the methodology to design and simulate a smart system prototype. The course will also cover life-long coping skills for human-centered design and for modeling the security, privacy and reliability hazards of the smart systems approach.
Course usually offered in spring term
Prerequisites: Junior or Senior standing, course or experience in a course with high level language
Activity: Lecture
1 Course Unit

ESE 528 Estimation and Detection Theory
Statistical decision making constitutes the core of multiple engineering systems like communication, networking, signal processing, control, market dynamics, biological systems, data processing, etc. We strive to introduce mathematical theories that formulate statistical decision and obtain decision making algorithms with application to one or more of the above domains. This course will be offered every other year.
One-term course offered either term
Prerequisite: ESE 530 or equivalent
Activity: ESE 530 or equivalent
1 Course Unit

ESE 529 Introduction to Micro- and Nano-electromechanical Technologies
Course usually offered in spring term
Also Offered As: MEAM 529
Activity: Lecture
1 Course Unit
ESE 530 Elements of Probability Theory
This rapidly moving course provides a rigorous development of fundamental ideas in probability theory and random processes. The course is suitable for students seeking a rigorous graduate level exposure to probabilistic ideas and principles with applications in diverse settings. The topics covered are drawn from: abstract probability spaces; combinatorial probabilities; conditional probability; Bayes’s rule and the theorem of total probability; independence; connections with the theory of numbers, Borel’s normal law; rare events, Poisson laws, and the Lovasz local lemma; arithmetic and lattice distributions arising from the Bernoulli scheme; limit laws and characterizations of the binomial and Poisson distributions; continuous distributions in one and more dimensions; the uniform, exponential, normal, and related distributions; random variables, distribution functions; orthogonal and stationary random processes; the Gaussian process, Brownian motion; random number generation and statistical tests of randomness; mathematical expectation and the Lebesgue theory; expectations of functions, moments, convolutions; operator methods and distributional convergence, the central limit theorem, selection principles; conditional expectation; tail inequalities, concentration convergence in probability and almost surely, the law of large numbers, the law of the iterated logarithm; Poisson approximation, Janson’s inequality, the Stein–Chen method; moment generating functions, renewal theory; characteristic functions.
Course usually offered in fall term
Prerequisites: A solid foundation in undergraduate probability at the level of ESE 301 or STAT 430 at Penn. Students are expected to have a sound calculus background in the first two years of a typical undergraduate engineering curriculum. Undergraduates are warned that the course is very mathematical in nature with an emphasis on rigor; upperclassmen who wish to take the course will need to see the instructor for permission to register.
Activity: Lecture
1 Course Unit

ESE 531 Digital Signal Processing
This course covers the fundamentals of discrete-time signals and systems and digital filters. Specific topics covered include: review of discrete-time signal and linear system representations in the time and frequency domain, and convolution; discrete-time Fourier transform (DTFT); Z-transforms; frequency response of linear discrete-time systems; sampling of continuous-time signals, analog to digital conversion, sampling-rate conversion; basic discrete-time filter structures and types; finite impulse response (FIR) and infinite impulse response (IIR) filters; design of FIR and IIR filters; discrete Fourier transform (DFT), the fast Fourier transform (FFT) algorithm and its applications in filtering and spectrum estimation.
Course usually offered in fall term
Prerequisites: ESE 224, ESE 325 or equivalent
Activity: Lecture
1 Course Unit

ESE 532 System-on-a-Chip Architecture
Motivation, design, programming, optimization, and use of modern System-on-a-Chip (SoC) architectures. Hands-on coverage of the breadth of computer engineering within the context of SoC platforms from gates to application software, including on-chip memories and communication networks, I/O interfacing, RTL design of accelerators, processors, concurrency, firmware and OS/infrastructure software. Formulating parallel decompositions, hardware and software solutions, hardware/software tradeoffs, and hardware/software codesign. Attention to real-time requirements.
Course usually offered in fall term
Prerequisites: Undergraduates: CIS 240, ESE 350; Graduate: Working knowledge of C
Activity: Lecture
1 Course Unit

ESE 534 Computer Organization
Organization and design of physical computational systems, basic building block for computations, understanding and exploiting structure in computational problems, design space, costs, and tradeoffs in computer organization, common machine abstractions, and implementation/optimization techniques. The course will develop fundamental issues and tradeoffs which define computer organizational and architectural styles including RISC, VLIW, Super Scalar, EPIC, SIMD, Vector, MIMD, reconfigurable FPGA, PIM, and SoC. Basic topics in the design of computational units, instruction organization, memory systems, control and data flow, and interconnect will also be covered.
Course not offered every year
Prerequisites: Basic computability and basic digital circuits, VLSI exposure helpful but not required. CIS 371 adequate.
Activity: Lecture
1 Course Unit

ESE 535 Electronic Design Automation
Formulation, automation, and analysis of design mapping problems with emphasis on VLSI and computational realizations. Major themes include: formulating and abstracting problems, figures of merit (e.g. Energy, Delay, Throughput, Area, Mapping Time), representation, traditional decomposition of flow (logic optimization, covering, scheduling, retiming, assignment, partitioning, placement, routing), and techniques for solving problems (e.g., greedy, dynamic programming, search, (integer) linear programming, graph algorithms, randomization, satisfiability).
Course not offered every year
Prerequisites: Digital logic, Programming (need to be comfortable writing ~1-3K lines of code and working with a large, existing base code).
Activity: Lecture
1 Course Unit

ESE 536 Nanofabrication and Characterization
This course is intended for first year graduate students interested in the experimental practice of nanotechnology. In the context of a hands-on laboratory experience, students will gain familiarity with both top-down and bottom-up fabrication and characterization technologies. This will be achieved through the realization of a variety of micro- and nanoscale structures and devices that can exhibit either classical or quantum effects at the small scale. Although concepts relevant to the laboratories will be emphasized in lecture, it is expected that students will already have been exposed to many of the underlying theoretical concepts of nanotechnology in previous courses.
Course usually offered in fall term
Prerequisite: ESE 525 or MSE 525 or permission of the instructor
Activity: Lecture
1 Course Unit
ESE 540 Engineering Economics
This course is cross-listed with an advanced-level undergraduate course (ESE 400). Topics include: money-time relationships, discrete and continuous compoundung, equivalence of cash flows, internal and external rate of return, design and production economics, life cycle cost analysis, depreciation, after-tax cash flow analysis, cost of capital, capital financing and allocation, parametric cost estimating models, pricing, foreign exchange rates, stochastic risk analysis, replacement analysis, benefit-cost analysis, and analysis of financial statements. Case studies apply these topics to engineering systems. Students are not required to do additional work compared to E400 students. The work-load is identical.
One-term course offered either term
Also Offered As: ESE 400
Activity: Lecture
1 Course Unit

ESE 544 Project Management
The course emphasizes a systems engineering approach to project management including the cycle costing and analysis, project scheduling, project organization and control, contract management, project monitoring and negotiations. In addition, the course will also examine management issues in large infrastructure projects like non-recourse or limited recourse project financing. Examples from the logistics planning process and global software project management will be used to highlight the course topics.
One-term course offered either term
Also Offered As: ESE 444
Prerequisite: ESE 304 or equivalent
Activity: Lecture
1 Course Unit

ESE 545 Data Mining: Learning from Massive Datasets
Many scientific and commercial applications require us to obtain insights from massive, high-dimensional data sets. In this graduate-level course, students will learn to apply, analyze and evaluate principled, state-of-the-art techniques from statistics, algorithms and discrete and convex optimization for learning from such large data sets. The course both covers theoretical foundations and practical applications.
Course usually offered in fall term
Prerequisites: ESE 530, ENM 503, or equivalent
Activity: Lecture
1 Course Unit

ESE 546 Networked Neuroscience
This course introduces students to the development and uses of the 4-step urban transportation model (trip generation-trip distribution-mode choice-traffic assignment) for community and metropolitan mobility planning. Using the VISUM transportation desktop planning package, students will learn how to build and test their own models, apply them to real projects, and critique the results.
One-term course offered either term
Also Offered As: CPLN 650
Prerequisite: CPLN 505 or another planning statistics course
Activity: Lecture
1 Course Unit

ESE 550 Advance Transportation Seminar, Air Transportation Planning
Air transportation is a fascinating multi-disciplinary area of transportation bringing together business, planning, engineering, and policy. In this course, we explore the air transportation system from multiple perspectives through a series of lessons and case studies. Topics will include airport and intercity multimodal environmental planning, network design and reliability, air traffic management and recovery from irregular operations, airline operations, economics, and fuel, air transportation sustainability, and land use issues related to air transportation systems.
This course will introduce concepts in economics and behavioral modeling, operations research, statistics, environmental planning, and human factors that are used in aviation and are applicable to other transportation systems. The course will emphasize learning through lessons, guest lecturers, case studies of airport development and an individual group research project.
Course usually offered in spring term
Also Offered As: CPLN 750
Prerequisite: CPLN 550 or equivalent
Activity: Seminar
1 Course Unit

ESE 566 Networked Neuroscience
The human brain produces complex functions using a range of system components over varying temporal and spatial scales. These components are coupled together by heterogeneous interactions, forming an intricate information-processing network. In this course, we will discuss the process of network science in understanding such large-scale and neuronal-level brain circuitry.
One-term course offered either term
Also Offered As: BE 566
Prerequisites: Graduate standing or permission of the instructor.
Experience with Linear Algebra and MATLAB.
Activity: Lecture
1 Course Unit

ESE 567 Risk Analysis and Environmental Management
This course is designed to introduce students to the complexities of making decisions about threats to human health and the environment when people’s perceptions of risks and their decision-making processes differ from expert views. Recognizing the limitations of individuals in processing information the course explores the role of techniques such as decision analysis, cost-benefit analysis, risk assessment and risk perception in structuring risk-management decisions. We will also examine policy tools such as risk communication, incentive systems, third party inspection, insurance and regulation in different problem contexts. The problem contexts for studying the interactions between analysis, perceptions, and communication will include risk-induced stigmatization of products (e.g. alar, British beef), places (e.g. Love Canal), and technologies (e.g. nuclear power); the siting of noxious facilities, radon, managing catastrophic risks including those from terrorism. A course project will enable students to apply the concepts discussed in the course to a concrete problem.
Course usually offered in spring term
Also Offered As: OIDD 261
Activity: Lecture
1 Course Unit
ESE 568 Mixed Signal Design and Modeling
This course will introduce design and analysis of mixed-signal integrated circuits. Topics include: Sampling and quantization, Sampling circuits, Switched capacitor circuits and filters, Comparators, Offset compensation, DACs/ADCs (flash, delta-sigma, pipeline, SAR), Oversampling, INL/DNL, FOM. The course will end with a final design project using analysis and design techniques learned in the course. Students must provide a written report with explanations to their design choices either with equations or simulation analysis/insight along with performance results.
One-term course offered either term
Prerequisites: ESE 319, 419 or permission of the instructor
Activity: Lecture
1 Course Unit

ESE 570 Digital Integrated Circuits and VLSI-Fundamentals
Explores the design aspects involved in the realization of an integrated circuit from device up to the register/subsystem level. It addresses major design methodologies with emphasis placed on the structured design. The course includes the study of MOS device characteristics, the critical interconnect and gate characteristics which determine the performance of VLSI circuits, and NMOS and CMOS logic design. Students will use state-of-the-art CAD tools to verify designs and develop efficient circuit layouts.
Course usually offered in spring term
Prerequisite: ESE 319 (for undergraduates) or permission of the instructor
Activity: Lecture
1 Course Unit

ESE 572 Analog Integrated Circuits
Design of analog circuits and subsystems using bipolar and MOS technologies at the transistor and higher levels. Transistor level design of building block circuits such as op amps, comparators, sample and hold circuits, voltage and current references, capacitors and resistor arrays, and class AB output stages. The course will include a design project of an analog circuit. The course will use the Cadence Design System for schematic capture and simulation with Spectre circuit simulator. This course is similar to ESE 570, except that it will not require the use of the physical layout tools associated with VLSI design and implementation.
Course usually offered in fall term
Also Offered As: ESE 419
Prerequisite: ESE 319 (for undergraduates) or permission of the instructor
Activity: Lecture
1 Course Unit

ESE 574 The Principles and Practice of Microfabrication Technology
A laboratory-based course on fabricating microelectronic and micromechanical devices using photolithographic processing and related fabrication technologies. Lectures discuss: clean room procedures; microelectronic and microstructural materials; photolithography; diffusion, oxidation; materials deposition; etching and plasma processes. Basic laboratory processes are covered for the first two thirds of the course with students completing structures appropriate to their major in the final third. Students registering for ESE 574 will be expected to do extra work (including term paper and additional project).
Course usually offered in fall term
Also Offered As: ESE 460, MEAM 564
Prerequisites: Any of the following courses: ESE 218, MSE 321, MEAM 333, CBE 351, PHYS 250 or permission of the instructor
Activity: Lecture
1 Course Unit

ESE 575 Introduction to Wireless Systems
Wireless sensor networks (WSN) consist of many individual nodes that operate collaboratively to monitor, sense, and control their environments. While such networks share aspects common to other types of wireless networks, such as wireless mobile ad hoc networks, battery, processing, and communication constraints of sensor nodes pose several new challenges in routing, localization, addressing, and optimization of these networks. This course will introduce the characteristics of these networks by covering recent research trends from a range of disciplines - e.g. hardware design, operating systems, information and signal processing, and communication networks. The course will briefly touch on design and programming (OS, software) of sensor networks. The main focus will be on applications of wireless sensor networks and distributed networking/communication issues in such networks.
Course not offered every year
Prerequisites: ESE 507, Basic knowledge of wireless networks, protocols, and operating system concepts.
Activity: Lecture
1 Course Unit

ESE 576 Digital Communication Systems
Course usually offered in spring term
Prerequisites: Undergraduate linear systems, probability, random processes.
Activity: Lecture
1 Course Unit

ESE 578 RFIC (Radio Frequency Integrated Circuit) Design
Introduction to RF (Radio Frequency) and Microwave Theory, Components, and Systems. The course aims at providing knowledge in RF transceiver design at both microwave and millimeter-wave frequencies. Both system and circuit level perspective will be addressed, supported by modeling and simulation using professional tools (including Agilent ADS, Sonnet, and Cadence Design Systems). Topics include: Transmission Line Theory, S-parameters, Smith Chart for matching network design, stability, noise, and mixed signal design. RF devices covered will include: hybrid/Wilkinson/Lange 3dB couplers, Small Signal Amplifiers (SSA), Low Noise Amps (LNA), and Power Amps (PA). CMOS technology will be largely used to design the devices mentioned.
Course usually offered in spring term
Prerequisite: ESE 572
Activity: Lecture
1 Course Unit
ESE 590 Systems Methodology
This course covers the methodologies and techniques important to designing large complex, purposeful systems and to discovering policies that influence them throughout the stages of their lifecycle. The course focuses on hands-on synthetic thinking, where students assemble the big picture from modeling the individual actors, organizations, and artifacts in a socio-technical system of interest. This is the study of emergence of macro-behavior from the micro-decision making of the actors involved - to inquire into the design of a purposeful system, and to examine alternative futures that are ideal, yet affordable, sustainable, and workable. Specifically, the student learns systems theory, systems methodologies (design inquiry/learning systems, idealized design/interactive planning, and soft systems methodology/knowledge management), bottom up modeling (decision science, multi-attribute utility theory, affective reasoning, agent based modeling, simulated societies), and how to further research and apply the synthetic paradigm.
Course usually offered in spring term
Activity: Lecture
1 Course Unit

ESE 597 Master's Thesis
One-term course offered either term
Activity: Masters Thesis
1 Course Unit

ESE 599 Independent Study for Master's credit
One-term course offered either term
Activity: Independent Study
1 Course Unit

ESE 601 Hybrid Systems
Hybrid systems combine discrete state-machines and continuous differential equations, and have been used as models of a large number of applications in areas such as real-time software, embedded systems, robotics, mechatronics, aeronautics, process control, and biological systems. The course will cover state-of-the-art modeling, design, and analysis of hybrid systems. The course is interdisciplinary, and is aimed at bringing together concepts in control theory and computer science. Specific topics include modeling, simulation, stability, reachability, and controller design for hybrid systems. Computational tools for the simulation and verification of hybrid systems will be emphasized with applications to robotics, avionics, air traffic management systems, and biological systems. The course consists of lectures, homeworks, and a final project.
Course not offered every year
Prerequisite: ESE 500
Activity: Lecture
1 Course Unit

ESE 603 Simulation Modeling and Analysis
This course provides a study of discrete-event systems simulation. Some areas of application include: queuing systems, inventory systems, reliability systems Markov Chains, Random-Walks and Monte-Carlo systems. The course examines many of the discrete and continuous probability distributions used in simulation studies as well as the Poisson process. Long-run measurements of performances of queuing systems, steady-state behavior of infinite and finite-population queuing systems and network of queues are also examined. Fundamental to most simulation studies is the ability to generate reliable random numbers. The course investigates the basic properties of random numbers and techniques used for the generation of pseudo-random numbers. In addition, the course examines techniques used to test pseudo-random numbers for uniformity and independence. These include the Kolmogorov-Smirnov and chi-squared tests, runs tests, gap tests, and poker tests. Random numbers are used to generate random samples and the course examines the inverse-transform, convolution, composition and acceptance/rejection methods for the generation of random samples for many different types of probability distributions. Finally, since most inputs to simulation are probabilistic instead of deterministic in nature, the course examines some techniques used for identifying the probabilistic nature of input data. These include identifying distributional families with sample data, then using maximum-likelihood methods for parameter estimating within a given family and then testing the final choice of distribution using chi-squared goodness-of-fit tests.
Course usually offered in spring term
Prerequisites: Probability (undergraduate level) and one computer language
Activity: Lecture
1 Course Unit

ESE 605 Modern Convex Optimization
This course concentrates on recognizing and solving convex optimization problems that arise in engineering. Topics include: convex sets, functions, and optimization problems. Basis of convex analysis. Linear, quadratic, geometric, and semidefinite programming. Optimality conditions, duality theory, theorems of alternative, and applications. Interior-point methods, ellipsoid algorithm and barrier methods, self-concordance. Applications to signal processing, control, digital and analog circuit design, computation geometry, statistics, and mechanical engineering.
Course usually offered in spring term
Prerequisites: Knowledge of linear algebra and willingness to do programming. Exposure to numerical computing, optimization, and application fields is helpful but not required.
Activity: Lecture
1 Course Unit
ESE 608 Intelligent and Animated Software Agents
This course will begin with an introduction to virtual reality personas and web-based agents, including their usage to assist, train, and entertain people wherever digital interfaces exist (on the Web, in e-commerce, in games, in kitchen appliances, on your dashboard, etc.). What makes an agent rational? Emotionally appealing? Entertaining? We will explore mathematical theories of rationality and behavior, including those from cognitive, behavioral and decision science. We will then progress into human behavior, literature, personality and individual differences studies, and intelligent and emotive agent designs. We will examine various types of agents such as web shopping agents, emotive agents, personal support agents, chatterbots, mobile agents, virtual reality personas, game-based adversaries, pedagogical agent coaches, and multi-agent societies. Finally, students will learn principles about animation, simulated social interaction and speech generation, knowledge representation, agent planning and reasoning, agent communication languages, testing of the use of agent based systems, and methodologies/toolbenches for engineering of systems of intelligent and emotive agents.
Course not offered every year
Prerequisites: Undergraduate courses in probability (ESE 301 or equivalent), optimization (ESE 304 or equivalent), knowledge of one computer programming language (Fortran, Pascal, or C), or permission of the instructor.
Activity: Lecture
1 Course Unit

ESE 610 Electromagnetic and Optical Theory II
This course covers exact, approximate and numerical methods of wave propagation, radiation, diffraction and scattering with an emphasis on bringing students to a point of contributing to the current research literature. Topics are chosen from a list including analytical and numerical techniques, waves in complex media and metamaterials, photonic bandgap structures, imaging, miniaturized antennas, high-impedance ground plans, and fractal electrodynamics.
Course not offered every year
Activity: Lecture
1 Course Unit

ESE 617 Non-Linear Control Theory
The course studies issues in nonlinear control theory, with a particular emphasis on the use of geometric principles. Topics include: controllability, accessibility, and observability, for nonlinear systems; Forbenius' theorem; feedback and input/output linearization for SISO and MIMO systems; dynamic extension; zero dynamics; output tracking and regulation; model matching disturbance decoupling; examples will be taken from mechanical systems, robotic systems, including those involving nonholonomic constraints, and active control of vibrations.
Course not offered every year
Also Offered As: CBE 617, CIS 613, MEAM 613
Prerequisite: ESE 500 or equivalent
Activity: Lecture
1 Course Unit

ESE 619 Model Predictive Control
Increased system complexity and more demanding performance requirements have rendered traditional control laws inadequate regardless if simple PID loops are considered or robust feedback controllers designed according to some H2/Infinity criterion. Applications ranging from the process industries to the automotive and the communications sector are making increased use of Model Predictive Control (MPC) where a fixed control law is replaced by on-line optimization performed over a receding horizon. The advantage is that MPC can deal with almost any time-varying process and specifications, limited only by the availability of real-time computer power. In the last few years we have seen tremendous progress in this interdisciplinary area where fundamentals of systems theory, computation and optimization interact. For example, methods have emerged to handle hybrid systems, i.e. systems comprising both continuous and discrete components. Also, it is now possible to perform most of the computations off-line thus reducing the control law to a simple look-up table.
Course usually offered in fall term
Prerequisites: Linear Algebra (ESE 500), Optimization (ESE 504 or ESE 605)
Activity: Lecture
1 Course Unit

ESE 632 Random Processes and Optimum Filtering
Course not offered every year
Prerequisite: ESE 530 or Permission of the Instructor
Activity: Lecture
1 Course Unit

ESE 635 Distributed Systems
This research seminar deals with tools, methods, and algorithms for analysis and design of distributed dynamical systems. These are large collections of dynamical systems that are spatially interconnected to form a collective task or achieve a global behavior using local interactions. Over the past decade such systems have been studied in disciplines as diverse as statistical physics, computer graphics, robotics, and control theory. The purpose of this course is to build a mathematical foundation for study of such systems by exploring the interplay of control theory, distributed optimization, dynamical systems, graph theory, and algebraic topology. Assignments will consist of reading and researching the recent literature in this area. Topics covered in distributed coordination and consensus algorithms over networks, coverage problems, effects of delay in large scale networks. Power law graphs, gossip and consensus algorithms, synchronization phenomena in natural and engineered systems, etc.
Course not offered every year
Prerequisites: Basic knowledge of linear systems (ESE 500), linear algebra (MATH 312 or equivalent), and optimization (ESE 504 or equivalent) and some familiarity with basics of nonlinear systems (ESE 617 or equivalent). Students without this background should consult with the instructor before registering.
Activity: Lecture
1 Course Unit
ESE 650 Learning in Robotics
This course will cover the mathematical fundamentals and applications of machine learning algorithms to mobile robotics. Possible topics that will be discussed include probabilistic generative models for sensory feature learning, Bayesian filtering for localization and mapping, dimensionality reduction techniques for motor control, and reinforcement learning of behaviors. Students are expected to have a solid mathematical background in machine learning and signal processing, and will be expected to implement algorithms on a mobile robot platform for their course projects. Grading will be based upon course project assignments as well as class participation.
Course usually offered in fall term
Prerequisites: Students will need permission from the instructor. They will be expected to have a good mathematical background with knowledge of machine learning techniques at the level of CIS 520, signal processing techniques at the level of ESE 531, as well as have some robotics experience
Activity: Lecture
1 Course Unit

ESE 672 Integrated Communication Systems
This is an advanced radio frequency (RF) circuit design course that includes analysis and design of high-frequency and high-speed integrated communication circuits at both transistor and system levels. Students gradually design and simulate different blocks of an RF receiver and combine these blocks to form the receiver as their final project. We assume some background knowledge of device physics, electromagnetics, circuit theory, control theory, and stochastic processes.
One-term course offered either term
Prerequisite: ESE 419 or ESE 572
Activity: Lecture
1 Course Unit

ESE 674 Information Theory
Deterministic and probabilistic information. The pigeon-hole principle. Entropy, relative entropy, and mutual information. Random processes and entropy rate. The asymptotic equipartition property. Optimal codes and data compression. Channel capacity. Source channel coding. The ubiquitous nature of the theory will be illustrated with a selection of applications drawn from among: universal source coding, vector quantization, network communication, the stock market, hypothesis testing, algorithmic computation and kolmogorov complexity, and thermodynamics.
Course not offered every year
Prerequisite: ESE 530 or equivalent exposure to probability theory
Activity: Lecture
1 Course Unit

ESE 675 Optimal Design of Wireless Systems
In the context of this class wireless systems are defined as groups of wireless devices that collaborate to deliver information from generating sources to intended destinations. Wireless networks come in many varieties finding applicability in as many different settings. They can use different methods to access the shared wireless medium, they may or may not rely in a fixed infrastructure, and they can operate over different time scales. Despite these differences, a few recurrent characteristics and problems appear. Students in this class are exposed to different wireless networking modalities and led to understand commonalities and differences. Particular emphasis is in the roles of fading r variations in channel strength and interference detrimental effect of concurrent communications as the defining characteristics of wireless networks. The use of optimization tools to determine optimal operating points and the use of statistically deal with the inherent uncertainty introduced by fading are thoroughly discussed. The outcome of the class is a comprehensive exposure to the current state of the art optimal design of wireless networks. The class is structured in blocks. An introductory section is followed by a formal discussion of wireless networking architectures. A third block discusses challenges presented by the inherent randomness present in wireless networks. The fourth part of the class the theory to use in the discussion of algorithms and protocols for wireless networks.
One-term course offered either term
Activity: Lecture
1 Course Unit

ESE 676 Coding Theory
Coding theory for telecommunications with emphasis on the algebraic theory of cyclic codes using finite field arithmetic, decoding of BCH and Reed-Solomon codes, finite field Fourier transform and algebraic geometry codes, convolutional codes and trellis decoding algorithms, graph based codes, Berrou codes and Gallager codes, turbo decoding, iterative decoding. And belief propagation.
One-term course offered either term
Prerequisites: ESE 224, MATH 240, PHYS 150, Mathematical aptitude.
Activity: Lecture
1 Course Unit
ESE 895 Teaching Practicum
Participation of graduate students in the teaching mission of the department will help to develop teaching, presentation, leadership, and interpersonal skills while assisting the department in discharging its teaching responsibilities. All doctoral students are required to participate under faculty guidance in the teaching mission of the department. This requirement will be satisfied by completing two 0.5 course units of teaching practicum (ESE 895). Each 0.5 course unit of teaching practicum will consist of the equivalent of 10 hours of effort per week for one semester. As a part of the preparation for and fulfillment of the teaching practicum requirement, the student will attend seminars emphasizing teaching and communication skills, lead recitations, lead tutorials, supervise laboratory experiments, develop instructional laboratories, develop instructional media and grade homeworks, laboratory reports, and exams. A teacher training seminar will be conducted the day before the first day of classes of the Fall semester. Attendance is mandatory for all second-year students. As much as possible, the grading aspect of the teaching practicum course will be such as not to exceed 50% of the usual teaching assistant commitment time. Some of the recitations will be supervised and feedback and comments will be provided to the student by the faculty member responsible for the course. At the completion of every 0.5 course unit of teaching, the student will receive a Satisfactory/Unsatisfactory grade and a written evaluation by the faculty member responsible for the course. The evaluation will be comments of the students taking the course and the impressions of the faculty.

One-term course offered either term
Activity: Lecture
0.5 Course Units

ESE 899 Independent Study for PhD credit
For students who are studying a specific advanced subject area in electrical engineering. Students must submit a proposal outlining and detailing the study area, along with the faculty supervisor’s consent, to the graduate group chair for approval. A maximum of 1 c.u. of ESE 899 may be applied toward the MSE degree requirements. A maximum of 2 c.u.’s of ESE 899 may be applied toward the Ph.D. degree requirements.

One-term course offered either term
Activity: Independent Study
1 Course Unit

ESE 995 Dissertation
Register for this after completing four years of full-time study including two course units each Summer Session (and usually equal to 40 course units).

One-term course offered either term
Activity: Dissertation
1 Course Unit

ESE 999 Thesis/Dissertation Research
For students working on an advanced research program leading to the completion of master’s thesis or Ph.D. dissertation requirements.

One-term course offered either term
Activity: Independent Study
1 Course Unit

Energy Management and Policy (ENMG)

ENMG 503 Topics in Energy Policy
This research seminar focuses on changing energy policy topics that provide students with a deep examination of an aspect of energy technology, markets, or regulation and an opportunity for research on an emerging issue related to the topic. The seminar meets weekly to discuss the relevant literature and workshop student research projects.

Course usually offered in spring term
Also Offered As: CPLN 535
Activity: Seminar
1 Course Unit

ENMG 507 Ideas in Energy Policy
This seminar will explore a collection of ideas influencing energy policy development in the U.S. and around the world. Our platform for this exploration will be seven recent books to be discussed during the semester. These books each contribute important insights to seven ideas that influence energy policy: Narrative, Transition, Measurement, Systems, Subsidiarity, Disruption, Attachment.

Taught by: Mark Alan Hughes
Activity: Seminar
1 Course Unit

Engineering & Applied Science (EAS)

EAS 097 Embed Controlled Gardening
A service course intended to integrate concepts of basic physics, biology and electronics and systems engineering for the benefit of Penn engineering students, teachers and students from two minority centered community public schools. The course will engage the participants in the design and implementation of indoors cultivating systems using photo-voltaic (PV) technology to energize LED emulating the needed solar radiation for plant growth, a liquid nutrient distribution system, sensors / actuators capable of selecting the harvestable plants and keeping track of overall system parameters.

One-term course offered either term
Activity: Lecture
1 Course Unit

EAS 102 Product Engineering Basics
The course targets non-engineering majors interested in understanding engineering approaches to product fabrication. The course covers a broad variety of engineering topics including mechanical, electrical, computer and material science. Many of these topics would normally be full courses in themselves. This course intends to teach familiarity with a focus on hands-on practice as applied to products. Students will briefly use equipment such as MTS materials testing machines, mills, lathes, oscilloscopes, laser cutters, photodiodes, motors, servos, microcomputers as well as engineering software such as Solidworks, C compilers, Labview, Matlab, and Cambridge Engineering Selector. The class concludes with independent projects.

One-term course offered either term
Activity: Lecture
1 Course Unit
EAS 105 Introduction to Scientific Computing
This course will provide an introduction to computation and data analysis using MATLAB - an industry standard programming and visualization environment. The course will cover the fundamentals of computing including: variables, functions, flow control, iteration and recursion. These concepts will be illustrated through examples and assignments which show how computing is applied to various scientific and engineering problems. Examples will be drawn from the simulation of physical and chemical systems, the analysis of experimental data, Monte Carlo numerical experiments, image and audio processing, and control of sensors and actuators. This course does not assume any prior programming experience but will make use of basic concepts from calculus and Newtonian physics.

One-term course offered either term
Activity: Lecture
1 Course Unit

EAS 125 Technology and Policy
Have you ever wondered why sharing music and video generates such political and legal controversies? Is information on your PC safe and should law enforcement be able to access information you enter on the Web? Will new devices allow tracking of your every move and every purchase? CIS 125 is focused on developing an understanding of existing and emerging technologies, along with the political, societal and economic impacts of those technologies. The technologies are spread across a number of engineering areas and each of them raise issues that are of current concern or are likely to be a future issue.

One-term course offered either term
Also Offered As: CIS 125
Activity: Lecture
1 Course Unit

EAS 203 Engineering Ethics
In this course, students will study the social, political, environmental and economic context of engineering practice. Students will develop an analytical toolkit to identify and address ethical challenges and opportunities in the engineering profession, including studies of risk and safety, professional responsibility, and global perspectives. The course will begin with a foundation in the history of engineering practice and major Western ethical and philosophical theories. Students will then apply this material to both historical case studies, such as Bhopal, the NASA Shuttle Program, and Three Mile Island, as well as contemporary issues in big data, artificial intelligence, and diversity within the profession. Students will consider how engineers, as well as governments, the media, and other stakeholders, address such issues.

One-term course offered either term
Activity: Lecture
1 Course Unit

EAS 205 Applications of Scientific Computing.
This course will discuss a number of canonical problems and show how numerical methods are used to solve them. Lectures will introduce the underlying theory and the relevant numerical methods. Students will be expected to implement solutions to the problems using MATLAB.

The course will use the visualization capabilities of MATLAB to provide students with a geometric interpretation of the key ideas underlying the numerical methods. Topics to be covered will include: The solution of systems of linear systems equations with application to problems such as force balance analysis and global illumination computation. Representing and computing coordinate transformations with applications to problems in graphics, vision and robotics. Transform Coding with applications to the analysis of audio signals and image compression. Analysis of variance and the search for low dimensional representations for high dimensional data sets e.g., Google’s PageRank algorithm. Least squares model fitting with applications to data analysis. Analysis of linear dynamical systems with applications to understanding the modes of vibration of mechanical systems. The analysis of stochastic systems governed by state transition matrices.

One-term course offered either term
Prerequisites: Prior exposure to computing via courses such as EAS 105, CIS 110, or ESE 112. MATH 114, Sophomore standing.
Activity: Lecture
1 Course Unit

EAS 210 Introduction to Nanotechnology
Course usually offered in fall term
Activity: Lecture
1 Course Unit

EAS 301 Climate Policy and Technology
The course will examine Pacala and Socolow’s hypothesis that “Humanity already possesses the fundamental scientific, technical and industrial know-how to solve the carbon and climate problem for the next half-century” Fifteen “climate stabilization wedges” i.e., strategies that each have the potential to reduce carbon emissions by 1 billion tons per year by 2054, will be examined in detail. Technology and economics will be reviewed. Socio-political barriers to mass-scale implementation will be discussed. Pacala and Socolow note “Every element in this portfolio has passed beyond the laboratory bench and demonstration project; many are already implemented somewhere at full industrial scale”.

One-term course offered either term
Also Offered As: EAS 505
Activity: Lecture
1 Course Unit

EAS 303 Ethics, Social, and Professional Responsibility for Engineers
Provides an overview of the ethical, social, and professional responsibilities of engineers, as engineering professionals, as members of engineering organizations and as investigators in research. The course will make extensive use of student group presentations and in the analysis of cases based on real-world problems with ethical dimensions, many drawn from current news. The case studies will vary from year to year, but will be chosen to be relevant to students interested in different careers in engineering, including research.

Course usually offered in fall term
Also Offered As: BE 303
Activity: Lecture
1 Course Unit
EAS 306 Electricity and Systems Markets
The course discusses the existing electricity system from technical, economic, and policy perspectives. Basic power system engineering will be reviewed early in the course. Generation, transmission, distribution, and end-use technologies and economics will be discussed. Additional topics will include system operation, industry organization, government regulation, the evolution of power markets, environmental policy, and emerging technologies.
One-term course offered either term
Also Offered As: EAS 506
Activity: Lecture
1 Course Unit

EAS 401 Energy and Its Impacts: Technology, Environment, Economics, Sustainability
The objective is to introduce students to one of the most dominating and compelling areas of human existence and endeavor: energy, with its foundations in technology, from a quantitative sustainability viewpoint with its association to economics and impacts on environment and society. This introduction is intended both for general education and awareness and for preparation for careers related to this field, with emphasis on explaining the technological foundation. The course spans from basic principles to applications. A review of energy consumption, use, and resources; environmental impacts, sustainability and design of sustainable energy systems; introductory aspects of energy economics and carbon trading; methods of energy analysis; forecasting; energy storage; electricity generation and distribution systems (steam and gas turbine based power plans, fuel cells), fossil fuel energy (gas, oil, coal) including nonconventional types (shale gas and oil, oil sands, coalbed and tight-sand gas), nuclear energy wastes: brief introduction to renewable energy use: brief introduction to solar, wind, hydroelectric, geothermal, biomass; energy for buildings, energy for transportation (cars, aircraft, and ships); prospects for future energy systems: fusion power, power generation in space. Students interested in specializing in one or two energy topics can do so by choosing them as their course project assignments.
Course usually offered in fall term
Also Offered As: EAS 501
Activity: Lecture
1 Course Unit
Notes: Any University student interested in energy and its impacts, who is a Junior or Senior. Students taking the course as EAS 501 will be given assignments commensurate with graduate standing.

The objective is to introduce students to the major aspects of renewable energy, with its foundations in technology, association to economics, and impacts on ecology and society. This introduction is intended both for general education and awareness and for preparation for careers related to this field. The course spans from basic principles to applications. A review of solar, wind, biomass, hydroelectric, geothermal energy, and prospects for future energy systems such as renewable power generation in space.
Course usually offered in spring term
Also Offered As: EAS 502
Prerequisite: Junior Standing
Activity: Lecture
1 Course Unit

EAS 403 Energy Systems and Policy
This is a survey course that will examine the current U.S. energy industry, from production to consumption, and its impacts on local, regional, and the global environment. The course will seek to provide a fuller understanding of existing energy systems, ranging from technical overviews of each, a review of industry organization, and an exploration of the well-established policy framework each operates within. Near-term demands upon each energy supply system will be discussed, with particular focus on environmental constraints. Policy options facing each energy industry will be reviewed.
Course usually offered in fall term
Also Offered As: EAS 503
Activity: Lecture
1 Course Unit

EAS 449 Product Development in Entrepreneurial Ventures
A product is any artifact, service or experience for which a buyer is willing to pay. Product Design & Development is at the core of entrepreneurship. Though in modern mythology it is a solitary effort by a passionate individual, entrepreneurship is frequently more successful when pursued in an interdisciplinary environment. Though it rarely requires the greatest time investment, concentration of personnel, the majority of the funding or even the greatest depth of expertise to accomplish, excellent product design can be the difference between a successful and failed venture. A poorly designed "product" can prevent a venture from being successful. An excellently designed product can make a competent business plan much more successful. A well defined and designed product solution or even the greatest depth of expertise to accomplish, excellent product design can be the difference between a successful and failed venture. A poorly designed "product" can prevent a venture from being successful. An excellently designed product can make a competent business plan much more successful. A well defined and designed product solution will create differentiation, and can not only meet customer expectation but can create desirability. Through the review and discussion of case studies, lecture subjects, guest lecturers, field trips, and a semester long interdisciplinary team project, this class will provide insight into the problem identification and product design processes, user needs research, intellectual property research, experience design, Industrial Design, Interface Design, brand development and product centric fundraising processes.
Course usually offered in spring term
Also Offered As: IPD 549
Activity: Lecture
1 Course Unit
EAS 499 Senior Capstone Project
The Senior Capstone Project is required for all BAS degree students, in lieu of the senior design course. The Capstone Project provides an opportunity for the student to apply the theoretical ideas and tools learned from other courses. The project is usually applied, rather than theoretical, exercise, and should focus on a real world problem related to the career goals of the student. The one-semester project may be completed in either the fall or spring term of the senior year, and must be done under the supervision of a sponsoring faculty member. To register for this course, the student must submit a detailed proposal, signed by the supervising professor, and the student’s faculty advisor, to the Office of Academic Programs two weeks prior to the start of the term.
One-term course offered either term
Activity: Independent Study
1 Course Unit

EAS 500 Technical Communication in Engineering Practice
Students will learn methods and approaches for written technical communication within the engineering environment. These include strategies for maximum effectiveness in writing technical documentation, reports, instructions, and proposals. Assignments will include self-editing and peer editing techniques, as well as strategies to effectively mentor other writers.
One-term course offered either term
Also Offered As: EAS 400
Activity: Lecture
1 Course Unit
Notes: This course is not intended for non-native speakers of English and will not address their specific language needs. Students whose native language is not English should register for EAS 510.

The objective is to introduce students to one of the most dominating and compelling areas of human existence and endeavor: energy, with its foundations in technology, from a quantitative sustainability viewpoint with its association to economics and impacts on environment and society. This introduction is intended both for general education and awareness and for preparation for careers related to this field, with emphasis on explaining the technological foundation. The course spans from basic principles to applications. A review of energy consumption, use, and resources; environmental impacts, sustainability and design of sustainable energy systems; introductory aspects of energy economics and carbon trading; methods of energy analysis, forecasting; energy storage; electricity generation and distribution systems (steam and gas turbine based power plans, fuel cells), fossil fuel energy (gas, oil, coal) including nonconventional types (shale gas and oil, oil sands, coalbed and tight-sand gas), nuclear energy wastes: brief introduction to renewable energy use: brief introduction to solar, wind, hydroelectric, geothermal, biomass; energy for buildings, energy for transportation (cars, aircraft, and ships); prospects for future energy systems: fusion power, power generation in space. Students interested in specializing in one or two energy topics can do so by choosing them as their course project assignments.
Course usually offered in fall term
Also Offered As: EAS 401
Activity: Lecture
1 Course Unit
Notes: Any university student interested in energy and its impacts, who is a graduate student or who is an undergraduate Junior or Senior seeking graduate course credit. Students taking the course as EAS 501 will be given assignments commensurate with graduate standing.

The objective is to introduce students to the major aspects of renewable energy, with its foundations in technology, association to economics, and impacts on ecology and society. This introduction is intended both for general education and awareness and for preparation for careers related to this field. The course spans from basic principles to applications. A review of solar, wind, biomass, hydroelectric, geothermal energy, and prospects for future energy systems such as renewable power generation in space.
Course usually offered in spring term
Also Offered As: EAS 402
Activity: Lecture
1 Course Unit

EAS 503 Energy Systems and Policy
This is a survey course that will examine the current U.S. energy industry, from production to consumption, and its impacts on local, regional, and the global environment. The course will seek to provide a fuller understanding of existing energy systems, ranging from technical overviews of each, a review of industry organization, and an exploration of the well-established policy framework each operates within. Near-term demands upon each energy supply system will be discussed, with particular focus on environmental constraints.
One-term course offered either term
Also Offered As: EAS 403
Activity: Lecture
1 Course Unit

EAS 505 Climate Policy and Technology
The course will exam Pacala and Socolow’s hypothesis that “Humanity already possesses the fundamental scientific, technical and industrial know-how to solve the carbon and climate problem for the next half-century” Fifteen “climate stabilization wedges” i.e., strategies that each have the potential to reduce carbon emissions by 1 billion tons per year by 2054, will be examined in detail. Technology and economics will be reviewed. Socio-political barriers to mass-scale implementation will be discussed. Pacala and Socolow note “Every element in this portfolio has passed beyond the laboratory bench and demonstration project; many are already implemented somewhere at full industrial scale”.
One-term course offered either term
Also Offered As: EAS 301
Activity: Lecture
1 Course Unit

EAS 506 Electricity and Systems Markets
The course discusses the existing electricity system from technical, economic, and policy perspectives. Basic power system engineering will be reviewed early in the course. Generation, transmission, distribution, and end-use technologies and economics will be discussed. Additional topics will include system operation, industry organization, government regulation, the evolution of power markets, environmental policy, and emerging technologies.
Course usually offered in spring term
Also Offered As: EAS 306
Activity: Lecture
1 Course Unit
EAS 507 Intellectual Property and Business Law for Engineers
Engineers are often on the front line of innovation. The goal of this course is to introduce engineering students to the basics of Intellectual property (IP) and business laws that they will encounter throughout their careers. Understanding these laws is critical for the protection of IP and for the creation and success of high-tech start-up ventures. Market advantage in large part springs from a company’s IP. Without legal protection and correct business formation, proprietary designs, processes, and inventions could be freely used by competitors, ruining market advantage. A basic understanding of IP laws, contractual transactions, employment agreements, business structures, and debt-equity financing will help engineering students to become effective employees or entrepreneurs, to acquire investors, and to achieve success. Though open to students of all disciplines, the course will use case studies particular relevance to students of engineering and applied science.
One-term course offered either term
Activity: Lecture
1 Course Unit

EAS 510 Technical Communication and Academic Writing for Non-native Speakers of English
Students will improve the grammar, word choice and organization of their professional writing by completing weekly writing assignments and a full-length research paper. Students will also give short oral presentations and receive feedback on pronunciation, wording, grammar and organization.
Course usually offered in spring term
Activity: Lecture
1 Course Unit
Notes: Graduate students whose native language is English, but who would benefit from a course in Technical Communication, should take EAS 500.

EAS 512 Engineering Negotiation
The goal of this course is to teach students of engineering and applied science to be effective negotiators. It aims to improve the way these students communicate in virtually any human interaction. The course intends to improve the ability of engineers and other technology disciplines to gain more support more quickly for projects, research product and services development, and marketing. For those wanting to be entrepreneurs or intrapreneurs, the course is designed essentially to find the most value possible in starting up and running companies.
Based on Professor Diamond’s innovative and renowned model of negotiation, it is intended to assist those for whom technical expertise is not enough to persuade others, internally and externally, to provide resources, promotions and project approvals; or to resolve disputes, solve problems and gain more opportunities. Rejecting the 40-year-old notions of power, leverage and logic, the course focuses on persuasion by making better human connections, uncovering perceptions and emotions, and structuring agreements to be both collaborative and fair. This course is entrepreneurial in nature and can provide many times more value than traditional persuasion. The Getting More book has sold more than 1 million copies around the world and is also used by universities, corporations (Google), and U.S. Special Operations (SEALs, Green Berets, Special Forces, Marines) to save lives and reduce conflict. From the first day, students will do interactive cases based on their own engineering-related problems and based on current problems in the news. There will be diagnostics enabling every student to assess his/her skill and improvements.
One-term course offered either term
Activity: Lecture
1 Course Unit

EAS 545 Engineering Entrepreneurship I
Engineers and scientists create and lead great companies, hiring managers when and where needed to help execute their vision. Designed expressly for students having a keen interest in technological innovation, this course investigates the roles of inventors and founders in successful technology ventures. Through case studies and guest speakers, we introduce the knowledge and skills needed to recognize and seize a high-tech entrepreneurial opportunity - be it a product or service - and then successfully launch a startup or spin-off company. The course studies key areas of intellectual property, its protection and strategic value; opportunity analysis and concept testing; shaping technology driven inventions into customer-driven products; constructing defensible competitive strategies; acquiring resources in the form of capital, people and strategic partners; and the founder's leadership role in an emerging high-tech company. Throughout the course emphasis is placed on decisions faced by founders, and on the sequential risks and determinants of success in the early growth phase of a technology venture. The course is designed for, but not restricted to, students of engineering and applied science and assumes no prior business education.
One-term course offered either term
Also Offered As: IPD 545
Prerequisite: Third or Fourth year or Graduate standing
Activity: Lecture
1 Course Unit

EAS 546 Engineering Entrepreneurship II
This course is the sequel to EAS 545 and focuses on the planning process for a new technology venture. Like its prerequisite, the course is designed expressly for students of engineering and applied science having a keen interest in technological innovation. Whereas EAS 545 investigates the sequential stages of engineering entrepreneurship from the initial idea through the early growth phase of a startup company, EAS 546 provides hands-on experience in developing a business plan for such a venture. Working in teams, students prepare and present a comprehensive business plan for a high-tech opportunity. The course expands on topics from EAS 545 with more in-depth attention to: industry and marketplace analysis; competitive strategies related to high-tech product/service positioning, marketing, development and operations; and preparation of sound financial plans. Effective written and verbal presentation skills are emphasized throughout the course. Ultimately, each team presents its plan to a distinguished panel of recognized entrepreneurs, investors and advisors from the high-tech industry.
One-term course offered either term
Prerequisite: EAS 545
Activity: EAS 545
1 Course Unit
EAS 590 Commercializing Information Technology
EAS 590 provides real world, hands-on learning on what it’s like to actually start a high-tech company. We do that by using the Lean LaunchPad framework for Web start-ups. This class is not about how to write a business plan. Instead you will be getting your hands dirty talking to customers, partners, competitors, as you encounter the chaos and uncertainty of how a start-up actually works. EAS 590 provides real world, hands-on learning on what it’s like to actually start a high-tech company. We do that by using the Lean LaunchPad framework for Web start-ups. This class is not about how to write a business plan. Instead you will be getting your hands dirty talking to customers, partners, competitors, as you encounter the chaos and uncertainty of how a start-up actually works.

One-term course offered either term
Activity: Lecture
1 Course Unit

EAS 591 Leading Technology Teams
Engineers routinely work in teams collaborating with experts from multiple fields to address increasingly large complex problems/ opportunities. EAS 591, Leading Technology Teams, focuses on the dynamics of innovative, interdisciplinary, cross-functional teams. We examine ways to improve team performance by exploring technology leadership issues from multiple perspectives (i.e., the individual, the team, and the organization). Developing skills to be an effective technology team member, leader, and/or sponsor will provide you with a competitive advantage, not only for getting your first job but also for success throughout your career.

Activity: Lecture
0.5 Course Units

EAS 595 Foundations of Leadership
The goal of EAS 595 is to increase your capacity to effectively lead throughout your career and wherever you find yourself in an organization. This involves understanding and learning about yourself and about working effectively with others. The course starts with an identification of values, strengths, preferences and passions. It then proceeds with the personal and interpersonal and moves through the strategic aspects of leadership by bringing together aspects of management science, social psychology, psychology of personality and behavioral economics. Topics include teamwork and team dynamics, identifying life’s goals and dreams, decision making, valuing differences, understanding the dynamics of influence, using power with integrity, giving and receiving feedback, leading change, and discovering where we can make our contribution.

One-term course offered either term
Activity: Lecture
1 Course Unit

EAS 898 CPT Research Practicum
One-term course offered either term
Activity: Lecture
1 Course Unit

EAS 900 Resp Conduct Res Eng
One-term course offered either term
Activity: Seminar
1 Course Unit

Engineering (ENGR)
ENGR 101 Introduction to Engineering
This course is intended to introduce students to the field of engineering. It will expose students to the engineering disciplines through hands-on laboratory experiences. In addition, the course will provide tutorials on how to use important software packages as well as a "Professional Preparation" module through studies of communication (writing and speaking skills), ethics, leadership and teamwork. This course is ideal for any freshman interested in exploring the possibility of studying engineering at Penn. The course counts as an engineering requirement in SEAS.

Course usually offered in fall term
Activity: Lecture
1 Course Unit

ENGR 105 Introduction to Scientific Computing
This course will provide an introduction to computation and data analysis using MATLAB – an industry standard programming and visualization environment. The course will cover the fundamentals of computing including: variables, functions, decisions, iteration, and recursion. These concepts will be illustrated through examples and assignments which show how computing is applied to various scientific and engineering problems. Examples will be drawn from the simulation of physical and chemical systems, the analysis of experimental data, Monte Carlo numerical experiments, image processing, and the creation of graphical user interfaces. This course does not assume any prior programming experience but will make use of basic concepts from calculus and Newtonian physics.

Activity: Lecture
1 Course Unit

ENGR 212 Concepts in Micro- and Nanotechnology
Seminar/Lecture course on micro- and nanotechnology intended for nonspecialists. This course will discuss how very small structures and devices, as well as systems comprising these devices, are fabricated and characterized, with application examples from microelectronics, microelectromechanical systems, and quantum devices and systems. Current societal and ethical implications of micro- and nanotechnology, as well as creation and exploitation of commercial opportunities, will be discussed.

One-term course offered either term
Prerequisites: Math 104 and Physics 93/140 (or higher), or permission of the instructor
Activity: Lecture
1 Course Unit

ENGR 250 Energy Systems, Resources and Technology
The course will present a comprehensive overview of the global demand for energy, and the resource availability and technology used in its current and future supply. Through a personal energy audit, students will be made aware of the extensive role that energy plays in modern life, both directly, through electricity and transportation fuel, and indirectly in the manufacturing of goods they use. The course will cover how that energy is supplied, the anticipated global growth in energy demand, the resource availability and the role of science and technology in meeting that demand in a world concerned about climate change. The roles of conservation, improved efficiency and renewable energy in meeting future demand in a sustainable, environmentally benign way will be covered.

One-term course offered either term
Prerequisites: Basic understanding of chemistry and physics
Activity: Lecture
1 Course Unit
ENGR 503 Engineering in Oil, Gas and Coal, from Production to End Use
While conventional wisdom is that the world is running out of fossil fuels, technical advances such as deep water production, directional drilling, hydrofracturing, and the refining of non-conventional crude oil sources has increased the resource base significantly and there are well over 100 years of reserves of oil, natural gas and coal. The effect of technology advances has been most profound in the United States, where net energy imports are projected to fall to 12% of consumption by 2020. Excellent, highly technical careers are available in these industries, with opportunities to reduce their impact on the environment and in particular on climate change. The course will cover engineering technology in oil, natural gas and coal from production through end use. It will equip graduating students with the knowledge to contribute in these industries and to participate in informed debate about them.
One-term course offered either term
Activity: Lecture
1 Course Unit

ENGR 504 Fundamental Concepts in Nanotechnology
This is a Master’s level course that seeks to teach the physics needed to begin a study of engineering and science at the nanometer scale. Since the nanometer scale is so close to the quantum scale, much of the course deals with an introduction to quantum mechanics but the course also includes discussions in solid-state physics, electricity and magnetism and mechanics. The objective of the course is to teach the physics that an engineering student would need to have in order to do experimental work at the nanometer scale. In addition, this course will prepare the student to take more advanced courses in the Nanotechnology Program.
One-term course offered either term
Prerequisites: Some Differential Equations, Senior or Master’s standing in Engineering or permission of the instructor
Activity: Lecture
1 Course Unit

Engineering Mathematics (ENM)

ENM 220 Discrete Dynamical Systems and Chaos
This course will cover the mathematics behind the dynamics of discrete systems and difference equations. Topics include: Real function iteration, Converging and Diverging sequences, Periodic and chaotic sequences, Fixed-point, periodic-point and critical-point theories, Bifurcations and period-doubling transitions to chaos, Symbolic dynamics, Sarkovskii’s theorem, Fractals, Complex function iterations, Julia and Mandelbrot sets. In the past, mathematics was learned only through theoretical means. In today's computer age, students are now able to enjoy mathematics through experimental means. Using numerous computer projects, the student will discover many properties of discrete dynamical systems. In addition, the student will also get to understand the mathematics behind the beautiful images created by fractals. Throughout the course, applications to: Finance, Population Growth, Finding roots, Differential Equations, Controls, Game and Graph Problems, Networks, Counting Problems and other real-world systems will be addressed.
One-term course offered either term
Prerequisites: MATH 103, MATH 104 and MATH 114 (Calculus of a Single Variable and some knowledge of Complex Numbers)
Activity: Lecture
1 Course Unit

ENM 240 Differential Equations and Linear Algebra
This course discusses the theory and application of linear algebra and differential equations. Emphasis is placed on building intuition for the underlying concepts and their applications in engineering practice along with tools for solving problems. We will also use computer simulations in MATLAB to augment this intuition.
One-term course offered either term
Prerequisite: Math 114 or equivalent
Activity: Lecture
1 Course Unit

ENM 251 Analytical Methods for Engineering
This course introduces students to physical models and mathematical methods that are widely encountered in various branches of engineering. Illustrative examples are used to motivate mathematical topics including ordinary and partial differential equations, Fourier analysis, eigenvalue problems, and stability analysis. Analytical techniques that yield exact solutions to problems are developed when possible, but in many cases, numerical calculations are employed using programs such as Matlab and Maple. Students will learn the importance of mathematics in engineering.
Course usually offered in spring term
Prerequisites: MATH 240 or equivalent along with sophomore standing in SEAS, or permission of the instructor(s)
Activity: Lecture
1 Course Unit

ENM 321 Engineering Statistics
This is a first course in applied statistics and probability for students in engineering. The course covers basic concepts of probability, discrete and continuous random variables, probability distributions, data description techniques, random samples, estimations, hypothesis testing, regression, and statistical quality control.
Course usually offered in fall term
Activity: Lecture
1 Course Unit

ENM 375 Biological Data Science I - Fundamentals of Biostatistics
The goal of this course is to equip bioengineering undergraduates with fundamental concepts in applied probability, exploratory data analysis and statistical inference. Students will learn statistical principles in the context of solving biomedical research problems.
Course usually offered in spring term
Prerequisites: Sophomores and Juniors only.
Activity: Lecture
1 Course Unit

ENM 427 Finite Elements and Applications
The objective of this course is to equip students with the background needed to carry out finite elements-based simulations of various engineering problems. The first part of the course will outline the theory of finite elements. The second part of the course will address the solution of classical equations of mathematical physics such as Laplace, Poisson, Helmholtz, the wave and the Heat equations. The third part of the course will consist of case studies taken from various areas of engineering and the sciences on topics that require or can benefit from finite element modeling. The students will gain hand-on experience with the multi-physics, finite element package FemLab.
Course usually offered in fall term
Also Offered As: MEAM 527
Prerequisites: MATH 241 or ENM 251 and PHYS 151
Activity: Lecture
1 Course Unit
ENM 502 Numerical Methods and Modeling
This course provides an advanced introduction to various numerical methods for solving systems of algebraic equations (linear and nonlinear) and differential equations (ordinary and partial). Techniques covered include Newton's method, implicit and explicit time stepping, and the finite difference and finite element methods. The MATLAB software package will be used to implement the various methods and execute representative calculations.
Course usually offered in spring term
Prerequisites: Basic knowledge of a computer programming language; MATH 240, 241 and/or ENM 510 (or their equivalents) are highly recommended
Activity: Lecture
1 Course Unit

ENM 503 Introduction to Probability and Statistics
Course usually offered in fall term
Prerequisite: MATH 240 or equivalent
Activity: Lecture
1 Course Unit

ENM 510 Foundations of Engineering Mathematics - I
This is the first course of a two semester sequence, but each course is self contained. Over the two semesters topics are drawn from various branches of applied mathematics that are relevant to engineering and applied science. These include: Linear Algebra and Vector Spaces, Hilbert spaces, Higher-Dimensional Calculus, Vector Analysis, Differential Geometry, Tensor Analysis, Optimization and Variational Calculus, Ordinary and Partial Differential Equations, Initial-Value and Boundary-Value Problems, Green's Functions, Special Functions, Fourier Analysis, Integral Transforms and Numerical Analysis. The fall course emphasizes the study of Hilbert spaces, ordinary and partial differential equations, the initial-value, boundary-value problem, and related topics.
Course usually offered in fall term
Prerequisites: MATH 240, MATH 241 or equivalent
Activity: Lecture
1 Course Unit

ENM 511 Foundations of Engineering Mathematics - II
This is the second course of a two semester sequence, but each course is self contained. Over the two semesters topics are drawn from various branches of applied mathematics that are relevant to engineering and applied science. These include: Linear Algebra and Vector Spaces, Hilbert spaces, Higher-Dimensional Calculus, Vector Analysis, Differential Geometry, Tensor Analysis, Optimization and Variational Calculus, Ordinary and Partial Differential Equations, Initial-Value and Boundary-Value Problems, Green's Functions, Special Functions, Fourier Analysis, Integral Transforms and Numerical Analysis.
Course usually offered in spring term
Prerequisite: ENM 510 or equivalent
Activity: Lecture
1 Course Unit

ENM 512 Nonlinear Dynamics and Chaos
Prerequisites: Some Differential Equations and Senior or Master's standing in Engineering or permission of the instructor.
Activity: Lecture
1 Course Unit
ENM 520 Principles and Techniques of Applied Math I
This course is targeted to engineering PhD students in all areas. It will focus on the study of linear spaces (both finite and infinite dimensional) and of operators defined on such spaces. This course will also show students how powerful methods developed by the study of linear spaces can be used to systematically solve problems in engineering. The emphasis in this course will not be on abstract theory and proofs but on techniques that can be used to solve problems. Some examples of techniques that will be studied include, Fourier eries, Green's functions for ordinary and partial differential operators, eigenvalue problems for ordinary differential equations, singular value decomposition of matrices, etc.
Course usually offered in fall term
Prerequisites: Basic theory of ordinary and partial differential equations
Activity: Lecture
1 Course Unit

ENM 521 Principles and Techniques of Applied Math II
This course is a continuation of ENM 520 (or equivalent) and deals with classical methods in applied mathematics. The topics to be covered include: Functions of a Complex Variable, Partial Differential Equations, Asymptotic and Perturbawtin Methods, and Convex Analysis and Variational Methods.
Course usually offered in spring term
Activity: Lecture
1 Course Unit

ENM 540 Topics In Computational Science and Engineering
This course is focused on techniques for numerical solutions of ordinary and partial differential equations. The content will include: algorithms and their analysis for ODEs; finite element analysis for elliptic, parabolic and hyperbolic PDEs; approximation theory and error estimates for FEM.
Course not offered every year
Prerequisites: Background in ordinary and partial differential equations; proficiency in a programming language such as MATLAB, C, or Fortran
Activity: Lecture
1 Course Unit

ENM 540 Topics In Computational Science and Engineering
This course is focused on techniques for numerical solutions of ordinary and partial differential equations. The content will include: algorithms and their analysis for ODEs; finite element analysis for elliptic, parabolic and hyperbolic PDEs; approximation theory and error estimates for FEM.
Course not offered every year
Prerequisites: Background in ordinary and partial differential equations; proficiency in a programming language such as MATLAB, C, or Fortran
Activity: Lecture
1 Course Unit

ENG 600 Functional Analysis
This course teaches the fundamental concepts underlying metric spaces, normed spaces, vector spaces, and inner-product spaces. It begins with a discussion of the ideals of convergence and completeness in metric spaces and then uses these ideas to develop the Banach fixed-point theorem and its applications to linear equations, differential equations and integral equations. The course moves on to a study of normed spaces, vector spaces, and Banach spaces and operators defined on vector spaces, as well as functional defined between vector spaces and fields. The course then moves to the study of inner product spaces, Hilbert spaces, orthogonal complements, direct sums, and orthonormal sets. Applications include the study of Legendre, Hermite, Laguerre, and Chebyshev polynomials, and approximation methods in normed spaces. The course then concludes with a study of eigenvalues and eigenspaces of linear operators and spectral theory in finite-dimensional vector spaces.
One-term course offered either term
Prerequisites: ENM 510, ENM 511 or equivalent
Activity: Lecture
1 Course Unit

English (ENGL)

ENGL 001 Approaches to Genre
Usually housed in the Program for Comparative Literature, this seminar engages questions of literary genre, including its function as a mediating presence for thinking about audience, literary history, and the marketplace. The theme of the seminar will change with the instructor. Customarily this course will be affiliated with Communication within the Curriculum (CWIC), and so will have a speaking and presentation component to it. See the English Department’s website at www.english.upenn.edu for a description of current offerings.
One-term course offered either term
Also Offered As: COML 001
Activity: Seminar
1 Course Unit

ENGL 002 Approaches to Literary Studies
Usually housed in the program for Comparative Literature, this seminar engages questions of method and interdisciplinarity. It will therefore cover not only a range of approaches to literary texts, but also explore how the methodologies of other disciplines might be brought efficaciously to bear on the objects of literary study. The theme of the seminar will change with the instructor. Customarily this course will be affiliated with Communication within the Curriculum (CWIC), and so will have a speaking and presentation component to it. See the English Department’s website at www.english.upenn.edu for a description of current offerings.
One-term course offered either term
Also Offered As: COML 002
Activity: Seminar
1 Course Unit

ENGL 010 Introduction to Creative Writing
A course designed to introduce students to many of the elements of creative writing, including fiction, poetry, journalism, creative nonfiction, and memoir. Students can expect to read from a variety of assigned texts, respond to regular writing prompts, and workshop their own creative work in a collaborative setting. See the English Department’s website at www.english.upenn.edu for a description of the current offerings.
One-term course offered either term
Activity: Seminar
1 Course Unit
Notes: This course does not satisfy the writing requirement.

ENGL 015 Topics in Literature
An introduction to Writing about Literature, with emphasis on a particular theme, genre, or period. See the English Department’s website at www.english.upenn.edu for a description of current offerings.
One-term course offered either term
Also Offered As: CIMS 015, CLST 019, COML 016, GSWS 017, LALS 016
Activity: Seminar
1 Course Unit
Notes: For additional information, please see our website at: https://www.english.upenn.edu
ENGL 016 Topics in Literature
Freshman Seminars under the title "Topics in Literature" will afford entering students who are considering literary study as their major the opportunity to explore a particular and limited subject with a professor whose current work lies in that area. Topics may range from the lyric poems of Shakespeare's period to the ethnic fiction of contemporary America. Small class-size will insure all students the opportunity to participate in lively discussions. Students may expect frequent and extensive writing assignments, but these seminars are not writing courses; rather, they are intensive introductions to the serious study of literature. One of them may be counted toward the English major and may be applied to a period, genre, or thematic requirement within the major. See the English Department's website at www.english.upenn.edu for a description of the current offerings.
One-term course offered either term
Also Offered As: AFRC 017, ARTH 100, CIMS 016, COML 016, URBS 106
Activity: Seminar
1 Course Unit
Notes: Freshman Seminar

ENGL 018 Old English
This course introduces students to the powerful and influential corpus of Old English literature. We will read a wide variety of texts: short poems such as The Wonderer, The Seafarer, The Wife's Lament and the passionate religious poem The Dream of The Rood; chronicles such as The Battle Of Maldon Against The Vikings, The Old Testament, Exodus and Bede's Conversion Of The English; and selections from the greatest of all English epics, Beowulf. Readings will be in Old English, and the first few weeks of the course will be devoted to mastering Old English prosody, vocabulary, and grammar (as well as a crash course on the early history of the English language). During the last few weeks we may read modern criticism of Old English poetry, or we will consider the modern poetic reception of Old English literature and explore theories and problems of translation, reading translations of Old English poems by Yeats, Auden, Tolkien, and Heaney. See the English Department's website at www.english.upenn.edu for a description of the current offerings.
Course not offered every year
Activity: Lecture
1 Course Unit

ENGL 020 Literature Before 1660
This course will introduce students to key works of English literature written before 1660. It will explore the major literary genres of this period, as well as the social and cultural contexts in which they were produced. The course will examine how literature texts articulate changes in language and form, as well as in concepts of family, nation, and community during the medieval and early modern periods. See the English Department's website at www.english.upenn.edu for a description of the current offerings.
One-term course offered either term
Activity: Seminar
1 Course Unit

ENGL 021 Medieval Literature and Culture
This course introduces students to four hundred years of English literary culture, from approximately 1100 to 1500. This period was marked by major transformations, not only with respect to government, law, religious practice, intellectual life, England's relation to the Continent (during the 100 Years War), the organization of society (especially after the Black Death), the circulation of literary texts, and the status of authors. Topics may include medieval women writers, manuscript production, literatures of revolt, courtly culture, Crusades, cross-Channel influences, and religious controversy. See the English Department's website at www.english.upenn.edu for a description of the current offerings.
Course not offered every year
Also Offered As: CIMS 021, COML 021
Activity: Seminar
1 Course Unit

ENGL 022 Romance
This course will focus on what is arguably the most extravagant, adventurous, and fantastical of the literary genres: the Romance. We will read a number of medieval and renaissance romance narratives, in verse and prose, beginning with the Arthurian romances (Malory's Morte D'Arthur, Sir Gawain And The Green Knight) and continuing with as many (and as much) of the great renaissance romances as time will allow. Sir Philip Sidney's Arcadia, Edmund Spenser's The Faerie Queen, and Lady Mary Wroth's Urania. See the English Department's website at www.english.upenn.edu for a description of the current offerings.
Course not offered every year
Activity: Lecture
1 Course Unit

ENGL 024 Introduction to American and British Film and Media
This is a course on the history of Hollywood. It seeks to unravel Hollywood's complex workings and explain how the business and politics of the film industry translate into the art of film. We will trace the American film industry from Edison to the internet, asking questions such as: What is the relationship between Hollywood and independent film? How has the global spread of Hollywood since the 1920s changed the film industry? How has Hollywood responded to crises in American politics (e.g., world wars, the cold war, terrorism)? And how have new technologies such as synchronized sound and color cinematography, television and the VCR, and new digital technologies changed film and the film industry? We will look closely at representative studios (Paramount, Disney, and others), representative filmmakers (Mary Pickford, Frank Capra, and George Lucas, among many others), and we will examine the impact of industrial changes on the screen. See the English Department's website at www.english.upenn.edu for a description of current offerings.
Course not offered every year
Also Offered As: CIMS 024, COMM 204
Activity: Lecture
1 Course Unit
ENGL 025 The Age of Chaucer
In this class we come to speak as people spoke in England some six centuries ago: in medieval or ‘Middle’ English. We do this by reading the poetry of Geoffrey Chaucer, a great poet who has influenced everyone from William Shakespeare to Sylvia Plath. Since Middle English takes some getting use to, class assignments are not heavy: usually about 800 lines per class. A typical class might begin by looking at a few of the easier passages in the Canterbury Tales, proceed to reading the greatest poem of love in the English language (Chaucer’s Troilus And Criseyde), before moving on to other contemporary writers in medieval culture. We will likely compare representations of medieval Christianity, Judaism, and Islam, as well as aspects of film adaptation by Italian filmmaker Pasolini (and perhaps by Chaucer scholar Terry Jones). We will consider what it might have been like to live secure in an age of faith; yet to live insecure, as a dizzying new profusion of trades and occupations sprung up in unprecedented “divisions of labor.” We will imagine being a medieval woman, and may visit and handle medieval manuscripts. Above all, we will enjoy the poetry. See the English Department’s website at www.english.upenn.edu for a description of the current offerings.
Course not offered every year
Activity: Lecture
1 Course Unit

ENGL 026 Early Drama
Early drama in English had its roots as much in Christianity as in Classical antiquity. What grew into the theater of Shakespeare began as networks of strolling players and church authorities in market towns sponsoring cycles of “miracle” and “mystery” plays. This course will introduce students to major dramatic works of the medieval and early modern periods, including plays written for the public stage, closet dramas, masques, mayoral pageants and other kinds of performances. The course will also pay attention to the development of different dramatic genres during these periods, as well as the social and cultural contexts in which they were produced. Students thus will explore the history of drama in English through the renaissance to the closing of the theaters in 1641 and their eventual reopening in 1660. See the English Department’s website at www.english.upenn.edu for a description of the current offerings.
Course not offered every year
Also Offered As: THAR 101
Activity: Lecture
1 Course Unit

ENGL 029 Classical Antiquity and English Literature
This course will examine the relationship between English literature and that of ancient Greece and Rome. At times we will discuss how classical theories of genre and aesthetics were appropriate and reinvented in medieval, renaissance, and seventeenth-century texts. What does it mean to call Hamlet or Oedipus the King tragedies, or the Frogs and the Way Of The World comedies? Should we consider the development of English drama and poetry as an extension of an imposing classical tradition or as a sustained and resistant response to it? See the English Department’s website at www.english.upenn.edu for a description of the current offerings.
For BA Students: Arts and Letters Sector
Course not offered every year
Also Offered As: CLST 102
Activity: Lecture
1 Course Unit
Notes: ?Formerly ENGL 096?

ENGL 031 Introduction to Renaissance Literature and Culture
This course will survey the cultural history of sixteenth and seventeenth century England. Interdisciplinary in nature and drawing on the latest methodologies and insights of English studies, we will explore how aesthetics, politics, social traditions, impacted literature at this vital and turbulent time of English history. See the English Department’s website at www.english.upenn.edu for a description of the current offerings.
Course not offered every year
Also Offered As: COML 031
Activity: Lecture
1 Course Unit
Notes: ?Formerly ENGL 030?

ENGL 033 The Bible As Literature
Successive generations have found the Bible to be a text which requires extensive interpretation. This course explores the Bible as literature, considering such matters as the artistic arrangement and stylistic qualities of individual episodes as well as the larger thematic patterns of both the Old and New Testaments and the Apocrypha. A good part of the course is spent looking at the place of the Bible in cultural and literary history and the influence of such biblical figures as Adam and Eve, David, and Susanna on writers of poetry, drama, and fiction in the English and American literary traditions. See the English Department’s website at www.english.upenn.edu for a description of the current offerings.
Course not offered every year
Also Offered As: RELS 015
Activity: Lecture
1 Course Unit

ENGL 034 Cultures of The Book
The impact of various technologies (from writing to various forms of manuscript to print to electronics) on the way the written word gives shape to a culture. The emphasis is on western cultures from Plato to the present; but participation by students with interest or expertise in non-western cultures will be of great value to the group as a whole. The course offers an ideal perspective from which students can consider meta-issues surrounding their own special interests in a wide variety of fields, as well as learn to think about the way in which traditional fields of study are linked by common inherited cultural practices and constructions. See the English Department’s website at www.english.upenn.edu for a description of the current offerings.
For BA Students: Humanities and Social Science Sector
Course not offered every year
Also Offered As: FNAR 034, HIST 034
Activity: Lecture
1 Course Unit

ENGL 038 The Age of Milton
The seventeenth century was a time of revolution and upheaval, of excesses both puritanical and cavalier. It saw the execution of one kind and the restoration of another, and survived the English Civil War and the Great Fire and Great Plague of London. This course explores the literature of this century through the works of John Milton’s major works (selected sonnets, Comus, Areopagitica, Paradise Lost, Paradise Regained, and Samson Agonistes), and his contemporaries. We will concentrate on a number of issues that governed writing in the period, particularly the tension between individual interiority and historical, social and political activity. See the English Department’s website at www.english.upenn.edu for a description of the current offerings.
Course not offered every year
Activity: Lecture
1 Course Unit
ENGL 040 British Poetry 1660 - 1914
This course provides students with a survey of British poetry and poetics from the Restoration to the Modern period, and usually will include writers ranging from Aphra Behn and Alexander Pope to Thomas Hardy. The course may be offered in various forms, some covering less, and some more historical background. Most will provide a sampling of eighteenth-century, Romantic, and Victorian poets. See the English Department’s website at www.english.upenn.edu for a description of the current offerings.  
One-term course offered either term  
Activity: Lecture  
1 Course Unit

ENGL 041 18th-Century British Literature
An introduction to British literary and cultural history in the eighteenth century. Typically, this course will contain materials from the later seventeenth to the early nineteenth centuries—from the Restoration and Glorious Revolution through the Enlightenment, the American and French Revolutions, and the Napoleonic Wars—though it need not cover the entire period. We will read plays, poetry and prose in order to understand the aesthetic, intellectual, social and political issues of literary production and achievement in this period. See the English Department’s website at www.english.upenn.edu for a description of the current offerings.  
Course not offered every year  
Activity: Seminar  
1 Course Unit

ENGL 045 18th-Century Novel
This survey of the novel addresses key questions about the novel’s "rise" in the eighteenth century on both sides of the Atlantic, as well as attending to the cultural conditions that attended this new literary form. How did the concurrent "rise" of the middle classes and the emergence of an increasingly female reading public affect the form and preoccupations of early novels? What role did institutions like literary reviews, libraries, and the church play in the novel’s early reception? While reading will vary from course to course, students should expect to read such authors as Austen, Behn, Brockden Brown, Burney, Defoe, Fielding, Richardson, Rowlandson, Rowson, Scott, and Smollett. See the English Department’s website at www.english.upenn.edu for a description of the current offerings.  
Course not offered every year  
Also Offered As: GSWS 045  
Activity: Lecture  
1 Course Unit

ENGL 046 Drama from 1660 - 1840
This course surveys drama from the Restoration through the Romantic period, and in so doing explores arguably the most tumultuous period of British and American theater history. These years saw the reopening of the theaters in London in 1660 after their having been closed through two decades of Civil War and Puritan rule. They witnessed the introduction of actresses to the stage, the development of scenery and the modern drop-apron stage, the establishment of theatrical monopolies in 1660 and stringent censorship in 1737, and the gradual introduction, acceptance, and eventual celebration of the stage in America. Perhaps most importantly, they oversaw some of the best comedies and farces in the English language, the introduction of pantomime and the two-show evening, sustained experimentation with music and spectacle on stage, and the transformation of tragedy into a star vehicle for actors and actresses like David Garrick, Sarah Siddons, John Philip Kemble, and Edmund Kean. See the English Department’s website at www.english.upenn.edu for a description of the current offerings.  
Course not offered every year  
Activity: Lecture  
1 Course Unit

ENGL 050 The Romantic Period
This course offers an introduction to the literature of the Romantic period (ca. 1770-1830). Some versions of this course will incorporate European romantic writers, while others will focus exclusively on Anglo-American romanticism, and survey authors such as Austen, Blake, Brockden Brown, Byron, Coleridge, Emerson, Irving, Keats, Radcliffe, Scott, Shelley, and Wordsworth. See the English Department’s website at www.english.upenn.edu for a description of the current offerings.  
Course not offered every year  
Also Offered As: GSWS 050  
Activity: Lecture  
1 Course Unit

ENGL 051 19th-Century British Literature
In 1815 in the wake of the battle of Waterloo, Great Britain controlled a staggering quarter of the world's landmass and half of its gross national product. This course will begin with the Napoleonic Wars and this Regency aftermath to survey a century of British literature— from Romanticism through the revolutions of 1848 and the Victorian and Edwardian periods to the beginning of the first World War. Most versions of this course will read both novels and poetry, often focusing on the relation between the two and their function within nineteenth century culture. Others may incorporate drama and non-fiction prose. See the English Department’s website at www.english.upenn.edu for a description of the current offerings.  
Course not offered every year  
Also Offered As: CIMS 051, GSWS 051  
Activity: Lecture  
1 Course Unit

ENGL 053 19th-Century American Literature
A consideration of outstanding literary treatments of American culture from the early Federalist period to the beginnings of the First World War. We will traverse literary genres, reading autobiographies and travel accounts as well as fiction and poetry. See the English Department’s website at www.english.upenn.edu for a description of the current offerings.  
Course not offered every year  
Activity: Lecture  
1 Course Unit  
Notes: ?Formerly ENGL 083?
ENGL 054 Sounding Poetry: Music and Literature
Never before has poetry been so inescapable. Hip hop, the soundtrack of our times, has made rhyme, meter, and word-play part of our daily lives. How did this happen? This course begins not on the page, but in the bardic traditions of Homer’s Iliad, which encoded many of the values of its time in oral formulas. Poetry was, however, no mere encyclopedia, but also a source of risk, as we will read in Plato’s warning against its hypnotic powers, and in the excesses of the Bacchae. We continue through 19th and 20th century attempts to recover these classic traditions (Wordsworth, Longfellow, Pound). Yet Europe was not the only center of poetic production. How does the Homeric tradition relate to living traditions of West African singing poets (griots) and Southern African praise songs? And what traces of these traditions can we hear in the blues? We will listen to early blues recordings and discuss the politics of collecting folklore, and the genius of African American modernists (Langston Hughes, Claude McKay, Georgia Douglas Johnson) who bought vernacular speech onto the page. We will read and listen to a number of 20th century poets inspired when page meets stage in jazz poetry, dub poetry, spoken word, and hip hop. Assignments will include 2 papers, 2 small-group performances, memorization exercises, and a creative adaptation of one poem. See the English Department’s website at www.english.upenn.edu for a description of current offerings.

For BA Students: Arts and Letters Sector
Course usually offered in fall term
Also Offered As: AFRC 054, COML 054, MUSC 054
Activity: Lecture
1 Course Unit

ENGL 055 19th-Century Novel
During the nineteenth century the novel became the dominant literary form of its day, supplanting poetry and drama on both sides of the Atlantic. In this introduction to the novelists of the period, we will read the writers who secured the novel's cultural respectability and economic prominence. Likely authors will include Austen, the Brontes, Collins, Dickens, Eliot, Hardy, Hawthorne, Melville, Poe, Thackeray, Scott, and Stowe. The course will explore the themes, techniques, and styles of the nineteenth-century novel. It will focus not only on the large structural and thematic patterns and problems within each novel but also on the act of reading as a historically specific cultural ritual in itself. See the English Department’s website at www.english.upenn.edu for a description of the current offerings.

Course not offered every year
Also Offered As: COML 055, GSWS 055
Activity: Lecture
1 Course Unit

ENGL 056 Modern Drama
This course will explore the major dramatic and theatrical movements that constitute the "modern," from the successive rises of melodrama and "realism" in the nineteenth century, to those theatrical aesthetics that positioned themselves beyond or against realism at the turn of the twentieth century, to the present day. We'll explore political theatre, the invention of the avant garde, the rise of the auteur-director, performance art, feminist and queer theatres, and the integration of non-western theatre into shared theatre practice in the colonial and post-colonial world. See the English Department’s website at www.english.upenn.edu for a description of the current offerings.

Course not offered every year
Also Offered As: THAR 125
Activity: Lecture
1 Course Unit

ENGL 057 Literature of the Americas to 1900
This course examines U.S. literature and culture in the context of the global history of the Americas. Historical moments informing the course will range from the origins of the Caribbean slave-and-sugar trade at the beginning of the nineteenth century, to the Monroe Doctrine of 1823 and the U.S. Mexico and Spanish-American wars. Readings will include works by authors such as Frances Calderon de la Barca, Frederick Douglass, Helen Hunt Jackson, Henry Wadsworth Longfellow, Jose Marti, Herman Melville, John Rollin Ridge, Maria Amparo Ruiz de Burton, and Felix Varela. See the English Department’s website at www.english.upenn.edu for a description of the current offerings.

Course not offered every year
Also Offered As: AFRC 057, LALS 057
Activity: Lecture
1 Course Unit
Notes: Formerly ENGL 080

ENGL 058 Irish Literature
This course will provide an introduction to modern Irish literature, focusing on the tension between Ireland's violent history and its heroic mythology. This tension leaves its mark not only on the ravaged landscape, but also on the English language, which displays its "foreignness" most strongly in the hands of Irish writers. Readings will span the genres of poetry, drama, fiction, and history, and will include works by Sommerville and Ross, Yeats, George Moore, Joyce, Synge, O'Casey, Beckett, Edna O'Brien, and Brian Friel. See the English Department’s website at www.english.upenn.edu for a description of the current offerings.

Course not offered every year
Activity: Lecture
1 Course Unit
Notes: ?Formerly ENGL 063?

ENGL 059 Modernisms and Modernities
This class explores the international emergence of modernism, typically from the middle of the 19th century to the middle of the 20th century. We will examine the links between modernity, the avant-garde, and various national modernisms that emerged alongside them. Resolutely transatlantic and open to French, Spanish, Italian, German, or Russian influences, this course assumes the very concept of Modernism to necessitate an international perspective focusing on the new in literature and the arts -- including film, the theatre, music, and the visual arts. The philosophies of modernism will also be surveyed and concise introductions provided to important thinkers like Marx, Nietzsche, Sorel, Bergson, Freud, and Benjamin. See the English Department’s website at www.english.upenn.edu for a description of the current offerings.

Course not offered every year
Also Offered As: ARTH 294, ARTH 694, COML 059, GSWS 294, VLST 236
Activity: Lecture
1 Course Unit
ENGL 060 Rise of the Novel
This course explores the history of the British novel and the diverse
strategies of style, structure, characterization, and narrative techniques it
has deployed since the late seventeenth century. While works from the
eighteenth and nineteenth centuries will form the core of the reading,
some versions of this course will include twentieth-century works.
All will provide students with the opportunity to test the advantages
and limitations of a variety of critical approaches to the novel as a
genre. Readings may include works by Behn, Swift, Defoe, Richardson,
Fielding, Lennox, Smollett, Burney, Scott, Austen, the Brontës, Dickens,
Eliot, Hardy, Conrad, Joyce, Lawrence, Woolf, Rhys, Greene, Naipaul,
Carter, Rushdie, and Coetzee. See the English Department’s website at
www/english.upenn.edu for a description of the current offerings.
Course not offered every year
Activity: Lecture
1 Course Unit

ENGL 061 20th-Century British Literature
This course introduces major works in twentieth-century British literature.
We will read across a range of fiction, poetry, plays, and essays, and will
consider aesthetic movements such as modernism as well as historical
contexts including the two World Wars, the decline of empire, and racial
and sexual conflict. Authors treated might include: Conrad, Yeats, Joyce,
Eliot, Lawrence, Forster, Shaw, Woolf, Auden, Orwell, Beckett, Achebe,
Rhys, Synge, Naipaul, Rushdie, Heaney, and Walcott. See the English
Department’s website at www/english.upenn.edu for a description of the
current offerings.
Course not offered every year
Also Offered As: CIMS 160
Activity: Lecture
1 Course Unit

ENGL 062 20th-Century Poetry
From abstraction to beat, from socialism to negritude, from
expressionism to ecopoetry, from surrealism to visual poetry, from
collage to digital poetry, the poetry of the twentieth century has been
characterized by both the varieties of its forms and the range of its
practitioners. This course will offer a broad overview of many of the major
trends and a few minor eddies in the immensely rich, wonderfully varied,
ideologically and aesthetically charged field. The course will cover many
of the radical poetry movements and individual innovations, along with
the more conventional and idiosyncratic work, and will provide examples
of political, social, ethnic, and national poetics, both in the Americas
and Europe, and beyond to the rest of the world. While most of the poetry
covered will be in English, works in translation, and indeed the art of
translation, will be an essential component the course. See the English
Department’s website at www/english.upenn.edu for a description of the
current offerings.
Course not offered every year
Also Offered As: COML 062
Activity: Lecture
1 Course Unit

ENGL 064 Modern America
This course is concerned with American literature and cultural life
from the turn of the century until about 1950. The course emphasizes
the period between the two World Wars and emphasizes as well the
intellectual and cultural milieu in which the writers found themselves.
Works by the following writers are usually included: James, Eliot, Frost,
Fitzgerald, Faulkner, West, Stevens, Dubois, Williams, Wharton, Stein,
West, Moore, and Hemingway. See the English Department’s website at
www/english.upenn.edu for a description of the current offerings.
Course not offered every year
Activity: Lecture
1 Course Unit
Notes: ?Formerly ENGL 084?

ENGL 065 20th-Century British Novel
This course traces the development of the novel across the twentieth-
century. The course will consider the formal innovations of the modern
novel (challenges to realism, stream of consciousness, fragmentation,
etc.) in relation to major historical shifts in the period. Authors treated
might include: Conrad, Lawrence, Joyce, Forster, Woolf, Cather,
Faulkner, Hemingway, Achebe, Greene, Rhys, Baldwin, Naipaul, Pynchon,
Rushdie, and Morrison. See the English Department’s website at
www/english.upenn.edu for a description of the current offerings.
Course not offered every year
Also Offered As: AFST 065, COML 065
Activity: Lecture
1 Course Unit

ENGL 069 Poetry and Poetics
What is poetry and what place does it have among literary forms?
What is its relation to culture, history, and our sense of speakers and
audiences? This course will focus on various problems in poetic practice
and theory, ranging from ancient theories of poetry of Plato and Aristotle
to contemporary problems in poetics. In some semesters a particular
school of poets may be the focus; in others a historical issue of literary
transmission, or a problem of poetic genres, such as lyric, narrative, and
dramatic poetry, may be emphasized. The course will provide a basic
knowledge of scansion in English with some sense of the historical
development of metrics. This course is a good foundation for those
who want to continue to study poetry in literary history and for creative
writers concentrating on poetry. See the English Department’s website at
www/english.upenn.edu for a description of the current offerings.
Course not offered every year
Also Offered As: AFRC 069, COML 069
Activity: Lecture
1 Course Unit

ENGL 070 Latina/o Literature and Culture
A survey of cultural productions by Latinas/os (i.e. people of Latin
American descent who have been raised in the U.S.) that usually will
focus on the twentieth century, but might at times examine earlier
periods instead. The course will take a culturally and historically
informed approach to a wide range of novels, poems, plays, and films,
and will sometimes include visual art and music. Writers and artists
might include America Paredes, Piri Thomas, Cherrie Moraga, Sandra
Cisneros, Julia Alvarez, Junot Diaz, Cristina Garcia, El Teatro Campesino,
John Leguizamo, Carmen Lomas Garza, the Hernandez Brothers,
and Los Tigres del Norte. See the English Department’s website at
www/english.upenn.edu for a description of the current offerings.
Course not offered every year
Also Offered As: ARTH 070, COML 070, GSWS 060, LALS 060
Activity: Lecture
1 Course Unit
ENGL 071 Literatures of Africa and the African Diaspora
This course will serve as an introduction to a particularly rich arena of literature in English. It will also help students to begin to understand many other racial subtexts underlying the culture wars in America, where too often, in the full glare of cameras, an anguished voice informs the audience that ‘as an African, I cannot expect justice in this America.’ See the English Department’s website at www.english.upenn.edu for a description of the current offerings.

For BA Students: Humanities and Social Science S
Course not offered every year
Also Offered As: AFRC 001, AFRC 071, AFST 071
Activity: Lecture
1 Course Unit

ENGL 072 Asian American Literature
An overview of Asian American literature from its beginnings at the turn of the twentieth century to the present. This course covers a wide range of Asian American novels, plays, and poems, situating them in the contexts of American history and minority communities and considering the variety of formal strategies these different texts take. See the English Department’s website at www.english.upenn.edu for a description of the current offerings.

For BA Students: Arts and Letters Sector
Course not offered every year
Also Offered As: ASAM 002
Activity: Lecture
1 Course Unit

ENGL 074 Contemporary American Literature
The readings for this course expose the student to a wide range of American fiction and poetry since World War II, giving considerable attention to recent work. Works may include All The King’s Men by Robert Penn Warren, Herzog by Saul Bellow, On The Road by Jack Kerouac, V by Thomas Pynchon, Of Love and Dust by Ernest J. Gaines, A Flag For Sunrise by Robert Stone, The Killing Ground by Mary Lee Settelle, and selected poem by Ginsberg, Plath, and Walcott. Readings vary from term to term. See the English Department’s website at www.english.upenn.edu for a description of the current offerings.

Course not offered every year
Also Offered As: AFRC 085, CIMS 074
Activity: Lecture
1 Course Unit

Notes: ?Formerly ENGL 085?

ENGL 075 Science and Literature
This course will explore the emergence of modern science fiction as a genre, the ways it has reflected our evolving conceptions of ourselves and the universe, and its role as the mythology of modern technological civilization. We will discuss such characteristic themes as utopias, the exploration of space and time, biological engineering, superman, robots, aliens, and other worlds--and the differences between European and American treatment of these themes. See the English Department’s website at www.english.upenn.edu for a description of the current offerings.

For BA Students: Arts and Letters Sector
Course not offered every year
Also Offered As: COML 074, HIST 117, HSOC 110, STSC 110
Activity: Lecture
1 Course Unit

ENGL 079 Jewish-American Literature
This topic course explores aspects of Hebrew Literature, Film and Culture. Specific course topics vary from semester to semester. See the English Department’s website at www.english.upenn.edu for a description of the current offerings.

For BA Students: Arts and Letters Sector
Course not offered every year
Also Offered As: CIMS 159, COML 282, GRMN 263, NELC 159
Activity: Lecture
1 Course Unit

ENGL 080 Literatures of Jazz
That modernism is steeped as much in the rituals of race as of innovation is most evident in the emergence of the music we have come to know as jazz, which results from collaborations and confrontations taking place both across and within the color line. In this course we will look at jazz and the literary representations it engendered in order to understand modern American culture. We will explore a dizzying variety of forms, including autobiography and album liner notes, biography, poetry, fiction, and cinema. We’ll examine how race, gender, and class influenced the development of jazz music, and then will use jazz music to develop critical approaches to literary form. Students are not required to have a critical understanding of music. Class will involve visits from musicians and critics, as well as field trips to some of Philadelphia’s most vibrant jazz venues. See the English Department’s website at www.english.upenn.edu for a description of the current offerings.

Course not offered every year
Also Offered As: AFRC 079, MUSC 080
Activity: Lecture
1 Course Unit

ENGL 081 African-American Literature
An introduction to African-American literature, typically ranging across a wide spectrum of moments, methodologies, and ideological postures, from Reconstruction and the Harlem Renaissance to the Civil Rights Movement. Most versions of this course will begin in the 19th century; some versions of the course will concentrate only on the modern period. See the English Department’s website at www.english.upenn.edu for a description of the current offerings.

Course not offered every year
Also Offered As: AFRC 081, GSWS 081, MUSC 082
Activity: Lecture
1 Course Unit

ENGL 082 Native-American Literature
From oral traditions to Youtube videos of Native American hip hop, this course surveys the diverse body of Native American literature through its many transformations across the centuries. The course will focus primarily on contemporary Native American literature, an era known as the Native American Renaissance. We will read literary works by Black Elk, Leslie Marmon Silko, Sherman Alexie, N. Scott Momaday, and others. The course will also include films such as Smoke Signals and Whale Rider. See the English Department’s website at www.english.upenn.edu for a description of the current offerings.

Course not offered every year
Also Offered As: ANTH 082, RELS 091
Activity: Lecture
1 Course Unit
ENGL 087 Theatre, History and Culture I, Classical Athens to Elizabethan London
This course will explore the forms of public performance, most specifically theatre, as they emerge from and give dramatic shape to the dynamic life of communal, civic and social bodies, from their anthropological origins in ritual and religious ceremonies, to the rise of great urban centers, to the closing of the theaters in London in 1642. This course will focus on development of theatre practice in both Western and non-Western cultures intersects with the history of cities, the rise of market economies, and the emerging forces of national identity. In addition to examining the history of performance practices, theatre architecture, scenic conventions and acting methods, this course will investigate, where appropriate, social and political history, the arts, civic ceremonies and the dramaturgic structures of urban living. See the English Department’s website at www.english.upenn.edu for a description of the current offerings.
For BA Students: Arts and Letters Sector
One-term course offered either term
Also Offered As: COML 110, THAR 101
Activity: Lecture
1 Course Unit

ENGL 088 American Poetry
Some versions of this course survey American poetry from the colonial period to the present, while others begin with Whitman and Dickinson and move directly into the 20th century and beyond. Typically students read and discuss the poetry of Williams, Stein, Niedecker, H.D., Pound, Stevens, Fearing, Rakoksi, McKay, Cullen, Wilbur, Plath, Rich, Ginsberg, Kerouac, Waldman, Creeley, Ashberry, O’Hara, Corman, Bernstein, Howe, Perelman, Silliman, and Retallack. See the English Department’s website at www.english.upenn.edu for a description of the current offerings.
Course not offered every year
Activity: Lecture
1 Course Unit

ENGL 089 American Fiction
Some versions of this course survey the American novel from its beginnings to the present, focusing on the development of the form, while others concentrate on the development of American fiction in one or two periods. Readings may include novels by writers such as Brown, Cooper, Hawthorne, Melville, Wharton, Morrison, Twain, James, Adams, Chopin, Howells, Norris, Whitman, Dreiser, Fitzgerald, Hemingway, Faulkner, Dos Passos, Ellison, and Nabokov. See the English Department’s website at www.english.upenn.edu for a description of the current offerings.
Course not offered every year
Activity: Lecture
1 Course Unit

ENGL 090 Gender, Sexuality, and Literature
This course will focus on questions of gender difference and of sexual desire in a range of literary works, paying special attention to works by women and treatments of same-sex desire. More fundamentally, the course will introduce students to questions about the relation between identity and representation. We will attend in particular to intersections between gender, sexuality, race, class, and nation, and will choose from a rich vein of authors: Mary Wollstonecraft, Jane Austen, Mary Shelley, Lord Byron, the Brontes, Christina Rossetti, George Eliot, Oscar Wilde, Henry James, Gertrude Stein, Zora Neale Hurston, E. M. Forster, Virginia Woolf, Nella Larsen, Radclyffe Hall, Willa Cather, Elizabeth Bishop, Jean Rhys, James Baldwin, Sylvia Plath, Bessie Head, Audre Lorde, Adrienne Rich, Cherrie Moraga, Toni Morrison, Michael Cunningham, Dorothy Allison, Jeanette Winterson, and Leslie Feinberg. See the English Department’s website at www.english.upenn.edu for a description of the current offerings.
Course not offered every year
Also Offered As: COML 090, GSWS 090
Activity: Lecture
1 Course Unit

ENGL 091 World Film History to 1945
This course is an introduction to the history of cinema from the 1890s to the present. In demonstrating how history energizes and complicates the movies, we will examine numerous film cultures and historical periods, including Hollywood silent cinema, Italian neo-realism, the French New Wave, recent films from Iran, and a variety of other film movements from different historical epochs and cultures. Screenings will feature movies such as Sergei Eisenstein’s THE BATTLESHIP POTEMKIN (1925), Jean Renoir’s THE GRAND ILLUSION (1937), Nicholas Ray’s REBEL WITHOUT A CAUSE (1955), Jean-Luc Godard’s CONTEMPT (1963), Spike Lee’s DO THE RIGHT THING (1989), Sally Potter’s ORLANDO (1992), and Pedro Almodovar’s TALK TO HER (2003). Our aim is to establish a broad historical and global foundation for the understanding of film as a complex exchange between art, technology, politics, and economics. Screenings will be mandatory. See the English Department’s website at www.english.upenn.edu for a description of the current offerings.
For BA Students: Arts and Letters Sector
One-term course offered either term
Also Offered As: ARTH 108, CIMS 101, COML 123
Activity: Lecture
1 Course Unit
ENGL 092 World Film History 1945-Present
This course is an introduction to the analysis of film as both a textual practice and a cultural practice. We will examine a variety of films—from Fritz Lang's M (1931) to Julia Dash's DAUGHTERS OF THE DUST (1991)—in order to demonstrate the tools and skills of "close reading." We will concentrate on those specifically filmic features of the movies, such as mise-en-scene, cinematography, editing and sound strategies, as well as those larger organizational forms, such as narrative and non-narrative structures and movie genres. Because our responses to the movies always extend beyond the film frame, we will additionally look closely at the complex business of film distribution, promotion, and exhibition to show how the less visible machinery of the movie business also shapes our understanding and enjoyment of particular films. Along the way, we will discuss some of the most influential and productive critical schools of thought informing film analysis today, including realism, auteurism, feminism, postmodernism, and others. Screenings are mandatory. See the English Department's website at www.english.upenn.edu for a description of the current offerings.
For BA Students: Arts and Letters Sector
One-term course offered either term
Also Offered As: ARTH 109, CIMS 102, COML 124
Activity: Lecture
1 Course Unit

ENGL 093 Introduction to Postcolonial Literature
English is a global language with a distinctly imperial history, and this course serves as an essential introduction to literary works produced in or about the former European colonies. The focus will be poetry, film, fiction and non fiction and at least two geographic areas spanning the Americas, South Asia, the Caribbean and Africa as they reflect the impact of colonial rule on the cultural representations of identity, nationalism, race, class and gender. See the English Department's website at www.english.upenn.edu for a description of the current offerings.
Course not offered every year
Also Offered As: AFRC 093, COML 093, LALS 093
Activity: Lecture
1 Course Unit

ENGL 094 Introduction to Literary Theory
This course introduces students to major issues in the history of literary theory, and provides an excellent foundation for the English major or minor. Treating the work of Plato and Aristotle as well as contemporary criticism, we will consider the fundamental issues that arise from representation, making meaning, appropriation and adaptation, categorization and genre, historicity and genealogy, and historicity and temporality. We will consider major movements in the history of theory including the "New" Criticism of the 1920's and 30's, structuralism and post-structuralism, Marxism and psychoanalysis, feminism, cultural studies, critical race theory, and queer theory. See the English Department's website at www.english.upenn.edu for a description of the current offerings.
Course not offered every year
Also Offered As: COML 094, GRMN 279
Activity: Lecture
1 Course Unit

ENGL 095 Introduction to Film Theory
This course offers students an introduction to the major texts in film theory across the 20th and 21st centuries. The course gives students an opportunity to read these central texts closely, to understand the range of historical contexts in which film theories are developed, to explore the relationship between film theory and the major film movements, to grapple with the points of contention that have emerged among theorists, and finally to consider: what is the status of film theory today? This course is required for all Cinema Studies majors, but is open to all students, and no prior knowledge of film theory is assumed. Requirements: Close reading of all assigned texts; attendance and participation in section discussions; 1 midterm exam; 1 take-home final exam. See the English Department's website at www.english.upenn.edu for a description of the current offerings.
Course usually offered in spring term
Also Offered As: COML 116
Activity: Lecture
1 Course Unit

ENGL 096 Theories of Gender and Sexuality
What makes men and women different? What is the nature of desire? This course introduces students to a long history of speculation about the meaning and nature of gender and sexuality – a history fundamental to literary representation and the business of making meaning. We will consider theories from Aristophanes speech in Platos Symposium to recent feminist and queer theory. Authors treated might include: Plato, Shakespeare, J. S. Mill, Mary Wollstonecraft, Sigmund Freud, Virginia Woolf, Simone de Beauvoir, Adrienne Rich, Audre Lorde, Michel Foucault, Gayle Rubin, Catherine MacKinnon, Eve Kosofsky Sedgwick, Judith Butler, bell hooks, Leo Bersani, Gloria Anzaldua, David Halperin, Cherrie Moraga, Donna Haraway, Gayatri Spivak, Diana Fuss, Rosemary Hennesy, Chandra Tadpole Mohanty, and Susan Stryker. See the English Department's website at www.english.upenn.edu for a description of the current offerings.
For BA Students: Humanities and Social Science Sector
Course not offered every year
Also Offered As: GSWS 096
Activity: Lecture
1 Course Unit

ENGL 097 Theatre, History and Culture II
This course examines theatre and performance in the context of the border urban, artistic and political cultures housing them from the Renaissance to the mid-19th century. Encompassing multiple cultures and traditions, it will draw on a variety of readings and viewings designed to locate the play, playwright, trend or concept under discussion within a specific socio-historical context. The evolution of written and performed drama, theatre architecture, and scenography will be examined in tandem with the evolution of various nationalisms, population shifts, and other commercial and material forces on theatrical entertainment. Readings consequently will be drawn not only from plays and other contemporary documents, but also from selected works on the history, theory, design technology, art, politics or society of the period under discussion. See the English Department's website at www.english.upenn.edu for a description of the current offerings.
Course not offered every year
Also Offered As: COML 111, THAR 102
Activity: Lecture
1 Course Unit
ENGL 098 Theatre, History and Culture III
This course will examine the interplay of theatrical theory, theatrical practice, and dramatic writing, in relation to contemporaneous societies and cultures, from the first experiments in penetrating the boundaries of "realism" at the end of the nineteenth century, through the present day. Areas of exploration include the invention of the avant garde, the rise of the auteur-director, political theatre, competing theories about the actor's body and the actor's emotions, performance art, feminist theatre, queer theatre, and the integration of non-western theatre into shared theatre practice in the colonial and post-colonial world. See the English Department's website at www/english.upenn.edu for a description of the current offerings.
For BA Students: Arts and Letters Sector
One-term course offered either term
Also Offered As: COML 112
Activity: Lecture
1 Course Unit

ENGL 100 Introduction to Literary Study
Literature does not exist for your protection. So dangerous is it, that Socrates argued poets ought to be banned from his ideal Republic. And Socrates himself—one of the most subversive of all poetic thinkers—was condemned to death for corrupting the young with his speeches. All great literature is unsettling and alarming. Along with its beauty and delicacy and rhetorical power and ethical force, it can be terrifyingly sublime and even downright ugly: full of contempt and horror and grandiosity and malice. From Socrates' day to our own, countless writers have been jailed, exiled, and murdered, their works censored, banned, burned, for daring to say what others wish would remain unsaid—about religion and the State; sexuality, gender, and the body; art, science, and commerce; freedom and order; love and hate—and for saying it in ways that are aesthetically innovative, surprising, seductive, ravishingly unanticipated. This course will introduce you to fundamentals of literary style, form, and history, and to approaches to reading and interpretation. It will also mean paying close attention to your own writing, in a series of brief essays and blog contributions in which you'll learn better how to meet the demands of college-level writing while striving always to be a dangerous writer yourself. See the English Department's website at www/english.upenn.edu for a description of current offerings.
For BA Students: Arts and Letters Sector
One-term course offered either term
Also Offered As: COML 117, GSWS 101
Activity: Lecture
1 Course Unit

ENGL 101 Study of an Author
This course introduces students to literary study through the works of a single author—often Shakespeare, but other versions will feature writers like Jane Austen, Geoffrey Chaucer, Herman Melville, and August Wilson. Readings an individual author across his or her entire career offers students the rare opportunity to examine works from several critical perspectives in a single course. What is the author's relation to his or her time? How do our author's works help us to understand literary history more generally? And how might be understand our author's legacy through performance, tributes, adaptations, or sequels? Exposing students to a range of approaches and assignments, this course is an ideal introduction to literary study for those students wishing to take an English course but not necessarily intending to major. See the English Department's website at www/english.upenn.edu for a description of the current offerings.
For BA Students: Arts and Letters Sector
One-term course offered either term
Also Offered As: AFRC 101, CIMS 100, COML 117, GSWS 101
Activity: Lecture
1 Course Unit

ENGL 102 Study of a Literary Theme
This is an introduction to literary study through the works of a compelling literary theme. The theme's function within specific historical contexts, within literary history generally, and within contemporary culture, are likely to be emphasized. Some versions of this course will also serve as an introduction to other members of the English faculty, who will visit the class as guest lecturers. This course is designed for the General Requirement, and is ideal for the students wishing to take an English course but not necessarily intending to major. See the English Department's website at www/english.upenn.edu for a description of the current offerings.
For BA Students: Arts and Letters Sector
One-term course offered either term
Also Offered As: CIMS 112, COML 245, GSWS 102, PSYS 102
Activity: Lecture
1 Course Unit

ENGL 103 Literary Genres
An introduction to literary study through a genre, either the short story or poetry. Versions of this course will vary widely in the selection of texts assigned. Some versions will begin with traditional stories or poems, including a sampling of works in translation. Others will focus exclusively on modern and contemporary American short fiction or poetry. This course is designed for the General Requirement, and is ideal for the students wishing to take an English course but not necessarily intending to major. See the English Department's website at www/english.upenn.edu for a description of the current offerings.
For BA Students: Arts and Letters Sector
One-term course offered either term
Also Offered As: COML 125, FOLK 125, NELC 180, SAST 124
Activity: Lecture
1 Course Unit
ENGL 104 Study of a Literary Period
This is an introduction to literary study through a survey of works from a specific historical period. Some versions will begin with traditional stories or poems, including a sampling of works in translation. Others will focus exclusively on modern and contemporary American short fiction or poetry. This course is designed or the General Requirement, and is ideal for students wishing to take an English course but not necessarily intending to major. See the English Department’s website at www.english.upenn.edu for a description of the current offerings. For BA Students: Arts and Letters Sector
One-term course offered either term
Also Offered As: AFRC 106, CIMS 104, COML 050, COML 104
Activity: Lecture
1 Course Unit

ENGL 105 Topics in Literature and Society
While the topic of this course varies from semester, its subject is always the relation between literature and socio-economic realities: political, economic, social, and of identity. Past versions of English 105 have included “The World of Work,” “Disability Narratives,” and “Conflict in Print.” Each devotes a number of weeks to the economic and social theories underlying its given subject in order to provide students with adequate background. See the English Department’s website at www.english.upenn.edu for a description of the current offerings. For BA Students: Humanities and Social Science S
One-term course offered either term
Also Offered As: COML 106, COML 253, GRMN 253, GSWS 252, HIST 253
Activity: Lecture
1 Course Unit

ENGL 111 Experimental Writing
A creative writing workshop committed to experimentation. The workshop will be structured around writing experiments, collaborations, intensive readings, and new and innovative approaches to composition and form. See English Department’s website at www.english.upenn.edu for a description of the current offerings.
One-term course offered either term
Also Offered As: COML 115
Activity: Seminar
1 Course Unit

ENGL 112 Workshop for Fiction Writers
This course emphasizes the study and practice of basic techniques of short fiction, with assignments divided between readings and discussion of student-written material. See English Department’s website at www.english.upenn.edu for a description of the current offerings.
One-term course offered either term
Also Offered As: CIMS 116
Activity: Seminar
1 Course Unit
Notes: May be repeated for credit with a different instructor.

ENGL 113 Poetry Writing Workshop
This is a workshop for students who are interested in exploring a variety of approaches to poetry. Students will encounter a diverse series of readings, in-class writing activities, weekly writing assignments, and creative methods for heightening your abilities as a reader and writer. See the English Department’s website at www.english.upenn.edu for a description of the current offerings.
One-term course offered either term
Also Offered As: AFRC 114
Activity: Seminar
1 Course Unit
Notes: May be repeated for credit with different instructor.

ENGL 114 Playwriting Workshop
The expressive possibilities and limitations of the stage medium through close reading of plays of various styles and period, study of the various resources of various types of theater, and original exercise in dramatic writing. See the English Department’s website at www.english.upenn.edu for a description of the current offerings.
One-term course offered either term
Also Offered As: THAR 114
Activity: Seminar
1 Course Unit
Notes: May be repeated for credit with different instructor.

ENGL 115 Workshop for Advanced Fiction Writers
The writing of individually selected projects (a novel, a group of short stories) with reading assignments and discussion of student works-in-progress. See the English Department’s website at www.english.upenn.edu for a description of the current offerings.
One-term course offered either term
Prerequisites: ENGL 112 or the equivalent.
Activity: Seminar
1 Course Unit
Notes: This course is not open to freshmen. May be repeated for credit with a different instructor. Permission needed from instructor; writing sample required.

ENGL 116 Screenwriting Workshop
This course will look at the screenplay as both a literary text and a blue print for production. Several classic screenplay texts will be critically analyzed (REBEL WITHOUT A CAUSE, DOCTOR STRANGELOVE, PSYCHO, etc.) Students will then embark on writing their own scripts. We will intensively focus on: character enhancement, creating “believable” cinematic dialogue, plot development and story structure, conflict, pacing, dramatic foreshadowing, the element of surprise, text and subtext and visual story-telling. Class attendance is mandatory. Students will submit their works-in-progress to the workshop for discussion. See English Department’s website at www.english.upenn.edu for a description of the current offerings.
One-term course offered either term
Also Offered As: CIMS 117
Activity: Seminar
1 Course Unit
Notes: May be repeated for credit with a different instructor.

ENGL 117 The Arts and Popular Culture
A creative writing workshop that concentrates on various aspects of writing about artistic endeavor, including criticism, reviews, profiles, interviews and essays. For the purposes of this class, the arts will be interpreted broadly, and students are able – and, in fact, encouraged – to write about both the fine arts and popular culture, including music, theater, film, fashion, photography and television. Students will write on a weekly basis, and many assignments will be tailored to each student’s individual interests and are likely to include reporting and research. Writing subjects can range from a local band to a museum, from a theater group to a comedian. Course offerings may include Writing about Music, Writing about Popular Culture, or other topics and themes. See the English Department’s website at www.english.upenn.edu for a description of the current offerings.
One-term course offered either term
Activity: Seminar
1 Course Unit
Notes: Students who have previously taken ENGL 117 should also be able to take this course in the spring term file.
ENGL 118 Advanced Poetry Writing Workshop
This workshop is especially valuable for creative writing concentrators in poetry within the English Major, for those who are working on longer works, or for those who wish to work on a series of poems connected by style and subject matter. See the English Department’s website at www.english.upenn.edu for a description of the current offerings.
One-term course offered either term
Activity: Seminar
1 Course Unit
Notes: This workshop is designed for those students who have taken the introductory workshop ENGL 113 or its equivalent and desire advance study. Students wishing to take this course must submit a writing sample as part of the selection process. May be repeated for credit with a different instructor. Writing sample required.

ENGL 120 Working with Translations
In this class we will study and translate some of the major figures in 20th century poetry, including Rainer Maria Rilke, Claire Malroux, Pablo Neruda, Cesare Pavese, Anna Akhmatova, and Bei Dao. While the curriculum will be tailored to the interests and linguistic backgrounds of the students who enroll, all those curious about world poetry and the formidable, irresistible act of translation are welcome. Students should have at least an intermediate knowledge of a language other than English. We will study multiple translations of seminal poems, render our own versions in response, and have the additional opportunity to work directly from the original. Students may also work in pairs, or groups. A portion of the course will be set up as a creative writing workshop in which to examine the overall effect of each others’ translations so that first drafts can become successful revisions. While class discussions will explore the contexts and particularity of (among others) Urdu, Italian, French, and Polish poetry, they might ultimately reveal how notions of national literature have radically shifted in recent years to more polyglottic and globally textured forms. Through guest speakers, essays on translation theory, and our own ongoing experiments, this course will celebrate the ways in which great poetry underscores the fact that language itself is a translation. In addition to the creative work, assignments will include an oral presentation, informal response papers, and a short final essay. See the English Department’s website at www.english.upenn.edu for a description of current offerings.
Course not offered every year
Also Offered As: COML 121
Activity: Seminar
1 Course Unit
Notes: This course is not open to freshman.

ENGL 121 Writing for Children
This is a course for students who have always thought it would be easy, fun, interesting, or rewarding to write a children’s book. The class will be conducted as a seminar, using a wide variety of published children’s books in all genres—picture books, chapter books, young fiction, older fiction as examples of successful books for young readers. See English Department website at www.english.upenn.edu for a description of current offerings.
One-term course offered either term
Also Offered As: AFRC 121
Activity: Seminar
1 Course Unit

ENGL 122 Grotesque Forms
An introduction to letterpress printing and bookmaking and writing for the artist book, focusing on the history of the artist book, competence in letterpress technique, print composition and design skills, and alternative book binding. Course readings will focus on the work of Joanna Drucker and Jerome Rothenberg, and the examination of multi-media works. Field trips to local artist book collections will supplement course reading, projects, and the final project. The entire class will be taught, and practiced, through the lens of “the grotesque” in art and literature. As a final project, each student will make their own limited-edition artist book that considers the course theme of “the grotesque” through writing, image, printing and binding. See the English Department’s website at www.english.upenn.edu for a description of the current offerings.
One-term course offered either term
Also Offered As: FNAR 256, FNAR 556
Activity: Seminar
1 Course Unit

ENGL 130 Advanced Screenwriting
This is a workshop-style course for students who have completed a screenwriting class, or have a draft of a screenplay they wish to improve. Classes will consist of discussing student’s work, as well as discussing relevant themes of the movie business and examining classic films and why they work as well as they do. See English Department website at www.english.upenn.edu for a description of current offerings.
One-term course offered either term
Also Offered As: CIMS 130
Activity: Seminar
1 Course Unit
Notes: This course is not open to freshman.

ENGL 135 Creative Non-Fiction Writing
A workshop course in the writing of expository prose. Assignments include informal as well as formal essays, covering such topics as autobiography, family history, review, interview, analysis of advertising and popular culture, travel, work, and satire. See the English Department’s website at www.english.upenn.edu for a description of the current offerings.
One-term course offered either term
Also Offered As: AFRC 134, ENGL 435, WRIT 135
Activity: Seminar
1 Course Unit
Notes: May be repeated for credit with a different instructor.

ENGL 144 Speculative Fiction
A course devoted to speculative fiction and literature. Topics might include science fiction, fantasy, horror, and other related genres. See English Department’s website at www.english.upenn.edu for a complete description of the current offerings.
Activity: Seminar
1 Course Unit
**ENGL 145 Advanced Non-Fiction Writing**
Writing with a view to publication in the freelance sections of newspapers such as THE PHILADELPHIA INQUIRER and THE NEW YORK TIMES, in magazines such as THE ATLANTIC and THE NEW YORKER, and in the literary quarterlies and the journals of opinion. Among the areas likely to be considered are writing as a public act, issues of taste and of privacy, questions of ethics and of policy, methods of research and of checking, excerpting, marketing, and the realistic understanding of assignments and of the publishing world. Student papers will be the basis of weekly editorial sessions, with concentration on the language: how to render material literate, how to recognize and dispose of padding and self-indulgence, how to tighten structure and amplify substance. See the English Department's website at www.english.upenn.edu for a description of the current offerings.
One-term course offered either term
Also Offered As: AFRC 145, GSWS 145, URBS 273
Activity: Seminar
1 Course Unit
Notes: This course is not open to freshmen. May be repeated for credit with a different instructor.

**ENGL 155 Writing in the Documentary Tradition**
This course will function as a workshop, with a select group of students. It's a course that will honor the spirit and tradition of "documentary" writing. The word "documentary" has meant many things over time. Here, it means a kind of nose-close observation and reportage. It means a level of being with one's subject matter in a way that other creative writing courses do not allow because of their format and structure. In English 155, a student writer at Penn will dare to "hang" with his topic—a girl's high-school basketball team; a medical intern in a HUP emergency room; a cleaning lady doing the graveyard shift in a classroom building; a food-truck operator crowding the noontime avenues; a client-patient in the Ronald McDonald House near campus; a parish priest making his solitary and dreary and yet redemptive rounds of the sick and the dying in the hospital—for the entire term. At the term's end, each writer in the course will have produced one extended prose work: a documentary piece of high creative caliber. This is our goal and inspiration. The piece will be 35 to 40 pages long, at minimum. See the English Department's website at www.english.upenn.edu for a description of the current offerings.
One-term course offered either term
Activity: Seminar
1 Course Unit

**ENGL 156 Photographs and Stories**
A new creative writing course built entirely around the use of photographs, and the crafting of compelling nonfiction narratives from them. The essential concept will be to employ photographs as storytelling vehicles. So we will be using curling, drugstore printed Kodak shots from our own family albums. We will be using searing and famous images from history books. We will be taking things from yesterday's newspaper. We will even be using pictures that were just made by the workshop participants outside the campus gates with a disposable camera from CVS or with their own sophisticated digital Nikon. In all of this, there will be one overriding aim to achieve memorable, full-bodied stories. To locate the strange, evocative, storytelling universes that are sealed inside the four rectangular walls of photograph. They are always there, if you know how to look. It's about the quality of your noticing, the intensity of your seeing. See the English Department's website at www.english.upenn.edu for a description of the current offerings.
One-term course offered either term
Activity: Seminar
1 Course Unit

**ENGL 157 Introduction to Journalistic Writing**
This workshop is designed as an introduction to journalistic writing. Topics may include Writing about Food, Journalism and the Environment, Digital Newswriting, and other themes. See the English Department's website at www.english.upenn.edu for a description of the current offerings.
One-term course offered either term
Activity: Seminar
1 Course Unit

**ENGL 158 Advanced Journalistic Writing**
A workshop in creative writing devoted to original student work in journalism. See the English Department's website at www.english.upenn.edu for a description of the current offerings.
One-term course offered either term
Activity: Seminar
1 Course Unit

**ENGL 159 Political Writing in the Digital Age: The 2014 MidTerm Elections**
A primer on writing about U.S. politics, in an era of major technological upheaval and serious voter polarization. Today's 24/7, wi-fi'd, blogging environment—along with the rise of new conservative media are changing the ways that writers cover politics and deliver the information. See English Department website at www.english.upenn.edu for a description of current offerings.
One-term course offered either term
Activity: Seminar
1 Course Unit
Notes: May be repeated for credit with a different instructor.

**ENGL 160 Long-form Journalism**
This course in long-form journalism is required of all journalistic writing minors. See the English Department's website at www.english.upenn.edu for a description of the current offerings.
One-term course offered either term
Activity: Seminar
1 Course Unit
ENGL 161 The Art of the Profile
One of the toughest challenges for any journalist is to master the art of the profile-writing. In this new course, students will read and critique some of the classic profile articles of the past 40 years, and, most importantly, write profile articles of their own. Writing about people is often very rewarding, but rarely easy. In this course, students will debate the questions that have plagued and energized journalists for generations: How do you persuade somebody that he or she is a worthy topic for a profile? How do you ask sensitive questions? If the person is a celebrity, how do you avoid being manipulated into writing a "puff piece"? Do you tape the interviews or just take notes? How do you structure a profile in order to keep the reader's attention? Is it even possible to capture the essence of a person on the written page? Are you a friend to the profile subject—or a manipulator? A journalist at The New Yorker recently said that a writer's relationship with the profile subject is "a kind of love affair." On the other hand, a famous author once said that a profile writer is typically "gaining their trust and betraying without remorse." Which is closer to the truth? Students, in addition to writing their own profiles, will kick around these questions while reading some of the best contemporary profile writers, including Susan Orlean, Gay Talese, David Remnick, Mark Bowden, and Judy Bachrach. The instructor will also offer several of his own. See the English Department's website at www.english.upenn.edu for a description of current offerings.
One-term course offered either term
Activity: Seminar
1 Course Unit

ENGL 162 Covering Political Elections
In this new course, students with a passion for both writing and politics will have the unique opportunity to track the news as it unfolds week by week, to critique it in class, and, most importantly, to write about it in a variety of formats, ranging from "straight" news to informed opinion. Students can expect spirited class debate about the elusive nature of "objectivity," the often thin line between truth and rumor, the challenges of fact-checking a candidate's "spin," the challenges of writing responsibility in an era when even facts seem to be polarized, the challenges of analyzing primary results and writing about it effectively, the growing pressure on journalists to reveal their political beliefs, and much more. Some of the writing will happen in class; students will view excerpts from debates and Sunday shows, and file their reports "on deadline." Some of the class sessions will focus on the hottest news of the moment. And students will also have a chance, in class, to critique some of the nation's best political writers--reporters, feature writers, columnists, and bloggers. See English Department website at www.english.upenn.edu for a description of current offerings.
One-term course offered either term
Activity: Seminar
1 Course Unit
Notes: This course is not open to freshman.

ENGL 165 Writing through Culture and Art
This is a year-long creative writing class, given as a collaboration between the Center for Programs in Contemporary Writing and the Philadelphia Museum of Art. Students will be encouraged to develop correspondent methods of responding to the PMA's exhibitions. The class will involve regular trips to attend concerts, museums and lectures. The students will have access to the most cutting-edge artists today via class visits and studio visits. English 165 will culminate in a publication of student work. See English Department website at www.english.upenn.edu for a description of current offerings.
One-term course offered either term
Activity: Seminar
1 Course Unit
Notes: May be repeated for credit with a different instructor.

ENGL 199 Independent Study in Writing
Supervised study in writing. One-term course offered either term
Activity: Independent Study
1 Course Unit
Notes: Interested students must receive permission by the professor and the English Department.

ENGL 200 Junior Research Seminar
This course offers junior English majors the opportunity to design and undertake a semester-long research and writing project in an advanced seminar setting. Discussions will address debates within the field/period/topic of the course, research methods, and advanced writing and critical thinking issues. See the English Department’s website at www.english.upenn.edu for a description of current offerings.
One-term course offered either term
Activity: Seminar
1 Course Unit
Notes: This course is required of most English Majors.

ENGL 210 Critical-Creative Approaches to Literature
These courses enable students to think and write creatively as a means to the critical understanding of literary texts. The topic of the course will vary from semester to semester, but the course will always seek to advance students understanding of literature, its formal elements, and its relationship to culture and history through the use of creative projects instead of or alongside more traditional critical writing. See the English Department’s website at www.english.upenn.edu for a description of current offerings.
Course not offered every year
Activity: Seminar
1 Course Unit
Notes: Spaces will be reserved for English Majors.

ENGL 218 Topics In Old English
This seminar explores an aspect of Anglo-Saxon culture intensively; specific course topics will vary from year to year. See the English Department's website at www.english.upenn.edu for a description of the current offerings.
Course not offered every year
Activity: Seminar
1 Course Unit
Notes: Spaces will be reserved for English majors.
ENGL 220 Topics in Medieval Literature
An in-depth examination of some specialized aspect of medieval literature. Topics in the past have included the medieval romance, the education of princes, the "mirror of mirrors" in Trojan and Arthurian romances, and medieval narrative. See the English Department's website at www.english.upenn.edu for a description of the current offerings.
Course not offered every year
Activity: Seminar
1 Course Unit
Notes: Spaces will be reserved for English Majors.

ENGL 221 Topics In Medieval Literature
This seminar explores an aspect of medieval literature intensively; specific course topics will vary from year to year. Topics in the past have included the medieval performance, medieval women, and medieval law and literature. See the English Department's website at www.english.upenn.edu for a description of the current offerings.
Course not offered every year
Also Offered As: COML 221
Activity: Seminar
1 Course Unit
Notes: ?Formerly ENGL 220?. Spaces will be reserved for English majors

ENGL 222 Topics In Romance
This seminar explores an aspect of epic or romance intensively; specific course topics will vary from year to year. See the English Department's website at www.english.upenn.edu for a description of the current offerings.
Course not offered every year
Also Offered As: COML 076, COML 222, GSWS 221
Activity: Seminar
1 Course Unit
Notes: Spaces will be reserved for English majors

ENGL 225 Topics In Chaucer
This course explores an aspect of Chaucer's writings intensively; specific course topics will vary from year to year. See the English Department's website at www.english.upenn.edu for a description of the current offerings.
Course not offered every year
Activity: Seminar
1 Course Unit
Notes: Spaces will be reserved for English Majors

ENGL 226 Topics In Drama to 1660
This course explores an aspect of drama before 1660 intensively; specific course topics will vary from year to year. See the English Department's website at www.english.upenn.edu for a description of the current offerings.
Course not offered every year
Activity: Seminar
1 Course Unit
Notes: Spaces will be reserved for English Majors

ENGL 229 Topics In Classicism and Literature
This advanced seminar will examine the classical backgrounds to English poetry, in particular the Biblical and Greco-Roman antecedents to Renaissance lyric verse and verse drama (such as, preeminently, Shakespeare). Different versions of this course will have different emphases on Biblical or Hellenist backgrounds. See the English Department's website at www.english.upenn.edu for a description of the current offerings.
Course not offered every year
Also Offered As: CLST 329, CLST 360, COML 296, GSWS 228
Activity: Seminar
1 Course Unit
Notes: ?Formerly ENGL 296?. Spaces will be reserved for English majors

ENGL 231 Topics In Renaissance Literature
This course explores an aspect of renaissance literature intensively; specific topics will vary from year to year. See the English Department's website at www.english.upenn.edu for a description of the current offerings.
Course not offered every year
Also Offered As: COML 300, ITAL 300
Activity: Seminar
1 Course Unit
Notes: ?Formerly ENGL 230?. Spaces will be reserved for English majors

ENGL 234 Topics In The History of the Book
This course explores an aspect of the History of the Book intensively; specific course topics will vary from year to year. See the English Department's website at www.english.upenn.edu for a description of the current offerings.
Course not offered every year
Also Offered As: COML 411, HIST 411
Activity: Seminar
1 Course Unit
Notes: ?Formerly ENGL 297 or 298?. Spaces will be reserved for English majors

ENGL 236 Topics In Renaissance Drama
Through specialized readings, writing assignments, and in-class acting exercises, the class will develop methods of interpreting Shakespeare's plays through theatrical practice. Topics include Shakespeare's use of soliloquy, two and three person scenes, the dramatic presentation of narrative source material, modes of defining and presenting the "worlds" of the plays, and the use of theatrical practice to establish authoritative text. See the English Department's website at www.english.upenn.edu for a description of the current offerings.
Course not offered every year
Also Offered As: THAR 236
Activity: Seminar
1 Course Unit
Notes: Spaces will be reserved for English Majors

ENGL 238 Topics In 17th-Century Literature
This course explores an aspect of 17th-century literature intensively; specific course topics will vary from year to year. See the English Department's website at www.english.upenn.edu for a description of the current offerings.
Course not offered every year
Activity: Seminar
1 Course Unit
Notes: Spaces will be reserved for English Majors
ENGL 241 Topics In 18th-Century Literature
This course explores an aspect of 18th-century literature intensively; specific course topics will vary from year to year. See the English Department's website at www/english.upenn.edu for a description of the current offerings.
Course not offered every year
Also Offered As: COML 239, EALC 126, GSWS 241, RELS 209
Activity: Seminar
1 Course Unit
Notes: Spaces will be reserved for English Majors

ENGL 243 Topics In Early American Literature
This course explores an aspect of early American literature intensively; specific course topics will vary from year to year. See the English Department's website at www/english.upenn.edu for a description of the current offerings.
Course not offered every year
Activity: Seminar
1 Course Unit
Notes: Spaces will be reserved for English Majors

ENGL 245 Topics In The 18th-Century Novel
This course explores an aspect of 18th-century novel intensively; specific course topics will vary from year to year. See the English Department's website at www/english.upenn.edu for a description of the current offerings.
Course not offered every year
Also Offered As: GSWS 245
Activity: Seminar
1 Course Unit
Notes: Spaces will be reserved for English Majors

ENGL 250 Topics In Romanticism
This course explores an aspect of Romantic literature intensively; specific course topics will vary from year to year. See the English Department's website at www/english.upenn.edu for a description of the current offerings.
Course not offered every year
Activity: Seminar
1 Course Unit
Notes: Spaces will be reserved for English Majors

ENGL 251 Topics In 19th-Century Literature
This course explores an aspect of 19th-century literature intensively; specific course topics will vary from year to year. See the English Department's website at www/english.upenn.edu for a description of the current offerings.
Course not offered every year
Also Offered As: COML 249, GSWS 250
Activity: Seminar
1 Course Unit
Notes: Spaces will be reserved for English Majors

ENGL 253 Topics In 19th-Century American Literature
This course explores an aspect of 19th-century American literature intensively; specific course topics will vary from year to year. See the English Department's website at www/english.upenn.edu for a description of the current offerings.
Course not offered every year
Also Offered As: AFRC 263, GSWS 284, HIST 231
Activity: Seminar
1 Course Unit
Notes: ?Formerly ENGL 283? Spaces will be reserved for English majors

ENGL 254 Topics in Music and Literature
The particular of the seminar will change depending on the instructor, and so it is particularly recommended that students consult the actual course description for that semester. These are housed on the Department of English's website at: www/english.upenn.edu
Course not offered every year
Also Offered As: COML 109
Activity: Seminar
1 Course Unit
Notes: Spaces will be reserved for English Majors.

ENGL 255 Topics In The 19th-Century Novel
This course explores an aspect of the 19th-century novel intensively; specific course topics will vary from year to year. See the English Department's website at www/english.upenn.edu for a description of the current offerings.
One-term course offered either term
Also Offered As: COML 261, GSWS 255, JWST 263
Activity: Seminar
1 Course Unit
Notes: Spaces will be reserved for English Majors

ENGL 256 Topics In Modern Drama
This course explores an aspect of Modern drama intensively; specific course topics will vary from year to year. See the English Department's website at www/english.upenn.edu for a description of the current offerings.
Course not offered every year
Also Offered As: AFRC 275, COML 267, THAR 270, THAR 274
Activity: Seminar
1 Course Unit
Notes: ?Formerly ENGL 271?. Spaces will be reserved for English majors

ENGL 258 Topics in Irish Literature
This course explores an aspect of modern Irish literature intensively; specific course topics will vary from year to year. See the English Department's website at www/english.upenn.edu for a description of the current offerings.
One-term course offered either term
Activity: Seminar
1 Course Unit
Notes: Spaces will be reserved for English Majors

ENGL 259 Topics In Modernism
This course explores an aspect of literary modernism intensively; specific course topics will vary from year to year. Past offerings have included seminars on the avant-garde, on the politics of modernism, and on its role in shaping poetry, music, and the visual arts. See the English Department's website at www/english.upenn.edu for a description of the current offerings.
Course not offered every year
Also Offered As: COML 140, GRMN 249, GSWS 269
Prerequisites: Pre-requisites some knowledge of 20th-century poetry.
Activity: Seminar
1 Course Unit
Notes: ?Formerly ENGL 210? Spaces will be reserved for English majors
ENGL 260 Topics In The Novel
This course explores an aspect of the novel intensively, asking how novels work and what they do to us and for us. Specific course topics will vary from year to year. See the English Department's website at www.english.upenn.edu for a description of the current offerings.
Course not offered every year
Also Offered As: AFRC 262, FREN 250, GSWS 226, GSWS 260, LALS 260
Activity: Seminar
1 Course Unit
Notes: Spaces will be reserved for English Majors

ENGL 261 Topics In 20th-Century Literature
The course explores an aspect of 20th-century literature intensively; specific course topics will vary from year to year. See the English Department's website at www.english.upenn.edu for a description of the current offerings.
Course not offered every year
Also Offered As: CIMS 261, COML 075, GRMN 236, GSWS 266, JWST 262
Activity: Seminar
1 Course Unit
Notes: Spaces will be reserved for English Majors

ENGL 262 Topics In 20th-Century Poetry
The course explores an aspect of 20th-century poetry intensively; specific course topics will vary from year to year. See the English Department's website at www.english.upenn.edu for a description of the current offerings.
Course not offered every year
Also Offered As: COML 274, SAST 144
Activity: Seminar
1 Course Unit
Notes: Spaces will be reserved for English majors

ENGL 263 Topics In 20th-Century American Literature
The course explores an aspect of 20th-century American literature intensively; specific course topics will vary from year to year. See the English Department's website at www.english.upenn.edu for a description of the current offerings.
Course not offered every year
Also Offered As: ARTH 301, CIMS 263, COML 262
Activity: Seminar
1 Course Unit
Notes: Spaces will be reserved for English majors

ENGL 264 Topics In Modern American Literature
This course explores an aspect of Modern American literature intensively; specific course topics will vary, and have included "American Expatriotism," "The 1930's," and "Intimacy and Distance: William Faulkner, Zora Neale Hurston, Eudora Welty, and Richard Wright." See the English Department's website at www.english.upenn.edu for a description of the current offerings.
Course not offered every year
Also Offered As: AFRC 266, GSWS 274, RELS 191
Activity: Seminar
1 Course Unit
Notes: ?Formerly ENGL 284?. Spaces will be reserved for English majors

ENGL 265 Topics In The 20th-Century Novel
This course explores an aspect of the 20th-century novel intensively; specific course topics will vary from year to year. See the English Department's website at www.english.upenn.edu for a description of the current offerings.
Course not offered every year
Also Offered As: COML 263, GSWS 293
Activity: Seminar
1 Course Unit
Notes: Spaces will be reserved for English Majors

ENGL 266 Topics In Law and Literature
This course explores an aspect of law and literature intensively; specific course topics will vary from year to year. See the English Department's website at www.english.upenn.edu for a description of the current offerings.
Course not offered every year
Also Offered As: ARTH 297, ARTH 697, CIMS 266
Activity: Seminar
1 Course Unit
Notes: Spaces will be reserved for English majors

ENGL 269 Topics In Poetry and Poetics
This course explores an aspect of poetry and poetics intensively; specific course topics will vary from year to year. See the English Department's website at www.english.upenn.edu for a description of the current offerings.
Course not offered every year
Also Offered As: AFRC 273, COML 281, GSWS 267, PSYS 269
Activity: Seminar
1 Course Unit
Notes: ?Formerly ENGL 270?. Spaces will be reserved for English majors

ENGL 270 Topics In Latina/o Literature
This course explores an aspect of Latina/o literature intensively; specific course topics will vary from year to year. See the English Department's website at www.english.upenn.edu for a description of the current offerings.
Course not offered every year
Also Offered As: CIMS 294, COML 284, LALS 291, ROML 290, THAR 375
Activity: Seminar
1 Course Unit
Notes: Spaces will be reserved for English Majors

ENGL 271 Topics In the Literature of Africa and the African Diaspora
This course explores an aspect of the literature of Africa and the African Diaspora intensively; specific course topics will vary from year to year. See the English Department's website at www.english.upenn.edu for a description of the current offerings.
Course not offered every year
Also Offered As: AFRC 276, AFST 272, COML 273
Activity: Seminar
1 Course Unit
Notes: Spaces will be reserved for English Majors
ENGL 272 Topics in Asian American Literature
This seminar is an advanced-level topics-based version of ENGL 072, Introduction to Asian American Literature. The intended audience is junior and senior English majors and advanced students in Asian studies, Asian American studies, contemporary U.S. and world history, ethnic studies, urban studies, etc. Typical versions of this seminar will include representations and images of Asians in contemporary U.S. novels and films; Asian American literature by women; Asian American film narrative and film aesthetics; studies in Asian American literature and visual art; Asian American literature and immigration; Asian American literature in the context of the literature of exile and journey; Asian American literature 1929-1945; Asian American literature, 1945 to the present; Anglophone/ South Asian literature in England, 1970 to the present; Southeast Asia, Vietnam, and American literature, 1970-1990; etc. Students will typically present research projects and write several long essays. See the English Department’s website at www.english.upenn.edu for a description of the current offerings.
Course not offered every year
Also Offered As: AFRC 281, AFRC 335, CIMS 330, COMM 281
Activity: Seminar
1 Course Unit
Notes: Spaces will be reserved for English Majors

ENGL 274 Topics in Contemporary American Literature
This course explores an aspect of contemporary American literature intensively; specific course topics will vary from year to year but have included “The Literary History of The Cold War, 1947-1957” and the "Kelly House Fellows Seminar." See the English Department’s website at www.english.upenn.edu for a description of the current offerings.
Course not offered every year
Also Offered As: AFRC 285, CIMS 271, GSWS 285, THAR 271
Activity: Seminar
1 Course Unit
Notes: ?Formerly ENGL 285?. Spaces will be reserved for English Majors

ENGL 276 Topics in Theatre History
The purpose of this course is to introduce students to the basic materials and methods of theatre history and historiography, as applied to a particular topic, organized around a specific period, national group, or aesthetic issue. This course is concerned with methodological questions: how the history of theatre can be documented; how primary documents, secondary accounts, and historical and critical analyses can be synthesized; how the various components of the theatrical event—acting, scenography, playhouse architecture, audience composition, the financial and structural organization of the theatre industry, etc.—relate to one another; and how the theatre is socially and culturally constructed as an art form in relation to the politics and culture of a society in a particular time and place. See the English Department’s website at www.english.upenn.edu for a description of the current offerings.
Course not offered every year
Also Offered As: THAR 240, THAR 241, THAR 250, THAR 275
Activity: Seminar
1 Course Unit
Notes: Spaces will be reserved for English Majors

ENGL 279 Topics in Jewish and Jewish-American Literature
This course explores an aspect of Jewish and/or Jewish-American literature intensively; specific course topics will vary from year to year. See the English Department’s website at www.english.upenn.edu for a description of the current offerings.
For BA Students: Arts and Letters Sector
Course not offered every year
Also Offered As: CIMS 279, COML 277, GRMN 261, GRMN 263
Activity: Lecture
1 Course Unit
Notes: ?Formerly ENGL 287? Spaces will be reserved for English Majors

ENGL 280 Topics in Africana Studies
Courses carrying this number are special-topic seminars, and will vary from semester to semester depending on the interests of the instructor. See this semester’s courses on the English website at: www.english.upenn.edu for current offerings.
Course not offered every year
Also Offered As: AFRC 325
Activity: Seminar
1 Course Unit
Notes: Spaces will be reserved for English Majors.

ENGL 281 Topics in African-American Literature
In this advanced seminar, students will be introduced to a variety of approaches to African American literatures, and to a wide spectrum of methodologies and ideological postures (for example, The Black Arts Movement). The course will present an assortment of emphases, some of them focused on geography (for example, the Harlem Renaissance), others focused on genre (autobiography, poetry or drama), the politics of gender and class, or a particular grouping of authors. Previous versions of this course have included "African American Autobiography," "Backgrounds of African American Literature," "The Black Narrative" (beginning with eighteenth century slave narratives and working toward contemporary literature), as well as seminars on urban spaces, jazz, migration, oral narratives, black Christianity, and African-American music. See the English Department’s website at www.english.upenn.edu for a description of the current offerings.
Course not offered every year
Also Offered As: AFRC 281, AFRC 335, CIMS 330, COMM 281
Activity: Seminar
1 Course Unit
Notes: Spaces will be reserved for English Majors.
ENGL 282 Topics In Native American Literature
This course will examine films by and about Native Americans. From the very beginnings of film history, Native Americans have been a centrally important subject. While much of the writing about Native American films tends to focus on the perpetuation of stereotypes, this class will concentrate on four primary themes: 1) the role that film plays in helping the audience to understand the exceedingly complex place of indigenous people in “American” identity; (with “American” signifying, in this instance, a hemispheric sense of identity); 2) the myriad of ways that indigenous people have been involved in the history of film as extras, actors, directors, producers; 3) how representations changed when Native Americans took control of production; 4) the ways in which films by and about Native Americans have helped to heal the historical trauma resulting from the “Indian Wars” that have gone on for 500+ years on the North American continent. See the English Department’s website at www.english.upenn.edu for a description of the current offerings.
Course not offered every year
Also Offered As: ANTH 282, CIMS 282, ENV 246, RELS 208, RELS 246
Activity: Seminar
1 Course Unit
Notes: Spaces will be reserved for English Majors

ENGL 284 Topics In Race and Ethnicity
This course explores an aspect of race and ethnicity intensively; specific course topics will vary from year to year. See the English Department’s website at www.english.upenn.edu for a description of the current offerings.
Course not offered every year
Also Offered As: AFRC 286
Activity: Seminar
1 Course Unit
Notes: Spaces will be reserved for English Majors

ENGL 286 Topics In American Literature
This course explores an aspect of American literature intensively; specific course topics will vary, and have included “American Authors and the Imagined Past” and “American Gothic.” See the English Department’s website at www.english.upenn.edu for a description of the current offerings.
Course not offered every year
Also Offered As: AFRC 289, COML 105, LALS 286
Activity: Seminar
1 Course Unit
Notes: Spaces will be reserved for English Majors

ENGL 288 Topics In American Poetry
Sometimes limiting itself to the works of one or two authors, sometimes focusing on a particular theme such as “American Poetry and Democratic Culture,” this course devotes itself to the study of twentieth-century American poetry. See the English Department’s website at www.english.upenn.edu for a description of the current offerings.
Course not offered every year
Also Offered As: AFRC 288, COML 288
Activity: Seminar
1 Course Unit
Notes: Spaces will be reserved for English Majors

ENGL 290 Topics In Gender, Sexuality, and Literature
The advanced women’s studies course in the department, focusing on a particular aspect of literature by and about women. Topics might include: “Victorian Literary Women”; “Women, Politics, and Literature”; “Feminist Literary Theory”; and similar foci. See the English Department’s website at www.english.upenn.edu for a description of the current offerings.
Course not offered every year
Also Offered As: AFRC 290, COML 290, GSWS 290
Activity: Seminar
1 Course Unit
Notes: Spaces will be reserved for English Majors

ENGL 291 Topics In Film History
This course explores an aspect of Film History intensively; specific course topics vary from year to year. See the English Department’s website at www.english.upenn.edu for a description of the current offerings.
Course not offered every year
Also Offered As: ARTH 391, CIMS 201, COML 201, FNAR 320
Activity: Seminar
1 Course Unit
Notes: Spaces will be reserved for English Majors

ENGL 292 Topics In Film Studies
This course explores an aspect of Film Studies intensively; specific course topics vary from year to year. See the English Department’s website at www.english.upenn.edu for a description of the current offerings.
Course not offered every year
Also Offered As: ARTH 289, CIMS 202, COML 292, GSWS 292, SAST 212
Activity: Seminar
1 Course Unit
Notes: Spaces will be reserved for English Majors

ENGL 293 Topics In Postcolonial Literature
This course explores an aspect of Postcolonial literature intensively; specific course topics vary from year to year. See the English Department’s website at www.english.upenn.edu for a description of the current offerings.
Course not offered every year
Also Offered As: AFRC 293, COML 378, LALS 293, ROML 296, SAST 323
Activity: Seminar
1 Course Unit
Notes: Spaces will be reserved for English Majors

ENGL 294 Topics In Literary Theory
This course explores an aspect of literary theory intensively; specific course topics vary from year to year. See the English Department’s website at www.english.upenn.edu for a description of the current offerings.
Course not offered every year
Also Offered As: COML 291, GSWS 296
Activity: Seminar
1 Course Unit
Notes: Formerly ENGL 204? Spaces will be reserved for English majors
ENGL 295 Topics In Cultural Studies
This course explores an aspect of cultural studies intensively; specific course topics vary from year to year. See the English Department's website at www.english.upenn.edu for a description of the current offerings.
Course not offered every year
Also Offered As: ARTH 293, CIMS 295, CIMS 296, CIMS 350, COML 295
Activity: Seminar
1 Course Unit
Notes: Spaces will be reserved for English majors

ENGL 299 Independent Study in Language and Literature
Supervised reading and research.
One-term course offered either term
Activity: Independent Study
1 Course Unit
Notes: Interested students must receive permission by the professor and the English Department

ENGL 305 Literary Research and Methods
The literary research seminar will introduce English Majors to the variety of modes of conducting literary research and dealing with literary texts. It is conceived as a seminar that will enhance the critical and textual skills of any student, as well as acquainting students with electronic research methods. See the English Department's website at www.english.upenn.edu for a description of the current offerings.
Course not offered every year
Activity: Seminar
1 Course Unit
Notes: Benjamin Franklin Seminar

ENGL 311 The Honors Program
An essay of substantial length on a literary or linguistic topic, written under the supervision of a faculty adviser. See the English Department's website at www.english.upenn.edu for a description of current offerings.
One-term course offered either term
Activity: Seminar
1 Course Unit
Notes: Students must receive permission from the Director of English Honors Program.

ENGL 318 Topics In Old English
This seminar explores an aspect of Anglo-Saxon culture intensively; specific course topics will vary from year to year. See the English Department's website at www.english.upenn.edu for a description of the current offerings.
Course not offered every year
Activity: Seminar
1 Course Unit
Notes: Benjamin Franklin Seminar

ENGL 322 Topics In Romance
This seminar explores an aspect of epic or romance intensively; specific course topics will vary from year to year. See the English Department's website at www.english.upenn.edu for a description of the current offerings.
Course not offered every year
Activity: Seminar
1 Course Unit
Notes: Benjamin Franklin Seminar

ENGL 323 Topics In Medieval Poetry
This course explores an aspect of Medieval poetry intensively; specific course topics will vary from year to year. See the English Department's website at www.english.upenn.edu for a description of the current offerings.
Course not offered every year
Also Offered As: COML 333, ITAL 333
Activity: Seminar
1 Course Unit
Notes: Benjamin Franklin Seminar

ENGL 326 Topics In Drama to 1660
This course explores an aspect of drama before 1660 intensively; specific course topics will vary from year to year. See the English Department's website at www.english.upenn.edu for a description of the current offerings.
Course not offered every year
Activity: Seminar
1 Course Unit
Notes: Benjamin Franklin Seminar

ENGL 329 Topics In Classicism and Literature
This advanced seminar will examine the classical backgrounds to English poetry, in particular the Biblical and Greco-Roman antecedents to Renaissance lyric verse and verse drama (such as, preeminently, Shakespeare). Different versions of this course will have different emphases on Biblical or Hellenist backgrounds. See the English Department's website at www.english.upenn.edu for a description of the current offerings.
Course not offered every year
Also Offered As: CLST 329, CLST 331, COML 329
Activity: Seminar
1 Course Unit
Notes: Benjamin Franklin Seminar

ENGL 334 Topics In The History of The Book
This course explores an aspect of the History of the Book intensively; specific course topics will vary from year to year. See the English Department's website at www.english.upenn.edu for a description of the current offerings.
Course not offered every year
Activity: Seminar
1 Course Unit
Notes: Benjamin Franklin Seminar

ENGL 336 Topics In Renaissance Drama
Through specialized readings, writing assignments, and in-class acting exercises, the class will develop methods of interpreting Shakespeare's plays through theatrical practice. Topics include Shakespeare's use of soliloquy, two and three person scenes, the dramatic presentation of narrative source material, modes of defining and presenting the "worlds" of the plays, and the use of theatrical practice to establish authoritative text. See the English Department's website at www.english.upenn.edu for a description of the current offerings.
Course not offered every year
Activity: Seminar
1 Course Unit
Notes: Benjamin Franklin Seminar
ENGL 338 Topics In 17th-Century Literature
This course explores an aspect of 17th-Century literature intensively; specific course topics will vary from year to year. See the English Department’s website at www.english.upenn.edu for a description of the current offerings.
Course not offered every year
Activity: Seminar
1 Course Unit
Notes: Benjamin Franklin Seminar

ENGL 341 Topics In 18th-Century Literature
This course explores an aspect of 18th-Century British literature intensively; specific course topics will vary from year to year. See the English Department’s website at www.english.upenn.edu for a description of the current offerings.
Course not offered every year
Also Offered As: GSWS 341
Activity: Seminar
1 Course Unit
Notes: Benjamin Franklin Seminar

ENGL 342 Topics In 18th-Century Poetry
This course explores an aspect of 18th-Century poetry intensively; specific course topics will vary from year to year. See the English Department’s website at www.english.upenn.edu for a description of the current offerings.
Course not offered every year
Activity: Seminar
1 Course Unit
Notes: Benjamin Franklin Seminar

ENGL 343 Topics In Early American Literature
This course explores an aspect of early American literature intensively; specific course topics will vary from year to year. See the English Department’s website at www.english.upenn.edu for a description of the current offerings.
Course not offered every year
Activity: Seminar
1 Course Unit
Notes: ?Formerly ENGL 382?. Benjamin Franklin Seminar

ENGL 345 Topics In The 18th Century Novel
This course explores an aspect of the 18th-Century novel intensively; specific course topics will vary from year to year. See the English Department’s website at www.english.upenn.edu for a description of the current offerings.
Course not offered every year
Also Offered As: COML 332, THAR 275, THAR 279
Activity: Seminar
1 Course Unit
Notes: Benjamin Franklin Seminar

ENGL 346 Topics In Modern Drama
This course explores an aspect of literary modernism intensively; specific course topics will vary from year to year. Past offerings have included seminars on the avant-garde, on the politics of modernism, and on its role in shaping poetry, music, and the visual arts. See the English Department’s website at www.english.upenn.edu for a description of the current offerings.
Course not offered every year
Also Offered As: COML 355
Activity: Seminar
1 Course Unit
Notes: Benjamin Franklin Seminar

ENGL 353 Topics In 19th-Century American Literature
This course explores an aspect of 19th-Century American literature intensively; specific course topics will vary from year to year. See the English Department’s website at www.english.upenn.edu for a description of the current offerings.
Course not offered every year
Also Offered As: AFRC 352, GSWS 353
Activity: Seminar
1 Course Unit
Notes: ?Formerly ENGL 383?. Benjamin Franklin Seminar

ENGL 355 Topics In The 19th-Century Novel
This course explores an aspect of the 19th-Century novel intensively; specific course topics will vary from year to year. See the English Department’s website at www.english.upenn.edu for a description of the current offerings.
Course not offered every year
Activity: Seminar
1 Course Unit
Notes: Benjamin Franklin Seminar

ENGL 356 Topics In Irish Literature
This course explores an aspect of Irish literature intensively; specific course topics will vary from year to year. See the English Department’s website at www.english.upenn.edu for a description of the current offerings.
Course not offered every year
Also Offered As: COML 332, THAR 275, THAR 279
Activity: Seminar
1 Course Unit
Notes: Benjamin Franklin Seminar

ENGL 360 Topics In The Novel
This course explores an aspect of the novel intensively, asking how novels work and what they do to us and for us. Specific course topics will vary from year to year. See the English Department’s website at www.english.upenn.edu for a description of the current offerings.
Course not offered every year
Also Offered As: COML 361, FREN 250
Activity: Seminar
1 Course Unit
Notes: ?Formerly ENGL 375? Benjamin Franklin Seminar
ENGL 361 Topics in 20th-Century Literature
The course explores an aspect of 20th-Century literature intensively; specific course topics will vary from year to year. See the English Department’s website at www.english.upenn.edu for a description of the current offerings.
Course not offered every year
Also Offered As: COML 271
Activity: Seminar
1 Course Unit
Notes: Benjamin Franklin Seminar

ENGL 362 Topics in 20th-Century Poetry
The course explores an aspect of 20th-Century poetry intensively; specific course topics will vary from year to year. See the English Department’s website at www.english.upenn.edu for a description of the current offerings.
Course not offered every year
Activity: Seminar
1 Course Unit
Notes: Benjamin Franklin Seminar

ENGL 363 Topics in 20th-Century American Literature
The course explores an aspect of 20th-Century American literature intensively; specific course topics will vary from year to year. See the English Department’s website at www.english.upenn.edu for a description of the current offerings.
Course not offered every year
Activity: Seminar
1 Course Unit
Notes: Benjamin Franklin Seminar

ENGL 364 Topics in Modern American Literature
This course explores an aspect of Modern American literature intensively; specific course topics will vary, and have included "American Expatriotism," "The 1930’s," and "Intimacy and Distance: William Faulkner, Zora Neale Hurston, Eudora Welty, and Richard Wright." See the English Department’s website at www.english.upenn.edu for a description of the current offerings.
Course not offered every year
Activity: Seminar
1 Course Unit
Notes: Benjamin Franklin Seminar

ENGL 365 Topics in the 20th-Century Novel
This course explores an aspect of the 20th-century novel intensively; specific course topics will vary from year to year. See the English Department’s website at www.english.upenn.edu for a description of the current offerings.
Course not offered every year
Activity: Seminar
1 Course Unit
Notes: Benjamin Franklin Seminar

ENGL 369 Topics in Poetry and Poetics
This course explores an aspect of poetry and poetics intensively; specific course topics will vary from year to year. See the English Department’s website at www.english.upenn.edu for a description of the current offerings.
Course not offered every year
Also Offered As: GSWS 369, PSYS 369
Activity: Seminar
1 Course Unit
Notes: ?Formerly ENGL 370?. Benjamin Franklin Seminar

ENGL 371 Topics in the Literature of Africa and The African Diaspora
This course explores an aspect of the literature of Africa and the African Diaspora intensively; specific course topics will vary from year to year. See the English Department’s website at www.english.upenn.edu for a description of the current offerings.
Course not offered every year
Also Offered As: AFRC 371
Activity: Seminar
1 Course Unit
Notes: Benjamin Franklin Seminar

ENGL 372 Topics in Asian American Literature
This seminar is an advanced-level topics-based version of ENGL 072, Introduction to Asian American Literature. The intended audience is junior and senior English majors and advanced students in Asian studies, Asian American studies, contemporary U.S. and world history, ethnic studies, urban studies, etc. Typical versions of this seminar will include representations and images of Asians in contemporary U.S. novels and films; Asian American literature by women; Asian American film narrative and film aesthetics; studies in Asian American literature and visual art; Asian American literature and immigration; Asian American literature in the context of the literature of exile and journey; Asian American literature 1929-1945; Asian American literature, 1945 to the present; Anglophone/South Asian literature in England, 1970 to the present; Southeast Asia, Vietnam, and American literature, 1970-1990, etc. Students will typically present research projects and write several long essays. See the English Department’s website at www.english.upenn.edu for a description of the current offerings.
Course not offered every year
Activity: Seminar
1 Course Unit
Notes: Benjamin Franklin Seminar

ENGL 374 Topics in Contemporary American Literature
This course explores an aspect of contemporary American literature intensively; specific course topics will vary from year to year but have included "The Literary History of The Cold War, 1947-1957" and the "Kelly House Fellows Seminar." See the English Department’s website at www.english.upenn.edu for a description of the current offerings.
Course not offered every year
Activity: Seminar
1 Course Unit
Notes: Benjamin Franklin Seminar

ENGL 375 Topics in Literature and Philosophy
Often examining novels from several countries, this course approaches fiction from a thematic perspective. Offerings in the past have included: "Exiles and Expatriates," reading works by Forster, Greene, Gide, Thomas Mann, Hemingway, Edward Said, Malcolm Cowley, and others; "The Works and Worlds of William Faulkner and Franz Kafka;" and "The Contemporary Novel in England and Europe." See the English Department’s website at www.english.upenn.edu for a description of the current offerings.
Course not offered every year
Also Offered As: GRMN 239
Activity: Seminar
1 Course Unit
ENGL 379 Topics In Jewish and Jewish-American Literature
This course explores an aspect of Jewish and/or Jewish-American literature intensively; specific course topics will vary from year to year. See the English Department's website at www.english.upenn.edu for a description of the current offerings.
Course not offered every year
Activity: Seminar
1 Course Unit
Notes: Benjamin Franklin Seminar

ENGL 380 Topics Africana Studies
This course explores an aspects of topics in African Studies; specific course topics will vary from year to year. See the English Department's website at www.english.upenn.edu for a description of current offerings.
Also Offered As: AFRC 325
Activity: Seminar
1 Course Unit

ENGL 381 Topics In African-American Literature
In this advanced seminar, students will be introduced to a variety of approaches to African American literatures, and to a wide spectrum of methodologies and ideological postures (for example, The Black Arts Movement). The course will present an assortment of emphases, some of them focused on geography (for example, the Harlem Renaissance), others focused on genre (autobiography, poetry or drama), the politics of gender and class, or a particular grouping of authors. Previous versions of this course have included "African American Autobiography," "Backgrounds of African American Literature," "The Black Narrative" (beginning with eighteenth century slave narratives and working toward contemporary literature), as well as seminars on urban spaces, jazz, migration, oral narratives, black Christianity, and African-American music. See the English Department's website at www.english.upenn.edu for a description of the current offerings.
Course not offered every year
Also Offered As: AFRC 381
Activity: Seminar
1 Course Unit
Notes: Benjamin Franklin Seminar

ENGL 382 Topics In Native-American Literature
This course explores an aspect of Native-American literature intensively; specific course topics will vary from year to year. See the English Department's website at www.english.upenn.edu for a description of the current offerings.
Course not offered every year
Also Offered As: COML 392, SAST 323, SAST 693
Activity: Seminar
1 Course Unit
Notes: Benjamin Franklin Seminar

ENGL 384 Topics In Race and Ethnicity
This course explores an aspect of race and ethnicity intensively; specific course topics will vary from year to year. See the English Department's website at www.english.upenn.edu for a description of the current offerings.
Course not offered every year
Activity: Seminar
1 Course Unit
Notes: Benjamin Franklin Seminar

ENGL 390 Topics In Gender, Sexuality, and Literature
The advanced women's studies course in the department, focusing on a particular aspect of literature by and about women. Topics might include: "Victorian Literary Women," "Women, Politics, and Literature," "Feminist Literary Theory"; and similar foci. See the English Department's website at www.english.upenn.edu for a description of the current offerings.
Course not offered every year
Also Offered As: GSWS 390
Activity: Seminar
1 Course Unit
Notes: Benjamin Franklin Seminar

ENGL 391 Topics In Film History
This course explores an aspect of Film History intensively; specific course topics vary from year to year. See the English Department's website at www.english.upenn.edu for a description of the current offerings.
Course not offered every year
Also Offered As: AFRC 392, ARTH 389, CIMS 392, COML 391, SLAV 392
Activity: Seminar
1 Course Unit
Notes: Benjamin Franklin Seminar

ENGL 392 Topics In Film Studies
This course explores an aspect of Film Studies intensively; specific course topics vary from year to year. See the English Department's website at www.english.upenn.edu for a description of the current offerings.
Course not offered every year
Also Offered As: COML 392, SAST 323, SAST 693
Activity: Seminar
1 Course Unit
Notes: Benjamin Franklin Seminar

ENGL 393 Topics In Postcolonial Literature
This course explores an aspect of Postcolonial literature intensively; specific course topics vary from year to year. See the English Department's website at www.english.upenn.edu for a description of the current offerings.
Course not offered every year
Also Offered As: COML 392, SAST 323, SAST 693
Activity: Seminar
1 Course Unit
Notes: Benjamin Franklin Seminar

ENGL 394 Topics In Literary Theory
This course explores an aspect of literary theory intensively; specific course topics vary from year to year. See the English Department's website at www.english.upenn.edu for a description of the current offerings.
Course not offered every year
Also Offered As: CLST 396, COML 383, PHIL 294
Activity: Seminar
1 Course Unit
Notes: ?Formerly ENGL 304? Benjamin Franklin Seminar

ENGL 395 Topics In Cultural Studies
This course explores an aspect of cultural studies intensively; specific course topics vary from year to year. See the English Department's website at www.english.upenn.edu for a description of the current offerings.
Course not offered every year
Also Offered As: COML 395
Activity: Seminar
1 Course Unit
Notes: Benjamin Franklin Seminar
ENGL 399 Independent Study in Language and Literature
Supervised reading and research.
One-term course offered either term
Activity: Independent Study
2 Course Units
Notes: Interested students must receive permission of the professor and the English department. This course number is for two course units and created for LPS students.

ENGL 501 Introduction to Old English Language and Literature
This is an accelerated study of the basic language of Anglo-Saxon England, together with a critical reading of a variety of texts, both prose and poetry. See the English Department’s website at www.english.upenn.edu for a description of the current offerings.
Course not offered every year
Also Offered As: COML 502, GRMN 510, HIST 590
Activity: Seminar
1 Course Unit

ENGL 505 Electronic Literary Studies Proseminar
This course is designed to introduce advanced undergraduate and graduate students to the range of new opportunities for literary research afforded by recent technological innovation. See the English Department’s website at www.english.upenn.edu for a description of the current offerings.
One-term course offered either term
Also Offered As: ARTH 506, CIMS 505, COML 504
Activity: Seminar
1 Course Unit

ENGL 506 Beowulf
The primary focus of this course is a thorough reading of BEOWULF in the original; we will use the edition by F. Klaeber. In addition to the close textual and critical study of the text, we will attempt to reconstruct, through reference to related Anglo Saxon history, literature and learning, the world of ideas and beliefs which gave rise to the poem. See the English Department’s website at www.english.upenn.edu for a complete description of the current offerings.
Course not offered every year
Prerequisite: ENGL 501 or its equivalent
Activity: Seminar
1 Course Unit

ENGL 524 Topics Medieval Studies
This course covers topics in Medieval literature. Its emphasis varies with instructor. See the English Department’s website at www.english.upenn.edu for a complete description of the current offerings.
Course not offered every year
Also Offered As: CLST 618, COML 601
Activity: Seminar
1 Course Unit

ENGL 525 Chaucer
An advanced introduction to Chaucer's poetry and Chaucer criticism. Reading and discussion of the dream visions, Troilus and Criseyde, and selections from Canterbury Tales, from the viewpoint of Chaucer's development as a narrative artist. See the English Department's website at www.english.upenn.edu for a description of current offerings.
Course not offered every year
Also Offered As: COML 522, GSWS 524, ITAL 537
Activity: Seminar
1 Course Unit

ENGL 535 Shakespeare
Readings in the work of Shakespeare and other writers of the period. Specific texts vary with instructor. See the English Department's website at www.english.upenn.edu for a complete description of the current offerings.
Course not offered every year
Activity: Seminar
1 Course Unit

ENGL 537 Renaissance Epic
An introduction to the practice and theory of epic in the early modern period. Specific texts vary with instructor. See the English Department's website at www.english.upenn.edu for a complete description of the current offerings.
Course not offered every year
Also Offered As: COML 549, FREN 550, GSWS 550
Activity: Seminar
1 Course Unit

ENGL 538 Major Renaissance Writers
This is a monographic course, which may be on Spenser, Milton, or other major figures of the period. See the English Department's website at www.english.upenn.edu for a complete description of the current offerings.
Course not offered every year
Also Offered As: COML 558
Activity: Seminar
1 Course Unit

ENGL 540 Topics in 18th Century British Literature
This course covers topics in 18th Century British literature. Its emphasis varies with instructor. See the English Department's website at www.english.upenn.edu for a complete description of the current offerings.
Course not offered every year
Also Offered As: ITAL 540
Activity: Seminar
1 Course Unit

ENGL 544 Eighteenth-Century Novel
A survey of the major novelists of the period, often beginning with Defoe and a few of the writers of amatory fiction in the early decades of the century and then moving on to representative examples of the celebrated novels by Richardson, Fielding, and others of the mid-century and after. See the English Department's website at www.english.upenn.edu for a complete description of the current offerings.
Course not offered every year
Also Offered As: FREN 560
Activity: Seminar
1 Course Unit

ENGL 546 The Nove and Marriage
A survey of the significant subgenres of English prose fiction from the late Renaissance to Defoe. We will study such manifestations of prose fiction as the picaresque (with a glance at the tradition in Spain, Germany, and France), the romance (from Sidney to Lyly to Congreve and Behn, with consideration of French influence in the later seventeenth century), the fictions of travel (Hakluyt, Defoe, Swift), religious fiction (Bunyan and his successors), and the achievement of England's first major novelist, Defoe. See the English Department's website at www.english.upenn.edu for a description of current offerings.
Course not offered every year
Also Offered As: COML 546, FREN 537, GSWS 536, HIST 537
Activity: Seminar
1 Course Unit
<table>
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<tr>
<th>Course Code</th>
<th>Course Title</th>
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<th>Course Availability</th>
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</thead>
<tbody>
<tr>
<td>ENGL 548</td>
<td>English Literature and Culture, 1650-1725</td>
<td>English 548, with its companion, English 549, studies the literature of this period in the context of the artistic and cultural milieu of the later seventeenth and early eighteenth centuries. Texts usually include works by Dryden, Rochester, Swift, Pope, and Defoe. See the English Department's website at <a href="http://www.english.upenn.edu">www.english.upenn.edu</a> for a complete description of the current offerings.</td>
<td>Course not offered every year</td>
<td></td>
<td>Seminar</td>
<td>1</td>
<td>COML 550, GRMN 585</td>
<td><a href="http://www.english.upenn.edu">www.english.upenn.edu</a></td>
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<tr>
<td>ENGL 550</td>
<td>Topics in Romanticism</td>
<td>This class explores the cultural context in which the so-called Romantic Movement prospered, paying special attention to the relationship between the most notorious popular genres of the period (gothic fiction and drama) and the poetic production of both canonical and emerging poets. See the English Department's website at <a href="http://www.english.upenn.edu">www.english.upenn.edu</a> for a complete description of the current offerings.</td>
<td>Course not offered every year</td>
<td></td>
<td>Seminar</td>
<td>1</td>
<td>COML 550, GRMN 585</td>
<td><a href="http://www.english.upenn.edu">www.english.upenn.edu</a></td>
</tr>
<tr>
<td>ENGL 553</td>
<td>British Women Writers</td>
<td>A study of British women writers, often focusing on the women authors who came into prominence between 1775 and 1825. See the English Department's website at <a href="http://www.english.upenn.edu">www.english.upenn.edu</a> for a complete description of the current offerings.</td>
<td>Course not offered every year</td>
<td></td>
<td>Seminar</td>
<td>1</td>
<td>COML 554, GSWS 553</td>
<td><a href="http://www.english.upenn.edu">www.english.upenn.edu</a></td>
</tr>
<tr>
<td>ENGL 556</td>
<td>Topics in 19th-Century British Literature</td>
<td>This course covers topics in nineteenth-century British Literature, its specific emphasis varying with the instructor. See the English Department's website at <a href="http://www.english.upenn.edu">www.english.upenn.edu</a> for a complete description of the current offerings.</td>
<td>Course not offered every year</td>
<td></td>
<td>Seminar</td>
<td>1</td>
<td>GSWS 556</td>
<td><a href="http://www.english.upenn.edu">www.english.upenn.edu</a></td>
</tr>
<tr>
<td>ENGL 563</td>
<td>Topics in 20th-Century British Literature</td>
<td>This course focuses on British modernism and/or postmodernism, with specific emphases determined by the instructor. See the English Department's website at <a href="http://www.english.upenn.edu">www.english.upenn.edu</a> for a complete description of the current offerings.</td>
<td>Course not offered every year</td>
<td></td>
<td>Seminar</td>
<td>1</td>
<td>ARTH 584, COML 537, GRMN 541</td>
<td><a href="http://www.english.upenn.edu">www.english.upenn.edu</a></td>
</tr>
<tr>
<td>ENGL 564</td>
<td>British Modernism</td>
<td>An introduction to British Literary Modernism. Specific emphasis will depend on instructor. See the English Department's website at <a href="http://www.english.upenn.edu">www.english.upenn.edu</a> for a complete description of the current offerings.</td>
<td>Course not offered every year</td>
<td></td>
<td>Seminar</td>
<td>1</td>
<td>COML 564</td>
<td><a href="http://www.english.upenn.edu">www.english.upenn.edu</a></td>
</tr>
<tr>
<td>ENGL 569</td>
<td>Topics in 20th-Century American Literature</td>
<td>This course covers topics in 20th-century literature, its emphasis varying with instructor. See the English Department's website at <a href="http://www.english.upenn.edu">www.english.upenn.edu</a> for a complete description of the current offerings.</td>
<td>Course not offered every year</td>
<td></td>
<td>Seminar</td>
<td>1</td>
<td>AFRC 569, CIMS 501, COML 599, GSWS 569</td>
<td><a href="http://www.english.upenn.edu">www.english.upenn.edu</a></td>
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<tr>
<td>ENGL 570</td>
<td>African-American Literature</td>
<td>This course treats some important aspect of African-American literature and culture. Some recent versions of the course have focused on the emergence of African-American women writers, on the relation between African-American literature and cultural studies, and on the Harlem Renaissance. See the English Department's website at <a href="http://www.english.upenn.edu">www.english.upenn.edu</a> for a complete description of the current offerings.</td>
<td>Course not offered every year</td>
<td></td>
<td>Seminar</td>
<td>1</td>
<td>AFRC 570, CIMS 530, COML 573, GSWS 570</td>
<td><a href="http://www.english.upenn.edu">www.english.upenn.edu</a></td>
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<tr>
<td>ENGL 571</td>
<td>Literary Theory</td>
<td>This course is usually offered in the fall as a general introduction to literary and cultural theory, covering a wide range of thinkers and approaches. It is also sometimes offered in the spring as a concentrated exploration of a particular problem or school of thought. See the English Department's website at <a href="http://www.english.upenn.edu">www.english.upenn.edu</a> for a complete description of the current offerings.</td>
<td>Course not offered every year</td>
<td></td>
<td>Seminar</td>
<td>1</td>
<td>CLST 511, COML 604, COML 682, GRMN 534, ROML 512</td>
<td><a href="http://www.english.upenn.edu">www.english.upenn.edu</a></td>
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<tr>
<td>ENGL 572</td>
<td>Topics in African Literature</td>
<td>This course is based on a selection of representative texts written in English, as well as a few texts in English translation. It involves, a study of themes relating to social change and the persistence of cultural traditions, followed by an attempt at sketching the emergence of literary tradition by identifying some of the formal conventions of established writers in their use of old forms and experiments with new. See the English Department's website at <a href="http://www.english.upenn.edu">www.english.upenn.edu</a> for a complete description of the current offerings.</td>
<td>Course not offered every year</td>
<td></td>
<td>Seminar</td>
<td>1</td>
<td>AFRC 572, CIMS 572, COML 575, LALS 702</td>
<td><a href="http://www.english.upenn.edu">www.english.upenn.edu</a></td>
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<tr>
<td>ENGL 573</td>
<td>Topics in Criticism and Theory</td>
<td>This course covers topics in literary criticism and theory. See the English Department's website at <a href="http://www.english.upenn.edu">www.english.upenn.edu</a> for a complete description of the current offerings.</td>
<td>Course not offered every year</td>
<td></td>
<td>Seminar</td>
<td>1</td>
<td>ARTH 573, CIMS 515, COML 570, FREN 573, GRMN 573</td>
<td><a href="http://www.english.upenn.edu">www.english.upenn.edu</a></td>
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ENGL 582 American Literature to 1810
In this course we shall examine the ways various voices—Puritan, Indian, Black, Female, Enlightened, Democratic—intersect with each other and with the landscape of America to produce the early literature(s) of America. See the English Department’s website at www.english.upenn.edu for a complete description of the current offerings.
Course not offered every year
Activity: Seminar
1 Course Unit

ENGL 583 Topics in 19th-Century American Literature
A survey of 19th-century American literature that usually focuses on a particular issue or problem, such as: gender and manhood; the politics of humor; representing the nation. See the English Department’s website at www.english.upenn.edu for a complete description of the current offerings.
Course not offered every year
Activity: Seminar
1 Course Unit

ENGL 584 Environmental Imaginaries
Drawing on theories of worldmaking and ethnographic works on culture and environment, this seminar will examine the production of Cartesian-based environmental imaginaries and their alternatives across a range of genres and practices. See the English Department’s website at www.english.upenn.edu for a complete description of the current offerings.
Course not offered every year
Also Offered As: ARTH 782, COML 615, GRMN 614, LARP 770, URBS 614
Activity: Seminar
1 Course Unit

ENGL 585 Twentieth-Century American Poetry
See the English Department’s website at www.english.upenn.edu for a complete description of the current offerings.
Course not offered every year
Also Offered As: COML 577
Activity: Seminar
1 Course Unit

ENGL 586 Recent issues in Critical Theory
This course is a critical exploration of recent literary and cultural theory, usually focusing on one particular movement or school, such as phenomenology, psychoanalysis, the Frankfurt School, or deconstruction. See the English Department’s website at www.english.upenn.edu for a complete description of the current offerings.
Course not offered every year
Also Offered As: AFRC 590, COML 590, GSWS 589, LALS 590
Activity: Seminar
1 Course Unit

ENGL 587 20th-Century Literature and Theory
This course treats some aspect of literary and cultural politics in the 20th-Century with emphasis varying by instructor. See the English Department’s website at www.english.upenn.edu for a complete description of the current offerings.
Course not offered every year
Also Offered As: CIMS 592, COML 581, COML 592, HIST 680
Activity: Seminar
1 Course Unit

ENGL 588 Phenomenology, Psychoanalysis, the Frankfurt School, or deconstruction.

ENGL 590 Post-Colonial Literature
This course covers topics in Post-Colonial literature with emphasis determined by the instructor. The primary focus will be on novels that have been adapted to film. See the English Department’s website at www.english.upenn.edu for a complete description of the current offerings.
Course not offered every year
Also Offered As: AFRC 594, AFST 593, CIMS 595
Activity: Seminar
1 Course Unit

ENGL 592 Beowulf
A seminar on the Anglo-Saxon poem Beowulf in the original, with special attention to its poetic style and the oral tradition to which it belongs. See the English Department’s website at www.english.upenn.edu for a complete description of the current offerings.
Course not offered every year
Activity: Seminar
1 Course Unit

ENGL 593 Interdisciplinary Approaches to Literature
This course will explore one or more interdisciplinary approaches to literature. Literary relationships to science, art, or music may provide the focus. See the English Department’s website at www.english.upenn.edu for a complete description of the current offerings.
Course not offered every year
Also Offered As: COML 526, COML 606, COML 705, GREK 602, SLAV 526
Activity: Seminar
1 Course Unit

ENGL 594 Old English
Readings selected from the following areas: Wisdom literature, riddles, Solomon and Saturn; the nature of the transition from late Old English to Early Middle English Poetry; religious poetry. See the English Department’s website at www.english.upenn.edu for a complete description of the current offerings.
Course not offered every year
Prerequisite: At least one semester of Old English or the equivalent
Activity: Seminar
1 Course Unit
ENGL 707 Orality and Literacy
Major lines of study of the subject of literacy are traceable in at least three disciplines: history of Western literature (especially classical and medieval studies), anthropology, and ethnography of education, including education development in the Third World and psychological and developmental education theory and practice. The linkages between oral and literary communicative modes in different cultures are studied, from a folklorist’s viewpoint. The overall task of the course is not to isolate topics of narrowly defined folkloric interest in the broad field of literacy, but to integrate and critique the diverse approaches to literacy as a communicative mode or modes, from the point of view of folklore as a discipline. See the English Department’s website at www.english.upenn.edu for a complete description of the current offerings.
Course not offered every year
Also Offered As: CLST 530, COML 530
Activity: Seminar
1 Course Unit

ENGL 715 Middle English Literature
This seminar will study a number of selected Middle English texts in depth. Attention will be paid to the textual transmission, sources, language, genre, and structure of the works. Larger issues, such as the influence of literary conventions (for example, “courtly love”), medieval rhetoric, or medieval allegory will be explored as the chosen texts may require. See the English Department’s website at www.english.upenn.edu for a complete description of the current offerings.
Course not offered every year
Also Offered As: CLST 610, CLST 630, COML 631, COML 714
Activity: Seminar
1 Course Unit

ENGL 721 Medieval Poetics
This course may include some of the following fields: studies of medieval stylistic practices, formal innovations, and theories of form; medieval ideas of genre and form; medieval thought about the social, moral, and epistemological roles of poetry; interpretive theory and practice; technologies of interpretation; theories of fiction (fabula) and allegory; sacred and secular hermeneutics; theories of language and the histories of the language arts; vernacular(s) and Latinity; material texts. See the English Department’s website at www.english.upenn.edu for a complete description of the current offerings.
Course not offered every year
Also Offered As: CLST 628, COML 618
Activity: Seminar
1 Course Unit

ENGL 725 Topics in Chaucer
See the English Department’s website at www.english.upenn.edu for a complete description of the current offerings.
Course not offered every year
Also Offered As: COML 725
Activity: Seminar
1 Course Unit

ENGL 729 English Humanism
An examination of the politics and poetics of English humanism in the sixteenth and early seventeenth centuries. In particular, we will be measuring the political versatility of humanist discourse, which could construct a stance of resistance, undermine unseemly ambition, or bolster a traditional vision of order. See the English Department’s website at www.english.upenn.edu for a complete description of the current offerings.
Course not offered every year
Activity: Seminar
1 Course Unit

ENGL 730 Topics in 16th-Century History and Culture
This is an advanced course treating topics in 16th Century history and culture particular emphasis varying with instructor. See the English Department’s website at www.english.upenn.edu for a complete description of the current offerings.
Course not offered every year
Also Offered As: COML 730, FREN 654, GRMN 665
Activity: Seminar
1 Course Unit

ENGL 731 Renaissance Poetry
An advanced seminar in English poetry of the early modern period. See the English Department’s website at www.english.upenn.edu for a complete description of the current offerings.
Course not offered every year
Activity: Seminar
1 Course Unit

ENGL 734 Renaissance Drama
This is an advanced course in Renaissance drama which will include plays by non-Shakespearean dramatists such as Marlowe, Jonson, and Middleton. See the English Department’s website at www.english.upenn.edu for a complete description of the current offerings.
Course not offered every year
Also Offered As: COML 734
Activity: Seminar
1 Course Unit

ENGL 735 The Age of Shakespeare
An advanced seminar, usually focused on Shakespeare, treating the literature and culture of the late 16th- and early 17th-centuries. See the English Department’s website at www.english.upenn.edu for a complete description of the current offerings.
Course not offered every year
Also Offered As: COML 637, GSWS 735
Activity: Seminar
1 Course Unit

ENGL 736 Renaissance Studies
This is an advanced topics course treating some important issue in contemporary Renaissance studies. See the English Department’s website at www.english.upenn.edu for a complete description of the current offerings.
Course not offered every year
Also Offered As: COML 736
Activity: Seminar
1 Course Unit
ENGL 739 Milton
An examination of Milton's major poetry and prose with some emphasis on the social and political context of his work. See the English Department's website at www.english.upenn.edu for a complete description of the current offerings.
Course not offered every year
Activity: Seminar
1 Course Unit

ENGL 741 Early 18th-Century Poetry and Poetics
This is an advanced course in British poetry and poetics of the first half of the 18th-Century. See the English Department's website at www.english.upenn.edu for a complete description of the current offerings.
Course not offered every year
Activity: Seminar
1 Course Unit

ENGL 742 Late 18th-Century Poetry and Poetics
This is an advanced course in British poetry and poetics of the second half of the 18th-Century. See the English Department's website at www.english.upenn.edu for a complete description of the current offerings.
Course not offered every year
Activity: Seminar
1 Course Unit

ENGL 745 Restoration and 18th-Century Fiction
This is an advanced course in the fiction of the Restoration and the 18th-Century, the period of "The rise of the novel". See the English Department's website at www.english.upenn.edu for a complete description of the current offerings.
Course not offered every year
Activity: Seminar
1 Course Unit

ENGL 748 Semester in 18th Century Literature
This course varies in its emphases, but in recent years has explored the theory of narrative both from the point of view of eighteenth-century novelists and thinkers as well as from the perspective of contemporary theory. Specific attention is paid to issues of class, gender, and ideology. See the English Department's website at www.english.upenn.edu for a complete description of the current offerings.
Course not offered every year
Also Offered As: COML 620, FREN 660, NELC 781
Activity: Seminar
1 Course Unit

ENGL 750 Romanticism
This course is an advanced seminar on writings of the Romantic period, not restricted to English Romanticism. See the English Department's website at www.english.upenn.edu for a complete description of the current offerings.
Course not offered every year
Also Offered As: COML 750
Activity: Seminar
1 Course Unit
Notes: 700-Level Seminars, open only to Graduate Students in English.

ENGL 751 British Women Poets
An advanced seminar in British poetry by women. This course has generally focused on the period from 1770-1830 when more than 300 women published at least one volume of poetry. See the English Department's website at www.english.upenn.edu for a complete description of the current offerings.
Course not offered every year
Also Offered As: GSWS 751
Activity: Seminar
1 Course Unit

ENGL 752 English Romanticism
An advanced seminar on English Romanticism, usually but not always focusing on poetry. See the English Department's website at www.english.upenn.edu for a complete description of the current offerings.
Course not offered every year
Activity: Seminar
1 Course Unit

ENGL 753 Victorian British Literature
An advanced seminar treating some topics in Victorian British Literature, usually focusing on non-fiction or on poetry. See the English Department's website at www.english.upenn.edu for a complete description of the current offerings.
Course not offered every year
Activity: Seminar
1 Course Unit

ENGL 754 Victorian Fiction
An advanced seminar in Victorian fiction. See the English Department's website at www.english.upenn.edu for a complete description of the current offerings.
Course not offered every year
Also Offered As: COML 755
Activity: Seminar
1 Course Unit

ENGL 755 Literature of the Fin de Siecle
This course treats pre-Raphaelitism, Aestheticism, Decadence, New Woman novels, or some combination of these late-Victorian cultural developments. See the English Department's website at www.english.upenn.edu for a complete description of the current offerings.
Course not offered every year
Activity: Seminar
1 Course Unit

ENGL 756 Victorian Poetry and Poetics
Close readings in both the poetry and the critical statements of the period, in an attempt to define the "inter-period" between Romantic and High Victorian poetry. Emphasis on the early careers of Tennyson, Browning, Arnold, and Clough. Attention will be given to the nature and role of the poet, the changing functions of poetry, Aestheticism, Symbolism, and Modernism. See the English Department's website at www.english.upenn.edu for a complete description of the current offerings.
Course not offered every year
Activity: Seminar
1 Course Unit
ENGL 758 Victorian Culture
An advanced seminar treating 19th-Century British culture from an interdisciplinary perspective. See the English Department's website at www.english.upenn.edu for a complete description of the current offerings.
Course not offered every year
Activity: Seminar
1 Course Unit

ENGL 760 Topics in the Novel
A study of the literary and cultural self-presentations of a decade obsessed by its own momentousness as the end of a century and even, perhaps, the end of Time. The class examines writers' new pride in decadence, the primacy of termination and death, and the impact of the women's movement on fictons, art, poetry, and theater of the 1890's. See the English Department's website at www.english.upenn.edu for a complete description of the current offerings.
Course not offered every year
Also Offered As: CIMS 600, FREN 684
Activity: Seminar
1 Course Unit

ENGL 761 British Modernism
This course treats one or more of the strains of British modernism in fiction, poetry, or the arts. See the English Department's website at www.english.upenn.edu for a complete description of the current offerings.
Course not offered every year
Also Offered As: COML 761
Activity: Seminar
1 Course Unit

ENGL 765 Topics in 20th-Century Literature
An advanced seminar treating a specific topic or issue in 20th-Century Literature and Culture. See the English Department's website at www.english.upenn.edu for a complete description of the current offerings.
Course not offered every year
Also Offered As: COML 766, COMM 847, SAST 644
Activity: Seminar
1 Course Unit

ENGL 768 Joyce
The specific focus within Joyce's oeuvre varies from year to year, but generally this course covers much of his writing up to Finnegans Wake. See the English Department's website at www.english.upenn.edu for a complete description of the current offerings.
Course not offered every year
Activity: Seminar
1 Course Unit

ENGL 769 Feminist Theory
Specific topic varies. The seminar will bring together the study of early modern English literature and culture with histories and theories of gender, sexuality and race. Contact with 'the East' (Turkey, the Moluccas, North Africa and India) and the West (the Americas and the Caribbean) reshaped attitudes to identity and desire. How does this history allow us to understand, and often interrogate, modern theories of desire and difference? Conversely, how do postcolonial and other contemporary perspectives allow us to re-read this past? See the English Department's website at www.english.upenn.edu for a complete description of the current offerings.
Course not offered every year
Also Offered As: COML 769, GSWS 769, NELC 783, PSCI 683, SAST 769
Activity: Seminar
1 Course Unit

ENGL 770 Afro-American Literature
An advanced seminar in African-American literature and culture. See the English Department's website at www.english.upenn.edu for a complete description of the current offerings.
Course not offered every year
Also Offered As: AFRC 770, AFRC 834, ANTH 834, COML 773
Activity: Seminar
1 Course Unit

ENGL 771 Textual Production
This course is based on library work and is intended as a practical introduction to graduate research. It addresses questions of the history of the book, of print culture, and of such categories as "work," "character," and "author," as well as of gender and sexuality, through a detailed study of the (re)production of Shakespearean texts from the seventeenth to the twentieth century. See the English Department's website at www.english.upenn.edu for a complete description of the current offerings.
Course not offered every year
Also Offered As: COML 772, LAW 913
Activity: Seminar
1 Course Unit

ENGL 773 Modernism
An interdisciplinary and international examination of modernism, usually treating European as well as British and American modernists. See the English Department's website at www.english.upenn.edu for a complete description of the current offerings.
Course not offered every year
Also Offered As: AFRC 773, COML 767, GSWS 773
Activity: Seminar
1 Course Unit

ENGL 774 Postmodernism
An advanced seminar on postmodernist culture. Recently offered as a study of relationship between poetry and theory in contemporary culture, with readings in poststructuralist, feminist, marxist, and postcolonial theory and in poets of the Black Mountain and Language groups. See the English Department's website at www.english.upenn.edu for a complete description of the current offerings.
Course not offered every year
Also Offered As: COML 622, SAST 774
Activity: Seminar
1 Course Unit
ENGL 775 African Literature
An advanced seminar in anglophone African literature, possibly including a few works in translation. See the English Department’s website at www.english.upenn.edu for a complete description of the current offerings.
Course not offered every year
Also Offered As: AFRC 701, AFRC 708, AFST 775, COML 700, COML 708
Activity: Seminar
1 Course Unit

ENGL 776 Topics in 20th-Century Drama
Sometimes taught as a survey of modern and contemporary drama, this course can also focus on a particular issue such as the politics of Western theatre, gender and performativity, or postmodernity in the dramatic arts. See the English Department’s website at www.english.upenn.edu for a complete description of the current offerings.
Course not offered every year
Also Offered As: COML 607
Activity: Seminar
1 Course Unit

ENGL 777 Media Studies
See the English Department’s website at www.english.upenn.edu for a complete description of the current offerings.
Course not offered every year
Activity: Seminar
1 Course Unit

ENGL 778 20th-Century Aesthetics
This course explores notions that have conditioned 20th century attitudes toward beauty among them ornament, form, fetish, the artifact "women", the moves to 20th century fiction, art manifestos, theory, and such phenomena as beauty contests and art adjudications. See the English Department’s website at www.english.upenn.edu for a complete description of the current offerings.
Course not offered every year
Also Offered As: ARTH 797, CIMS 796, COML 778, COML 787
Activity: Seminar
1 Course Unit

ENGL 781 Earliest American Literature
The earliest American literature predates America and rather than the unfolding of the new world, its major interest is the expanding of the old. In such texts as those compiled by Hakluyt and Purchas, in Thomas Harriot’s Briefe and True Report of the New Found Land of Virginia, and others, we will trace an emerging American culture that is not yet “American.” See the English Department’s website at www.english.upenn.edu for a complete description of the current offerings.
Course not offered every year
Also Offered As: ARTH 594, ARTH 793, COML 594, COML 791, SAST 651
Activity: Seminar
1 Course Unit

ENGL 783 Major American Author
A seminar treating any one of the major American Writers. Past versions have focused on Melville, Whitman, Twain, James, Pound, Eliot, and others. See the English Department’s website at www.english.upenn.edu for a complete description of the current offerings.
Course not offered every year
Activity: Seminar
1 Course Unit

ENGL 785 American Women Writers
This course is sometimes taught as an advanced survey of American women writers, but may also focus on a particular writer or group of writers, or on gender issues in American literature and culture. See the English Department’s website at www.english.upenn.edu for a complete description of the current offerings.
Course not offered every year
Activity: Seminar
1 Course Unit

ENGL 788 Topics in American Poetry
An advanced seminar in American poetry. Specific emphasis varies with instructor. See the English Department’s website at www.english.upenn.edu for a complete description of the current offerings.
Course not offered every year
Activity: Seminar
1 Course Unit

ENGL 790 Recent Issues in Critical Theory
See the English Department’s website at www.english.upenn.edu for a complete description of the current offerings.
Course not offered every year
Also Offered As: COML 790, GRMN 690, GSWS 790
Activity: Seminar
1 Course Unit

ENGL 795 Topics in Poetics
Topics in poetics will vary in its emphasis depending on the instructor. See the English Department’s website at www.english.upenn.edu for a complete description of the current offerings.
Course not offered every year
Also Offered As: COML 795, ITAL 630
Activity: Seminar
1 Course Unit

ENGL 797 Topics in 20th-Century Culture
Usually focusing on non-fictional texts, this course varies in its emphasis depending on the instructor. See the English Department’s website at www.english.upenn.edu for a complete description of the current offerings.
Course not offered every year
Also Offered As: ARTH 594, ARTH 793, COML 594, COML 791, SAST 651
Activity: Seminar
1 Course Unit

ENGL 799 Topics in American Literature
An advanced topics course in American literature, with the curriculum fixed by the instructor. Recently offered with a focus on American Literature of Social Action and Social Vision. See the English Department’s website at www.english.upenn.edu for a complete description of the current offerings.
Course not offered every year
Also Offered As: AFRC 799, COML 798, GSWS 799, MUSC 735
Activity: Seminar
1 Course Unit

ENGL 850 Field List
Students work with an adviser to focus the area of their dissertation research. They take an examination on the field in the Spring and develop a dissertation proposal.
One-term course offered either term
Activity: Seminar
1 Course Unit
ENGL 998 Independent Study
Open to students who apply to the graduate chair with a written study proposal approved by the advisor. The minimum requirement is a long paper. Limited to 1 CU.
Course offered summer, fall and spring terms
Activity: Independent Study
1 Course Unit
Notes: Limited to 1 CU

ENGL 999 Independent Reading
Open only to candidates who have completed two semesters of graduate work.
One-term course offered either term
Activity: Independent Study
1 Course Unit

Environmental Studies (ENVS)

ENVS 073 Topics in Ethics
Topics vary each semester.
Taught by: Meyer, M.
Course not offered every year
Also Offered As: PHIL 073
Activity: Seminar
1 Course Unit

ENVS 100 Introduction to Environmental Science
This course will explore the physical science of the Earth's environment and human interactions with it. Coverage will include the Earth's various environmental systems, various environmental problems, and the direct and indirect causes of these environmental problems.
For BA Students: Physical World Sector
Taught by: PLANTE
Course usually offered in spring term
Activity: Lecture
1 Course Unit

ENVS 150 Water Worlds
For BA Students: Arts and Letters Sector
Also Offered As: COML 151, GRMN 150
Activity: Lecture
1 Course Unit

ENVS 169 Engineering Planet Earth
Also Offered As: STSC 169
Activity: Lecture
1 Course Unit

ENVS 181 Comparative Cultures of Sustainability
Sustainability is more than science, engineering, policy, and design. Surveying the world, we see that the politics and practice of sustainability play out in different ways depending on cultural factors. Some cultures are more prone to pursue ecological goals than others. Why? Do the environmental history and experience of a nation affect policy? Do nature and the environment play a crucial role in the cultural memory of a nation? Can cultural components be effectively leveraged in order to win approval for a politics of sustainability? And what can we, as residents of a country where climate change and global warming are flashpoints in an enduring culture war, learn from other cultures? This course is designed to equip undergraduate students with the historical and cultural tools necessary to understand the cultural aspects of sustainability in two countries noted for their ecological leadership and cultural innovation, Germany and the Netherlands.
Taught by: Simon Richter
Course usually offered summer term only
Also Offered As: GRMN 181
Activity: Lecture
1 Course Unit

ENVS 246 Spirituality in the Age of Global Warming: How Can Science & the Humanities Work Together?
We are living in the midst of one of the most severe crisis in the Earth's history. Science confirms the glaciers are melting, hurricanes are growing more intense, and the oceans are rising. But there is also a deeply spiritual dimension to global warming that does not factor into the scientific explanations. This part of the problem has been more powerfully expressed in film, literature, and art. We will be looking at films like Lee's "When the Levees Broke," about how the people of New Orleans turned to music and storytelling to rebuild their communities in the wake of Hurricane Katrina and Linda Hogan's novel, "Solar Storm" which explores how Native American women draw upon spirituality to heal their community after a dam flooded their ancestral homeland.
The class will also work on an ongoing research project in partnership with the Canadian government and Ojibwe First Nations who submitted a successful UNESCO World Heritage Site application to preserve the boreal forest and the Native people's traditional knowledge about their land. The class will be working on an interactive map to document how photographs, oral histories, and artwork helped convince UNESCO to preserve the land and the Traditional Ecological Knowledge (TEK) of the people who have lived on that land for thousands of years.
Taught by: Timothy Powell
Also Offered As: RELS 246
Activity: Seminar
1 Course Unit
ENVS 279 Nature's Nation: Americans and Their Environment
The United States has been described as "nature's nation. The presence of enormous, resource-rich and sparsely settled continent has been a component of American identity, prosperity and pride—it has even been described as the source of the democratic political system. From the beginning, Americans transformed their natural environment, even as, over time, they grew to value environmental preservation and protection. This course traces the interaction of Americans and the natural world in, studying how Americans changes the natural environment over time, in order to understand why environmental change occurred and occurred in the manner it did. What have Americans believed about the nature of the nation's nature, and what attitudes and policies have followed from these ideas? After surveying American environmental history from the 17th to the 20th century, we will examine specific topics and problems in the long relationship between Americans and their environment. (Possible topics: national parks and wilderness preservation, environmental politics, chemical pollution, invasive species). This seminar fulfills the research requirement for the History major because students will complete a 20-page paper of original research.
Taught by: Greene
Course not offered every year
Also Offered As: STSC 279
Activity: Seminar
1 Course Unit

ENVS 295 Maritime Science and Technology: Woods Hole Sea Semester
A rigorous semester-length academic and practical experience leading to an understanding of the oceans. The Sea Semester is composed of two intensive six-week components taken off-campus. The Shore Component is six weeks at Woods Hole, Massachusetts, with formal study in: Oceanography, Maritime Studies, and Nautical Science. This is followed by six weeks aboard a sailing research vessel, during which students conduct oceanographic research projects as part of the courses, Practical Oceanography I and II. Maritime Studies. A multidisciplinary study of the history, literature, and art of our maritime heritage, and the political and economic problems of contemporary maritime affairs.
Taught by: Andrews
One-term course offered either term
Prerequisites: Laboratory course in physical or biological science or its equivalent; college algebra or its equivalent.
Activity: Independent Study
1 Course Unit
Notes: This set of courses requires special application procedures. Contact Maria Andrews for information and an application. Only the "SEA semester: Ocean Exploration" and "SEA Semester: Oceans and Climates" can be taken for Penn credit without taking a leave, and all students must have permission from Maria Andrews before registering at SEA.

ENVS 299 Independent Study
Directed study for individuals or small groups under supervision of a faculty member.
One-term course offered either term
Prerequisite: Permission of department
Activity: Independent Study
1 Course Unit
Notes: May be repeated for credit

ENVS 301 Environmental Case Studies
A detailed, comprehensive investigation of selected environmental problems. Guest speakers from the government and industry will give their accounts of various environmental cases. Students will then present information on a case study of their choosing.
Taught by: Dmochowski
Course usually offered in fall term
Prerequisite: ENVS 200
Activity: Lecture
1 Course Unit

ENVS 312 Ocean-Atmosphere Dynamics and Implications for Future Climate Change
This course covers the fundamentals of atmosphere and ocean dynamics, and aims to put these in the context of climate change in the 21st century. Large-scale atmospheric and oceanic circulation, the global energy balance, and the global energy balance, and the global hydrological cycle. We will introduce concepts of fluid dynamics and we will apply these to the vertical and horizontal motions in the atmosphere and ocean. Concepts covered include: hydrostatic law, buoyancy and convection, basic equations of fluid motions, Hadley and Ferrel cells in the atmosphere, thermohaline circulation, Sverdrup ocean flow, modes of climate variability (El-Nino, North Atlantic Oscillation, Southern Annular Mode). The course will incorporate student led discussions based on readings of the 2007 Intergovernmental Panel on Climate Change (IPCC) report and recent literature on climate change. Aimed at undergraduate or graduate students who have no prior knowledge of meteorology or oceanography or training in fluid mechanics. Previous background in calculus and/or introductory physics is helpful. This is a general course which spans many subdisciplines (fluid mechanics, atmospheric science, oceanography, hydrology).
Taught by: Marinov
Course usually offered in spring term
Also Offered As: ENVS 640, PHYS 314
Prerequisites: MATH 114 or permission of the instructor.
Activity: Lecture
1 Course Unit

ENVS 325 Sustainable Goods
The study of sustainability—the long term viability of humans in harmony with the environment—has been identified as a critical issue for society and industry and is evolving to examine how society should conduct itself in order to survive. This issue impacts the consumer goods that we use in our lives, the processes that are designed to make these goods, and the raw materials that we obtain to create these goods. The questions that we will examine will be: Can these goods be obtained, made, and consumed in a fashion that allows the current quality of life to be maintained (or enhanced) for future generations? Can these processes be sustainable? A review of consumer goods is necessary as the starting point in order to understand the basic needs of people in society and why people consume goods as they do. Subsequently, each student will choose a product to examine in detail and will research the product for its impact with respect to natural resource selection, production, use, and disposal/reuse.
Taught by: Hagan
Activity: Lecture
1 Course Unit
ENVS 326 GIS: Mapping Places & Analyzing Spaces
This course is a hands-on introduction to the concepts and capabilities of geographic information systems (GIS). Students will develop the skills necessary for carrying out basic GIS projects and for advanced GIS coursework. The class will focus on a broad range of functional and practical applications, ranging from environmental science and planning to land use history, social demography, and public health. By the end of the course, students will be able to find, organize, map, and analyze data using both vector (i.e. drawing-based) and raster (i.e. image-based) GIS tools, while developing an appreciation for basic cartographic principles relating to map presentation. This course fulfills the spatial analysis requirement for ENVS and EASC Majors. Previous experience in the use of GIS is not required.
Taught by: Heinlen
Activity: Lecture
1 Course Unit

ENVS 327 Principles of Sustainability
What is sustainability? Can any fundamental concepts, principles or framework be constructed that adequately describes the search for sustainability? Is there a meaningful methodology? Sustainability science is a trans-disciplinary approach in which the quantitative and qualitative, natural and social, and theory and practice are reconciled and creatively combined. The objective of this course is to provide an in-depth analysis of the foundational concepts, principles, processes and practices of sustainability science. The course will explore three foundational laws governing sustainability: the law of limits to growth, the second law of thermodynamics, and the law of self-organization. Students will examine how these laws operate in biological, ecological, and physical systems, and then apply them to social, economic and political systems.
Taught by: Alain Plante
Activity: Lecture
1 Course Unit

ENVS 399 Environmental Studies Research Seminar for Juniors
This seminar is designed to help Juniors prepare for the Senior Thesis research. Topic selection, advisor identification, funding options, and basic research methods will be discussed.
Taught by: Andrews
Course usually offered in spring term
Also Offered As: GEOL 399
Prerequisite: ENVS 100
Activity: Seminar
1 Course Unit

ENVS 400 Environmental Studies Seminar
Application of student and faculty expertise to a specific environmental problem, chosen expressly for the seminar.
Taught by: Plante, Jerolmack, Kulik
Course usually offered in spring term
Activity: Seminar
1 Course Unit
Notes: May be repeated for credit

ENVS 404 Urban Environments: Speaking About Lead in West Philadelphia
Lead poisoning can cause learning disabilities, impaired hearing, behavioral problems, and at very high levels, seizures, coma and even death. Children up to the age of six are especially at risk because of their developing systems; they often ingest lead chips and dust while playing in their home and yards. In ENVS 404, Penn undergraduates learn about the epidemiology of lead poisoning, the pathways of exposure, and methods for community outreach and education. Penn students collaborate with middle school and high school teachers in West Philadelphia to engage middle school children in exercises that apply environmental research relating to lead poisoning to their homes and neighborhoods.
For BA Students: Natural Science and Math Sector
Taught by: Pepino
Course usually offered in spring term
Activity: Seminar
1 Course Unit
Notes: ABCS Course. Requires community service in addition to class time.

ENVS 406 Community Based Environmental Health
From the fall of the Roman Empire to Love Canal to the epidemics of asthma, childhood obesity and lead poisoning in West Philadelphia, the impact of the environment on health has been a continuous challenge to society. The environment can affect people’s health more strongly than biological factors, medical care and lifestyle. The water we drink, the food we eat, the air we breathe, and the neighborhood we live in are all components of the environment that impact our health. Some estimates, based on morbidity and mortality statistics, indicate that the impact of the environment on health is as high as 80%. These impacts are particularly significant in urban areas like West Philadelphia. Over the last 20 years, the field of environmental health has matured and expanded to become one of the most comprehensive and humanly relevant disciplines in science. This course will examine not only the toxicity of physical agents, but also the effects on human health of lifestyle, social and economic factors, and the built environment. Topics include cancer clusters, waterborne diseases, radon and lung cancer, lead poisoning, environmental tobacco smoke, respiratory diseases and obesity. Students will research the health impacts of classic industrial pollution case studies in the US. Class discussions will also include risk communication, community outreach and education, access to health care and impact on vulnerable populations. Each student will have the opportunity to focus on Public Health, Environmental Protection, Public Policy, and Environmental Education issues as they discuss approaches to mitigating environmental health risks.
Taught by: Kulik
Course usually offered in fall term
Activity: Seminar
1 Course Unit
Notes: ABCS Course. Requires community service in addition to class time.
**ENVS 407 Urban Environments: Prevention of Tobacco Smoking in Adolescents**

Cigarette smoking is a major public health problem. The Centers for Disease Control and Prevention Control reports that more than 80% of current adult tobacco users started smoking before age 18. The National Youth Tobacco Survey indicated that 12.8% of middle school students and 34.8% of high school students in their study used some form of tobacco products. In ENVS 407, Penn undergraduates learn about the short and long term physiological consequences of smoking, social influences and peer norms regarding tobacco use, the effectiveness of cessation programs, tobacco advocacy and the impact of the tobacco settlement. Penn students will collaborate with teachers in West Philadelphia to prepare and deliver lessons to middle school students. The undergraduates will survey and evaluate middle school and Penn student smoking. One of the course goals is to raise awareness of the middle school children to prevent addiction to tobacco smoke during adolescence. Collaboration with the middle schools gives Penn students the opportunity to apply their study of the prevention of tobacco smoking to real world situations.

Taught by: Pepino
Course usually offered in spring term
Activity: Seminar
1 Course Unit
Notes: ABCS Course. Requires community service in addition to class time.

**ENVS 408 Urban Environments: The Urban Asthma Epidemic**

Asthma as a pediatric chronic disease is undergoing a dramatic and unexplained increase. It has become the number one cause of public school absenteeism and now accounts for a significant number of childhood deaths each year in the USA. The Surgeon General of the United States has characterized childhood asthma as an epidemic. In ENVS 408, Penn undergraduates learn about the epidemiology of urban asthma, the debate about the probable causes of the current asthma crisis, and the nature and distribution of environmental factors that modern medicine describes as potential triggers of asthma episodes. Penn students will co-teach asthma classes offered in public schools in West Philadelphia and survey asthma caregivers, providing them with the opportunity to apply theoretical knowledge to real-world situations, promote community education and awareness about asthma, and use problem-solving learning to enhance student education in environmental health.

Taught by: Kulik
Course usually offered in spring term
Activity: Seminar
1 Course Unit
Notes: ABCS Course. Requires community service in addition to class time.

**ENVS 410 The Role of Water in Urban Sustainability and Resiliency**

This course will provide an overview of the cross-disciplinary fields of civil engineering, environmental sciences, urban hydrology, landscape architecture, green building, public outreach and politics. Students will be expected to conduct field investigations, review scientific data and create indicator reports, working with stakeholders and presenting the results at an annual symposium. There is no metaphor like water itself to describe the cumulative effects of our practices, with every upstream action having an impact downstream. In our urban environment, too often we find degraded streams filled with trash, silt, weeds and dilapidated structures. The water may look clean, but is it? We blame others, but the condition of the creeks is directly related to how we manage our water resources and our land. In cities, these resources are often our homes, our streets and our communities. This course will define the current issues of the urban ecosystem and how we move toward managing this system in a sustainable manner. We will gain an understanding of the dynamic, reciprocal relationship between practices in an watershed and its waterfront. Topics discussed include: drinking water quality and protection, green infrastructure, urban impacts of climate change, watershed monitoring, public education, creating strategies and more.

Taught by: Neukrug
Course not offered every year
Prerequisites: ENVS 200, GEOL 100 or equivalent
Activity: Seminar
1 Course Unit
Notes: An academically-based curriculum service learning approach to using water, science and politics to create a sustainable Philadelphia.

**ENVS 411 Air Pollution: Sources & Effects in Urban Environments**

This is an ABCS course designed to provide the student with an understanding of air pollution at the local, regional and global levels. The nature, composition, and properties of air pollutants in the atmosphere will also be studied. The course will focus on Philadelphia’s air quality and how air pollutants have an adverse effect on the health of the residents. The recent designation by IARC of Air Pollution as a known carcinogen will be explored. How the community is exposed to air pollutants with consideration of vulnerable populations will be considered. Through a partnership with Philadelphia Air Management Service (AMS) agency the science of air monitoring and trends over time will be explored. Philadelphia’s current non-attainment status for PM2.5 and ozone will be studied. Philadelphia’s current initiatives to improve the air quality of the city will be discussed. Students will learn to measure PM2.5 in outdoor and indoor settings and develop community-based outreach tools to effectively inform the community of Philadelphia regarding air pollution. The outreach tools developed by students may be presentations, written materials, apps, websites or other strategies for enhancing environmental health literacy of the community. A project based approach will be used to include student monitoring of area schools, school bus routes, and the community at large. The data collected will be presented to students in the partner elementary school in West Philadelphia. Upon completion of this course, students should expect to have attained a broad understanding of and familiarity with the sources, fate, and the environmental impacts and health effects of air pollutants.

Taught by: Andrews and Howarth
Course usually offered in fall term
Activity: Seminar
1 Course Unit
ENVS 416 Freshwater Ecology
Survey of the physical, chemical and biological properties of freshwater ecosystems, both riverine and lentic, natural and polluted.
Taught by: Bott
Course not offered every year
Also Offered As: BIOL 415
Prerequisites: BIOL 101 or 121 and one semester of college chemistry
Activity: Lecture
1 Course Unit

ENVS 417 The anthropocene: Human-dominated Earth
How much have humans altered the planet they live on? Beyond climate change, humans have altered the Earth's land, oceans and biosphere to such an extent that the concept of a new geologic epoch defined by the action of humans is seriously debated. This seminar will examine the origins of the Anthropocene, the ways in which humans have altered Earth systems, whether or not these alterations warrant a new geologic designation, and what the future potentially holds for both humans and the planet.
Taught by: Alain Plante
Activity: Seminar
1 Course Unit

ENVS 418 Extracting Labor: Capitalism and the Environment
The course focuses on extractive industries such as forestry and mining to examine several dimensions of the relationship between human labor and the non-built environment. Students will develop fluency with environmental justice, labor organizing, labor migration, and other key labor-environment issues through class discussions, digital group projects, and a field trip.
Taught by: Thomas
Activity: Lecture
1 Course Unit

ENVS 498 Senior Thesis
The culmination of the Environmental Studies major. Students, while working with an advisor in their concentration, conduct research and write a thesis.
Taught by: Dmochowski
Two terms. Student may enter either term.
Also Offered As: GEOL 498
Prerequisites: ENVS 400-level course and declaration of the ENVS major
Activity: Senior Thesis
0.5 Course Units
Notes: The Environmental Studies major, as of the fall of 2008, requires 1 semester of ENVS399 and two semesters of ENVS498.

ENVS 507 Wetlands
The course focuses on the natural history of different wetland types including climate, geology, and hydrological factors that influence wetland development. Associated soil, vegetation, and wildlife characteristics and key ecological processes will be covered as well. Lectures will be supplemented with weekend wetland types, ranging from tidal salt marshes to non-tidal marshes, swamps, and glacial bogs in order to provide field experience in wetland identification, characterization, and functional assessment. Outside speakers will discuss issues in wetland seed bank ecology, federal regulation, and mitigation. Students will present a short paper on the ecology of a wetland animal and a longer term paper on a selected wetland topic. Readings from the text, assorted journal papers, government technical documents, and book excerpts will provide a broad overview of the multifaceted field of wetland study.
Taught by: Willig
Course not offered every year
Activity: Lecture
1 Course Unit

ENVS 541 Modeling Geographical Objects
This course offers a broad and practical introduction to the acquisition, storage, retrieval, maintenance, use, and presentation of digital cartographic data with both image and drawing based geographic information systems (GIS) for a variety of environmental science, planning, and management applications. Its major objectives are to provide the training necessary to make productive use of at least two well known software packages, and to establish the conceptual foundation on which to build further skills and knowledge in late practice.
Taught by: Tomlin
Course not offered every year
Activity: Lecture
1 Course Unit

ENVS 601 Proseminar: Contemporary Issues in Environmental Studies
A detailed, comprehensive investigation of selected environmental problems. This is the first course taken by students entering the Master of Environmental Studies Program.
Taught by: Bordeaux/Colijn
Course not offered every year
Activity: Seminar
1 Course Unit

ENVS 604 Conservation and Land Management
Using protected lands in the Delaware Valley, this field-based course will explore various strategies for open-space conservation and protection. In addition, students will be introduced to land management techniques used on such sites to restore or preserve land trust properties in accordance with goals set for their use or protection. Sustainable land uses such as community supported agriculture, ecovillages, and permaculture design will be covered. Emphasis will be placed on developing skills in "Reading the Landscape" to determine conservation and restoration priorities. Students will produce a site assessment report on sites that they visit.
Taught by: Brightman
Course not offered every year
Activity: Lecture
1 Course Unit
Notes: Some Saturday field trips will be required.
**ENVS 605 Bioremediation**

This course is an introduction to current and developing techniques for analyzing environmental contamination and for remediation of damaged environments. Knowledge of these options is important for students interested in public/law applications and environmental/landscape design and as a starting point for those pursuing a more science-oriented understanding. The first portion of this course will address bioindicators-the use of living systems to assess environmental contamination. These include systems ranging from biochemical assays to monitoring of whole organisms or ecosystems, as well as techniques ranging from laboratory to field and satellite surveys. The second portion of the course will introduce technologies for bioremediation-the use of living systems to restore contaminated environments. The technologies scale from single-species systems to complex ecosystems such as constructed wetlands; case studies will be examined. Students will be expected to participate in field trips, as well as prepare a final paper examining a particular technology in detail.

Taught by: Vann

Course not offered every year

Also Offered As: ENVS 305

Activity: Lecture

1 Course Unit

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**ENVS 606 Ornithology**

This class will explore the foundations of avifaunal biology and ecology using a combination of hands-on classroom and in-the-field experiences. Classroom content includes physiology, anatomy, and morphology of birds. The fall migration of birds in North America is an epic and often tragic event. Sampling birds in migration has resulted in foundational understandings about stopover habitats, species-specific energy budgets and has helped realize the complete life cycle of hundreds of species. We will enter the field and participate in actual ornithological research, explore avifaunal ecology through birdwatching, and meet with regional leaders in the ornithological field.

Taught by: McGraw

Course usually offered in fall term

Activity: Seminar

1 Course Unit

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**ENVS 610 Regional Field Ecology**

Over the course of six Sunday field trips, we will travel from the barrier islands along the Atlantic Ocean in southern New Jersey to the Pocono Mountains in northeastern Pennsylvania, visiting representative sites of the diverse landscapes in the region along the way. At each site we will study and consider interactions between geology, topography, hydrology, soils, vegetation, wildlife, and disturbance. Students will summarize field trip data in a weekly site report. Evening class meetings will provide the opportunity to review field trips and reports and preview upcoming trips. Six all-day Sunday field trips are required.

Taught by: Willig

Course usually offered summer term only

Also Offered As: ENVS 420

Activity: Lecture

1 Course Unit

Notes: Some Sunday field trips required.

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**ENVS 611 Environmental Law**

This course will provide an introduction to environmental law and the legal process by which environmental laws are implemented and enforced. The course will examine the common law roots of environmental regulation in tort principles such as nuisance, negligence and trespass. We will examine important Constitutional principles in substantive and procedural law as well as significant environmental laws and approaches. Finally, we will examine emerging theories of citizen’s rights and the government’s role in environmental law and regulation. Students will learn how to read and analyze course decisions and apply some of the elements of legal thinking to actual cases and current problems.

Taught by: Keene

Course usually offered in spring term

Activity: Seminar

1 Course Unit

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**ENVS 615 Climate Change & Health**

Main causes of climate change and direct consequences on air temperature, weather patterns, glacial melting, sea level, air and water quality, water and food supply, natural disasters, and ecosystems; how climate change can affect health in different ways, and how certain groups of people are more vulnerable to health impacts.

Taught by: Keene

Course not offered every year

Activity: Seminar

1 Course Unit

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**ENVS 616 Risk Assessment: Science & Policy Challenges**

How do government policy-makers make decisions about potential threats to human health and the environment in the face of scientific uncertainty? The course develops the concept of Risk Assessment from the publication of the 1983 National Research Council (NRC) report commonly known as the "Red Book" which was used to rank the initial hazardous waste sites under the Superfund program. Using a variety of teaching tools, including lectures, panel discussions, and case studies, the course examines how public policy decisions regarding environmental risk are made and how effective those decisions are at reducing risks to affected populations. The course focuses on the complex interaction of science, economics, politics, laws, and regulations in dealing with environmental and public health risks. The course will begin with a review of the policy process and methods used in evaluating human health and environmental risks, including the traditional steps in the risk assessment process, including quantitative and qualitative aspects of hazard identification, dose-response assessment, exposure assessment, and risk characterization. The course will then focus on how scientific uncertainty, risk perceptions, socio-economic disparities, risk communication, and politics influence environmental risk-based decision-making. Issues such as special populations (e.g., children, elderly, immune-compromised, woman of pregnancy age, etc.) must be considered when developing risk reduction strategies. The use of the "precautionary principle" will be discussed in the context of different types of environmental stressors (e.g., pesticides, chemicals, climate change, air pollution, water quality, and land use) and how this important controversial principle is applied differently in contrasting national and European risk management policies.

Taught by: Pepino

Course usually offered summer term only

Activity: Seminar

1 Course Unit
ENVS 621 Comparative Environmental Regulation
In order to guide organizations and companies in an aligned fashion on environmental and sustainability issues, we need to understand the specific approaches that governments take in regulating environmental issues and the underpinning philosophies that drive these regulatory frameworks. This course will therefore require an evaluation of the different tools that governments have to influence, guide and command environmental outcomes from different segments of society. We will specifically examine the environmental regulatory approaches in a number of countries such as the United States, the European Union, China, India and Brazil.
Taught by: Hagan
Course usually offered in fall term
Activity: Seminar
1 Course Unit

ENVS 622 Environmental Enforcement
The goal of the course is to provide students with an introduction to the role of enforcement in federal, state and local environmental regulatory programs. Emphasis will be placed on federal enforcement actions initiated by the U.S. Environmental Protection Agency and U.S. Department of Justice. The course will provide students with an introduction to the American Legal System and legal concepts, like standing, jurisdiction, and burden of proof. A number of case studies and classroom exercises will be utilized as part of the discussion of civil and criminal enforcement actions. For example, a detailed case study will be presented concerning a successful prosecution by the federal government of a wastewater treatment plant operator (from the receipt of the initial tip through the sentencing of the defendant).
A theme of all classes, presentations and assignments will be the role of the environmental professional in the enforcement context (e.g., the environmental professional who testifies as an expert in a judicial proceeding, or performs an audit that becomes the subject of a self-disclosure to EPA).
Taught by: Lisa
Course usually offered in fall term
Activity: Seminar
1 Course Unit

ENVS 623 Climate Change and Security
Climate change is increasingly presented as posing significant security risks, but the relationship is much more complex than such a simple cause-effect statement might suggest. Researchers from diverse fields including geography, climatology, and political science are actively engaging questions about what kinds of security are threatened by climate change and through what mechanisms. For example, will severe drought lead to violent conflict? Who is vulnerable to reduced soil moisture or increased coastal erosion and why? What are the consequences of viewing a problem as a livelihood versus national security risk? Who are the winners and losers of climate change-based security interventions? This course will orient students to the evolving debate on the relationship between climate change and its impacts on national, human, and environmental security.
Taught by: Thomas
Course usually offered in fall term
Activity: Seminar
1 Course Unit

ENVS 627 The Politics of Water
Despite decades of scientific research and policy action aimed at managing water resources equitably and sustainably, it remains that the world’s water resources continue to be severely polluted, pose grave hazards to lives and infrastructure, and be obstinately unevenly distributed in space and time. Moreover, a growing number of people (currently estimated at over 700 million) lack sufficient quantities of clean water. Although such challenges have long been approached with technical expertise (e.g. hydro-engineering, economic models), this course examines the social and political dynamics that underpin these problems. Organized as a survey of problems and responses, this seminar examines key concepts, major approaches, and current debates regarding water governance in various regions of the world. Course topics include the privatization of water, water as a human right, and human vulnerability to water hazards. In viewing water provision and management as not solely a technical concern but as inherently political, the course seeks to provide a set of analytical tools that is both critical and constructive.
Taught by: Thomas
Course usually offered in spring term
Activity: Seminar
1 Course Unit

ENVS 629 The US Water Industry in the 21st Century
The course will explore all 4 sectors of the water business in the United States: The Drinking Water Industry, The Stormwater Utility, Water Resources (rivers, streams, reservoirs) Management and the Water Pollution Control Industry. The course will have 2 primary foci: 1. The influences on the industry from new technologies and infrastructure, acceptable levels of risk, public and private sector competition, climate change, the bottled water industry, resource recovery, rates and affordability and other influences will be investigated. 2. The management of a 21st century utility will be explored, including topics of organization and leadership, the role of environmentalism, infrastructure financing, water / wastewater treatment facility operations, public affairs and media, and designing a capital improvement program are examples of topic areas.
Taught by: Neukrug
Course usually offered in fall term
Activity: Seminar
1 Course Unit

ENVS 634 Topics in Water Policy
This course will explore various themes such as the UN Millennium Development Goals, EPA regulatory practices, and global water policy and governance.
Taught by: Laskowski
One-term course offered either term
Activity: Seminar
1 Course Unit
ENVS 642 Global Water Conference in Stockholm, Sweden
The global water and sanitation crisis kills over 4,000 children each day and represents one of the biggest health problems in the world. At the University of Pennsylvania school year 2010-2011 was declared the "Year of Water" in recognition of the many challenges that lie ahead as global increases in population and affluence and the influences of climate change will stress limited water resources. Each year the Stockholm International Water Institute convenes a Conference with experts from around the globe to exchange the latest water research findings and develop new networks. Students will attend the Conference, present research by presentations/posters, document a key issue, interview experts, and meet colleagues with common interests. They will also help other organizations at the Conference.
Taught by: Laskowski
Course usually offered summer term only
Activity: Seminar
1 Course Unit

ENVS 643 The Historical, Scientific, & Policy Dimensions of "Brownfields"
This course is intended to give students an overview of the genesis of the so-called "Brownfield" problem and of the various efforts our society is taking to solve or, at least, ameliorate it. The course will place the "Brownfield" problem in the broader context of the growth and decline of the industrial base of cities like Philadelphia. Students will study the general constitutional and statutory framework within which we approach the problems of orphan, polluted sites and the disposal of contemporary solid wastes. They will also analyze the principal actions that have been taken by Federal and state government to address remediation and redevelopment of abandoned industrial sites. The course will also explore environmental equity issues. The students will collaborate with high school students at the West Philadelphia High School to identify sites in their neighborhoods and to learn how to determine the sites ownership and land use history. The students will study ways of determining environmental risk and the various options that are available for remediation in light of community ideas about re-use. Students will be expected to participate actively in the seminar and the sessions with high school students. Students in the course are required to prepare and present a term paper on a topic in the general area of "Brownfield" analysis and remediation.
Taught by: Keene
Course not offered every year
Activity: Seminar
1 Course Unit

ENVS 644 Energy, Waste and the Environment
The aim of this course is to provide an incentive to use geochemical and mineralogical principles to address and solve major environmental problems. The students identify the problems that are associated with different types of waste. This course covers a wide range of problems associated with the waste arising from the generation of electricity. The main topics will be the uranium cycle, characterization of nuclear waste, and the containment and disposal of nuclear waste. Based on insights from the nuclear fuel cycle, solutions are presented that diminish the environmental impacts of coal and biomass combustion products, incineration of municipal solid waste, toxic waste due to refuse incineration, and landfills and landfill gases.
Taught by: Giere
Course usually offered in spring term
Activity: Seminar
1 Course Unit

ENVS 645 Energy Geopolitics in Eurasia
Russia is one of the major players in the international energy market: the largest oil producer (including lease condensate) and second-largest (after the U.S.) natural gas producers (2016 data). It is also a top coal and nuclear power producer. But the geopolitical might that the country holds with respect to energy markets stems not as much from how much energy it produces as from how much energy it exports. Today Russia leads global natural gas exports and trails only the Kingdom of Saudi Arabia in oil exports. Russia is also reliably one of the top coal-exporting countries. This class will explore the geopolitics of energy from the perspective of Russia and its interests. In doing so, it will provide a slightly different understanding of global energy geopolitics, which is usually taught from either the U.S. or OPEC angle.
Taught by: Mikulska
Course usually offered in fall term
Activity: Hybrid Course
1 Course Unit

ENVS 646 Climate Change and Supply Chain Risk
Taught by: Ferrari
Course usually offered in spring term
Activity: Seminar
1 Course Unit

ENVS 647 Life Cycle Assessment
In order to make sensible decisions on products or projects, people need to understand the environmental impacts of these actions. Life cycle assessment (LCA) is a process to assess environmental impacts throughout the different stages of a product or project's life. This seminar is intended to be comprehensive and covers material extraction, processing, manufacture, distribution, use and end of life reuse, recovery or disposal. The objective of conducting an LCA is to compare the full range of environmental impacts that emanate from the provision of these products or services and then use that information to improve the situation to minimize or eliminate harm. The focus of this class will be to understand the phases of an LCA as well as conduct LCAs that compare the impacts of two related options. This course will enable the student to conduct LCAs and examine the use of software that could be used in this regard. The classic examples are cloth vs. disposable diapers, paper vs. ceramic cups, and so on. This course will enable the student to conduct LCAs and examine the use of software that could be used in this regard.
Taught by: Hagan/English
Course usually offered in fall term
Prerequisites: ENVS 667 Introduction to Sustainability or the approval of the instructors.
Activity: Seminar
1 Course Unit

ENVS 681 Modeling Geographical Space
This course explores the nature and use of raster-based geographic information systems (GIS) for the analysis and synthesis of spatial patterns and processes through 'cartographic modeling'. Cartographic modeling is a general but well defined methodology that can be used to address a wide variety of analytical mapping applications in a clear and consistent manner. It does so by decomposing both data and data-processing tasks into elemental components that can then be recomposed with relative ease and with great flexibility.
Taught by: Tomlin
Course not offered every year
Activity: Lecture
1 Course Unit
ENVS 699 Masters of Environmental Studies Capstone Seminar
This course is designed to help students successfully complete their MES Capstone. A set of milestones will be set and regular meetings will be held in groups and individually to aid the student as they complete the research portion of their degree. We will be working together to complete a series of steps towards the final project. These steps fall into five major areas: 1) Reviewing the literature; 2) Finding a model; 3) Framing your research; 4) Managing data; and 5) Writing your results. Throughout the semester, we will also discuss career goals and the job search.

Taught by: Bordeaux
One-term course offered either term
Also Offered As: GEOL 699
Activity: Online Course
1 Course Unit
Notes: Project proposal and Online Application required for course registration. See MES Office and "Guide to the Capstone" for more information.

ENVS 999 Independent Study
Directed study for individuals or small groups under supervision of a faculty member.
One-term course offered either term
Activity: Independent Study
1 Course Unit
Notes: Permission of instructor required

Epidemiology (EPID)

EPID 510 Introductory Epidemiology
This course provides an introduction to the fundamentals of research in clinical epidemiology. It covers definitions of epidemiology; measures of disease frequency; measures of effect and association; epidemiologic study designs, including randomized clinical trials, cohort and case-control studies, cross-sectional surveys, meta-analysis and decision analysis; and an overview of the conduct and analysis of epidemiologic studies. The course is composed of a series of lectures and discussion sessions designed to reinforce concepts introduced in the preceding lecture.

Taught by: Lewis, Anderson
Course usually offered summer term only
Prerequisite: Permission of Instructor
Activity: Lecture
1 Course Unit

EPID 516 Disease Ecology
The transmission of infectious diseases is a complex and ever-changing process, and the measures we have to protect ourselves against pathogens—vaccines, antibiotics, bed nets—can have equally complex and unpredictable outcomes. The aim of disease ecology is to understand pathogens and their hosts as interacting populations and to use such understanding to design rational strategies to curb or eliminate disease transmission. A disproportionate number of emerging infectious diseases and recent disease outbreaks in the United States and elsewhere have shared a common characteristic—they affect veterinary as well as human populations. Many are also vector-borne, passing between different species of hosts through insects and other invertebrates. In some cases humans are only ‘spillover hosts’ whose infection is incidental to the transmission cycle. Interdisciplinary approaches are especially important to control such diseases. As a particular focus of the course, students will learn the tools needed for successful collaborations to address the growing problem of zoonotic and vector-borne diseases.

Taught by: Levy, Smith
Prerequisite: Permission of Instructor
Activity: Lecture
1 Course Unit

EPID 518 Geography & Public Health
Course usually offered in spring term
Also Offered As: PUBH 517
Activity: Lecture
1 Course Unit

EPID 526 Biostatistics for Epidemiologic Methods I
The first half of this will cover graphical methods, probability, discrete and continuous distributions, estimation, confidence intervals, and one sample hypothesis testing. Emphasis is placed on understanding the proper application and interpretation of the methods. The second half of this course will cover two sample hypothesis testing, nonparametric techniques, sample size determination, correlation, regression, analysis of variance, and analysis of covariance. Emphasis is placed on understanding the proper application and underlying assumptions of the methods presented. Laboratory sessions focus on the use of the STATA statistical package and applications to clinical data.

Taught by: Cucchiara, Yang
Prerequisite: Permission of Instructor
Activity: Lecture
1 Course Unit
Notes: This course runs from mid Summer to mid Fall term. There is a corresponding lab.
EPID 527 Biostatistics for Epidemiologic Methods II
The first half of this covers concepts in biostatistics as applied to epidemiology, primarily categorical data analysis, analysis of case-control, cross-sectional, cohort studies, and clinical trials. Topics include simple analysis of epidemiologic measures of effect; stratified analysis; confounding; interaction, the use of matching, and sample size determination. The second half of this course covers concepts in biostatistics as applied to epidemiology, primarily multivariable models in epidemiology for analyzing case-control, cross-sectional, cohort studies, and clinical trials. Topics include logistic, conditional logistic, and Poisson regression methods; simple survival analyses including Cox regression. Emphasis is placed on understanding the proper application and underlying assumptions of the methods presented. Laboratory sessions focus on the use of the STATA statistical package and applications to clinical data.
Taught by: Landis, Hwang
Activity: Lecture
1 Course Unit
Notes: This course runs from mid fall to mid spring term. There is a corresponding lab.

EPID 532 Database Management for Clinical Epidemiology
This course provides students with an introduction to the techniques of database management as they apply to clinical research. Students learn how to design and implement computerized databases, perform basic query and reporting operations, migrate data between various file formats, prepare databases for statistical analysis, and perform quality assurance procedures. This course focuses on the practical issues of database management and is intended to support each student’s planned research enterprise. Each class session will be preceded by a one-hour online lecture and brief self-assessment quiz to be completed prior to attending class. This lecture is intended to prepare students for the class for the week, which will be dedicated to practical experience in a laboratory setting.
Taught by: Holmes
Course usually offered in spring term
Prerequisite: Permission of Instructor
Activity: Lecture
0.5 Course Units

EPID 542 Measurement of Health in Epidemiology
Epidemiologic analyses involve three types of procedures: measuring variables (e.g., risk factors), estimating population parameters (e.g., risk ratios), and testing statistical hypotheses. This course addresses the first of these procedures: measurement, which broadly encompasses the tasks involved in obtaining data, without which analyses cannot proceed. Course topics include: defining concepts of exposure, disease, and health; approaches to measuring exposure, which may be personal or environmental; approaches to measuring disease and health status; assessing the validity and reliability of measurement instruments; problems of misclassification of exposure status and disease status and problems of missing data; instrument (e.g., questionnaire) development; and qualitative methods.
Taught by: Wiebe
Course usually offered in fall term
Prerequisites: Permission of course director. Introductory Epidemiology (EPID 510) and Biostatistics for Epidemiologic Methods I (EPID 526) previously or concurrently.
Activity: Lecture
1 Course Unit

EPID 550 Clinical Economics and Clinical Decision Making
This course focuses on the application of decision analysis and economic analysis to clinical and policy research. The course begins with material about the selection, use, and analysis of diagnostic tests using two by two tables, likelihood ratios, and ROC curves. The course continues with the introduction of more general tools for decision analysis, including decision trees and other mathematical models. Special emphasis is placed on the assessment and use of utilities in these models. A major focus of the course is the application of economic principles to the evaluation of health outcomes. During seminars, students will carry out practical exercises that include problem solving, critically analyzing published articles, and learning to use computer software that facilitates decision and economic analyses.
Taught by: Glick, Williams
Course usually offered in spring term
Also Offered As: HPR 550
Prerequisite: Permission of Instructor
Activity: Lecture
1 Course Unit

EPID 560 Issues in Research Protocol Development
This course focuses on major issues in research protocol development, including methodological issues regarding different research designs, development of research questions, and plans for analysis. Each student will present his or her research proposal for open discussion during one of the sessions.
Course usually offered in spring term
Activity: Seminar
0.25 Course Units
Notes: Restricted to MSCE degree students

EPID 570 Critical Appraisal of the Medical Literature
This course focuses on techniques for critical appraisal of the medical literature. Each student will be responsible for at least one critical appraisal session covering different epidemiologic topics.
Course usually offered in spring term
Activity: Lecture
0.25 Course Units
Notes: Restricted to MSCE degree students

EPID 575 Introduction to Genetic Epidemiology
There is an increasing need for researchers to understand the genetic basis of incorporate the collection and analysis of genetic information into studies of The objectives of this course are to provide students with an understanding of used by molecular and genetic epidemiologists. This course consists of a series of discussions focused on the critical appraisal of genetic/molecular epidemiology. After completing this course, students will be able to read and interpret the genetic epidemiology literature, and understand data collection and analysis approaches molecular and genetic epidemiological studies.
Taught by: Devoto, Saleheen
Course usually offered in spring term
Prerequisites: Permission of course director. Students enrolling in this class are expected to have a working knowledge of epidemiology, biostatistics, and human genetics. Students who do not meet these requirements may be allowed to enroll in the class, but may be required to undertake supplemental readings and/or tutorials to obtain the necessary background.
Activity: Lecture
1 Course Unit
EPID 580 Outcomes Research
This course is divided into two main parts. The first part addresses issues related to the measurement of quality in health care. Included is a review of the classical structure-process-outcome quality paradigm. The paradigm's strengths and limitations are addressed. This part especially focuses on outcome measures of quality and examines the validity of alternative measures. The second part deals with observational, or quasi-experimental, research studies. It addresses advantages and limitations of alternative designs, and covers the role of clinical risk adjustment in observational studies of medical interventions. It focuses on the problem of selection bias, and reviews recent methods for dealing with this bias, such as instrumental variables.
Taught by: Silber
Course usually offered in fall term
Also Offered As: HPR 580
Prerequisites: Introductory course in statistics including regression methods: EPID 526/ EPID 527 or equivalent. Permission of instructor.
Activity: Lecture
1 Course Unit

EPID 582 Systematic Review and Meta-Analysis
This course will provide an introduction to the fundamentals of systematic reviews and meta-analysis. It will cover introductory principles of meta-analysis; protocol development; search strategies; data abstraction methods; quality assessment; meta-analytic methods; and applications of meta-analysis.
Taught by: Guevara, Umscheid
Course usually offered in fall term
Prerequisites: EPID 510, EPID 526 (may be taken concurrently)
Activity: Lecture
1 Course Unit

EPID 600 Data Science for Biomedical Informatics
Data science refers broadly to using statistics and informatics techniques to gain insights from large datasets. Biomedical informatics refers to a range of disciplines that use computational approaches to analyze biomedical data to answer pre-specified questions as well as to discover novel hypotheses. In this course, we will use R and other freely available software to learn fundamental data science applied to a range of biomedical informatics topics, including those making use of health and genomic data. After completing this course, students will be able to retrieve and clean data, perform exploratory analyses, build models to answer scientific questions, and present visually appealing results to accompany data analyses; be familiar with various biomedical data types and resources related to them; and know how to create reproducible and easily shareable results with R and github.
Taught by: Himes
Course usually offered in fall term
Also Offered As: BMIN 503
Prerequisites: Familiarity with basic statistical (e.g., EPID 526/7 or other first-year graduate level stats course) concepts is expected, as this course will not cover basic concepts in depth. Background in biology and computing would be helpful, but no formal requirements will be enforced.
Activity: Lecture
1 Course Unit

EPID 621 Longitudinal and Clustered Data in Epidemiologic Research
An introduction to the principles of and methods for longitudinal and clustered data analysis with special emphasis on clinical, epidemiologic, and public health applications. Designed for advanced MS and PhD-level students in epidemiology and related fields. Marginal and conditional methods for continuous and binary outcomes. Mixed effects and hierarchical models. Simulations for power calculations. Each student will be required to participate in 4 labs and complete associated problem sets. They may also use their own data to fulfill these requirements in part. Software will include Stata and R.
Taught by: Shults
Course usually offered in fall term
Prerequisites: Completion of EPID 526&527 or equivalent preparation in biostatistics, including generalized linear models. Completion of semester course in principles of epidemiology or equivalent. Good working knowledge of Stata and SAS and familiarity with principles of first-year calculus and matrix algebra. Permission of course director.
Activity: Lecture
1 Course Unit

EPID 622 Applied Regression Models for Categorical Data
This course will provide in-depth treatment of several topics in categorical data analysis. After a brief review of methods for contingency tables, we will introduce the idea of generalized linear models, and focus on two special cases: multiple logistic regression and loglinear models. Each topic will be presented in detail by stating the model and covering parameter estimation and interpretation, inference, model building, regression diagnostics and assessment of model fit. Finally, we will cover extensions to both models, including models for multinomial data, analysis of matched-pair data, and random effects models. Topics will be illustrated in class with examples, and we will discuss the use of STATA to conduct the analyses.
Taught by: Li
Course usually offered in fall term
Prerequisites: EPID 510, EPID 526, EPID 527
Activity: Lecture
0.5 Course Units
Notes: Offered first half of fall term

EPID 623 Applied Survival Analysis
This course will focus on statistical methods for survival or time-to-event data. Topics covered will include: the concepts of survival data and censoring, estimation of survival functions, comparison of groups, regression analysis, sample size and power considerations, and methods for competing risks. All methods will be illustrated by in class examples and homework sets.
Taught by: Li
Course usually offered in fall term
Prerequisites: EPID 510, EPID 526, EPID 527. Additionally, students should be comfortable with basic calculus concepts (e.g., derivatives, integrals, etc).
Activity: Lecture
0.5 Course Units
Notes: Offered second half of fall term
EPID 624 Methods in PCOR
The goal of this course is to provide a broad overview of methods used in patient centered outcomes research (PCOR). Expert faculty will lecture on topics such as standards for research questions, patient centeredness, systematic reviews, causal inference, heterogeneity of treatment effect handling missing data, data networks, Bayesian designs, data registries, and diagnostic tests. Topics may also include advanced observational study design, statistical methods for observational studies, health status/quality of life as applied to PCOR and case studies of patient engagement.
Taught by: Gelfand
Course usually offered in spring term
Prerequisite: Permission of instructor
Activity: Lecture
1 Course Unit

EPID 625 Advanced Biostatistical Methods for Multivariable Prediction Models
This course is an introduction to statistical methods that can be used to evaluate biomarker prognostic studies and multivariate prediction models. It is designed for advanced MS and PhD-level students in epidemiology and related fields (nursing, health policy, social work, demography). Topics will include biostatistical evaluation of biomarkers, predictive models based on various regression modeling strategies and classification trees, assessing the predictive ability of a model; internal and external validation of models; and updating prognostic models with new variables or for use in different populations. Students will learn about the statistical methods that are required by current reporting guidelines for biomarker prognostic studies or the reporting guidelines for multivariable prediction models.
Taught by: Gimotty
Course usually offered in spring term
Prerequisites: Completion of EPID 526, EPID 527 and either EPID 622 or 623 or equivalent preparation in either categorical analysis or survival analysis. Working knowledge of either Stata, SAS or R to fit regression, logistic regression and/or Cox regression models. Permission of course director for students outside of School of Medicine graduate programs.
Activity: Lecture
0.5 Course Units

EPID 630 Clinical Trials
This course is to serve as a general introduction to clinical trials, with emphasis on trial design issues. This is not a course on the biostatistics of clinical trials. It is expected that at the conclusion of the course, a student will be able to plan a clinical trial. Each class will consist of a two-hour lecture followed by a one hour discussion.
Taught by: Farrar
Course usually offered in spring term
Also Offered As: REG 630
Prerequisite: EPID 510 or equivalent; EPID 526 or equivalent; permission of instructor
Activity: Lecture
1 Course Unit

EPID 634 Clinical Trial Outcomes: Measurement, Analysis and Interpretation
This course is intended to teach students the skills necessary to select and/or design appropriate outcomes for a clinical trial. Students will focus on recent changes in our understanding of clinical trial outcome measurements, analyses, and interpretation for both subjective and objective phenomenon, such as adherence, use of multiple outcomes, and clinical importance. While design issues for clinical trials are the main focus, other types of clinical studies will be considered as appropriate. Student will be expected to learn about the problems inherent in the design of outcome measures of health and how to apply different epidemiologic and biostatistical concepts toward a solution. It is expected that at the conclusion of the course, students will be able to plan a clinical trial with a valid, responsive, and interpretable outcome.
Taught by: Farrar
Course usually offered in fall term
Prerequisite: EPID 510 or equivalent; permission of instructor
Activity: Lecture
1 Course Unit

EPID 636 Epidemiological Methods in Acute Care
This is an advanced course addressing epidemiological issues as they apply to important clinical topics in acute care, including emergency, hospital, and critical care medicine. Lectures and discussions will have two primary goals: 1) to explore epidemiologic methods specific to acute care settings (i.e., choice of outcomes, risk adjustment); and 2) to explore the epidemiology of particular diseases (e.g., sepsis, acute lung injury, hospital acquired infections) and research questions of current importance in these areas. This course will acquaint students with the classic literature in the field adult and pediatric urgent care, emergency medicine, and critical care epidemiology, teach advanced epidemiological principles using a problem-based approach, and demonstrate the strengths and weaknesses of epidemiological research methodologies as they have been applied to acute care.
Course not offered every year
Prerequisites: EPID 510, EPID 526; Permission of Instructor
Activity: Lecture
1 Course Unit

EPID 638 Topics in Clinical Trial Design and Analysis
This course is intended to follow, and be complementary to EPID 630: Clinical Trials. It will build on the basic principles of design, conduct, and analysis introduced in that course and will go into more detail on particular approaches. Topics covered will include noninferiority trials, phase 1 designs, multi-stage and other adaptive designs, graphical data presentations and current ethical controversies in clinical trials.
Taught by: Ellenberg
Course usually offered in fall term
Prerequisite: EPID 630 or equivalent
Activity: Lecture
1 Course Unit
EPID 640 Advanced Topics in Epidemiology
This course is designed to introduce students to advanced epidemiologic methods through a series of readings and discussions. The course aims to deepen the students' understanding of important concepts and controversies in contemporary epidemiology and to enhance their ability to think critically about empirical epidemiologic research. The course is intended for students who are already familiar with the fundamentals of epidemiology and biostatistics, and who wish to gain an understanding of the complex issues underlying epidemiologic study design and interpretation.
Taught by: Bisson, Naj
Course usually offered in spring term
Prerequisites: EPID 510 or equivalent, EPID 526 or equivalent, EPID 527 or equivalent; permission of instructor
Activity: Lecture
1 Course Unit

EPID 645 Research Methods in Cancer Epidemiology
Research in cancer etiology, prevention, treatment, and control includes a wide range of subject matter science, from the initial molecular changes which precede the development of cancer to issues of primary guidelines for cancer survivors. The course reviews the possible study designs applied to cancer etiology, prevention, treatment, and control. These include randomized controlled trials and multiple types of observational studies (cohort, case-control, cross-sectional). Other topics will include causal inference, bias, and effect modification.
Taught by: Schmitz
Course usually offered summer term only
Prerequisites: EPID 510 or equivalent, EPID 526 or equivalent, EPID 527 or equivalent; permission of instructor
Activity: Lecture
1 Course Unit

EPID 644 Cardiopulmonary Epidemiology
This is an advanced course that addresses epidemiological research issues as they apply to important clinical topics in cardiovascular and pulmonary medicine. Lectures and workshops are designed to acquaint students with the classic literature in the fields of cardiovascular and pulmonary epidemiology, to use a body of literature to demonstrate the strengths and weaknesses of epidemiological research designs as they have been applied to cardiovascular and pulmonary medicine to expose students to the range of topics studied to teach advanced epidemiological principles using a problem-based approach, and to stimulate students to develop independent research questions.
Taught by: Kimmel
Course usually offered summer term only
Prerequisites: EPID 510 or equivalent, EPID 526 or equivalent, EPID 527 or equivalent; permission of instructor
Activity: Lecture
1 Course Unit

EPID 646 Reproductive Epidemiology
This is an advanced course that addresses epidemiological research issues as they apply to important clinical topics in obstetrics and gynecology and related clinical disciplines. Lectures and workshops are designed to acquaint students with seminal issues in the field of reproductive epidemiology, to use a body of literature to demonstrate the strengths and weaknesses of epidemiological research designs as they have been applied to obstetrics and gynecology and related clinical disciplines, to expose students to the range of topics studied, to teach advanced epidemiologic principles using a problem-based approach, and to stimulate students interested in reproductive epidemiology to develop independent research questions.
Taught by: Barnhart
Course offered spring; even-numbered years
Activity: Lecture
1 Course Unit

EPID 652 Renal and Urologic Epidemiology
The objective of this course is to prepare students to function as effective, independent researchers in the fields of renal and urologic epidemiology by providing the students an understanding of how epidemiologic research can and has advanced the knowledge of diseases in treatments of renal and urologic medicine. The structure of the course consists of a lecture series, workshops, and student presentations.
Taught by: Feldman, Anderson, Yang
Prerequisites: EPID 510 or equivalent, EPID 526 or equivalent, EPID 527 or equivalent; permission of instructor
Activity: Lecture
1 Course Unit

EPID 656 Research Methods in Infectious Diseases Epidemiology
This is an advanced course addressing epidemiological issues as they apply to important clinical topics in infectious diseases. Lectures and discussions will serve two primary goals: 1) to explore epidemiologic methods specific to infectious diseases (e.g. adherence to therapy) or which have important applications to infectious diseases (e.g. molecular epidemiology); and 2) to explore the epidemiology of particular infectious diseases or syndromes (e.g. HIV). This course will acquaint students with the classic literature in the field of infectious diseases epidemiology, teach advanced epidemiological principles using a problem-based approach, and demonstrate the strengths and weaknesses of research methodologies as they have been applied to infectious diseases.
Taught by: Gross, Han
Course usually offered summer term only
Prerequisites: EPID 510 or equivalent, EPID 526 or equivalent, a course that covers logistical regression such as EPID 527 or equivalent, and permission of instructor(s)
Activity: Lecture
1 Course Unit

EPID 658 Gastroenterology Epidemiology
This course provides an in-depth presentation of advanced methodological issues in conducting clinical epidemiological research in the field of gastroenterology.
Taught by: Yang
Course offered spring; odd-numbered years
Prerequisites: EPID 510 or equivalent, EPID 526 or equivalent, EPID 527 or equivalent; permission of instructor
Activity: Lecture
1 Course Unit
EPID 664 Methods in Neurologic Clinical Epidemiology
This course will introduce students to methods and study design principles that are specific or unique to clinical research and trials in neurology, child neurology, neuro-ophthalmology, neurosurgery, and related fields.
Taught by: Farrar
Course offered spring; even-numbered years
Prerequisite: Permission of Instructor
Activity: Lecture
0.5 Course Units

EPID 666 Pharmacoepidemiology Research Methods
The purpose of this course is to explore and integrate concepts and considerations that are key to the conduct of pharmacoepidemiologic research. The format will be a mixture of seminar, instructor-led discussion, student-led discussion, and student presentations. Papers from the applied and methods literature will be used to illustrate concepts and as springboards for discussion. Topics covered include use of automated databases, pharmacogenomics, and approaches to addressing confounding.
Taught by: Hennessy
Course usually offered in spring term
Prerequisites: EPID 510 or equivalent, EPID 526 or equivalent, a course that covers logistical regression such as EPID 527 or equivalent, and permission of instructor(s)
Activity: Lecture
1 Course Unit

EPID 672 Biostatistical Methods for Addressing Confounding
This course is designed to teach epidemiology students the statistical principles of analysis specific to pharmacoepidemiology study designs including the use of propensity scores, inverse probability weighting, time varying confounding analyses, disease risk scores, and instrumental variables. Each session includes both a lecture component and laboratory component. Students will learn the statistical principles and then apply them to example study datasets. Laboratory sessions will be conducted on the students’ laptops using STATA software.
Taught by: Ogdie-Beatty, Stephens-Shields
Course usually offered summer term only
Prerequisites: EPID 526 and EPID 527; permission of the instructor(s)
Activity: Lecture
1 Course Unit

EPID 675 Advanced Methods for Analysis of Complex Genetic Traits
The advent of high-throughput genotyping has created unprecedented opportunities to characterize in detail information related to genome, epigenome and transcriptome. Such technological advancements have offered exciting opportunities for biological discovery as well as translation of biological data for targeted therapies. However, investigation of genetic polymorphisms, epigenetic signatures, gene transcription, biomarkers and their relationship with environmental factors and disease outcomes requires a thorough understanding of a wide range of experimental methods and statistical approaches. Through critical review of the current literature, this course will provide understanding on various “OMICS” approaches for the study of complex disorders and traits. Students will also understand and present advanced statistical methods and how such concepts can be applied.
Taught by: Saleheen
Course not offered every year
Prerequisites: Introduction to Genetic Epidemiology or equivalent; training in study design and statistical analysis related to statistical genetics and molecular epidemiology, and permission of course directors.
Activity: Lecture
1 Course Unit

EPID 700 Doctoral Seminar in Epidemiology
The course is intended to meet the needs of PhD students over the entire program from the coursework phase through the dissertation defense, and is intended to optimize cross-fertilization between the students at all phases of their program.
Taught by: Levy
Prerequisite: Permission of Instructor
Activity: Seminar
0.5 Course Units
Notes: Restricted to Epidemiology Doctoral Students

EPID 701 Introduction to Epidemiologic Research
This course is intended to provide in-depth, exposure to the theory and methods of epidemiologic research. Topics to be covered include causal inference, measures of disease frequency and association, study design, bias and confounding, validity, and epidemiologic analysis.
Prerequisites: Quantitative proficiency. Knowledge and/or experience in working in biomedical research. Permission of instructor.
Activity: Lecture
1 Course Unit

EPID 703 Spatial Epidemiology
This course motivates the need for, and describes methods for, the analysis of spatially indexed epidemiological data. Major topics to be covered: clustering and cluster detection, disease mapping, spatial regression, methods for infectious disease data, small area estimation and an introduction to geographical information systems. Both point-references and spatially aggregated data will be considered. The use of R packages for analysis will be described.
Prerequisites: EPID 527 and 621 or equivalent preparation in biostatistics, R programming experience. Permission of instructor.
Activity: Lecture
1 Course Unit
**EPID 714 Grant Writing/Review**
This course will assist students in the design of an NIH grant (F-32, K, R21 or R01) for submission by enhancing their appreciation of the specifics of the grant writing process and in understanding the grant review process. This course is designed to provide background, training, and practice with the writing and submitting of NIH style grants. As a minimum all students who enroll will be expected to write and submit a reasonable draft of a full NIH style grant proposal by the end of the term. During the process, the portions of each proposal will be reviewed as a group by the other students in the course. In response to each review, students are expected to revise their grant sections.
Taught by: Farrar, Gerber
Course usually offered summer term only
Prerequisites: EPID510, EPID526, EPID560, and EPID570 or Permission of Instructor
Activity: Seminar
0.5 Course Units

**Finance (FNCE)**

**FNCE 100 Corporate Finance**
This course provides an introduction to the theory, the methods, and the concerns of corporate finance. The concepts developed in FNCE 100 form the foundation for all elective finance courses. The main topics include: 1) the time value of money and capital budgeting techniques; 2) uncertainty and the trade-off between risk and return; 3) security market efficiency; 4) optimal capital structure, and 5) dividend policy decisions.
During the Fall semester there are honors sections of FNCE 100 offered. The seats in the honors sections are awarded through an application process. Please go to: https://fnce.wharton.upenn.edu/programs-course-applications
One-term course offered either term
Prerequisites: ECON 010 or ECON 001 and ECON 002 and MATH 104 or MATH 110, ACCT 101 and STAT 101. Acct 101 and Stat 101 may be taken concurrently.
Activity: Lecture
1 Course Unit

**FNCE 101 Monetary Economics and the Global Economy**
FNCE 101 is an intermediate-level course in macroeconomics and the global economy, including topics in monetary and international economics. The goal is to provide a unified framework for understanding macroeconomic events and policy, which govern the global economic environment of business. The course analyzes the determinants and behavior of employment, production, demand and profits; inflation, interest rates, asset prices, and wages; exchange rates and international flows of goods and assets; including the interaction of the real economy with monetary policy and the financial system. The analysis is applied to current events, both in the US and abroad. HONORS FNCE 101 is only offered in the Fall semester. Registration for this class is through an application process. Please go to: https://fnce.wharton.upenn.edu/programs-course-applications
This course presents the analysis of macroeconomic theory with a current events perspective. The material in the class concentrates on lecture notes, which are the primary learning source, and readings from a course packet of articles drawn from journals, magazines, newspapers, and other economic publications. The material covered will include: (1) Economic Statistics, GDP Price Indices, Productivity and the nature of the business cycle, (2) The government budget and Social Security, (3) Monetary policy, The Fed and other Central Banks, (4) Interest rates - indexed bonds and term structure, (5) Aggregate Demand and the determination of income and interest rate, (6) Money and Inflation - the Velocity Approach, (7) Reaction of Financial Markets to economic data, (8) Inflation, inflationary expectations and the Phillips Curve, (9) Supply-side shocks and macro-dynamics, (10) International Balance of Payments, the current account and capital flows, (11) Determination of Exchange Rates, exchange rate systems, purchasing power and interest rate parity.
One-term course offered either term
Prerequisites: ECON 010 or ECON 001 and ECON 002 and MATH 104 or MATH 110. Students cannot receive credit for both FNCE 101 and ECON 102. WHARTON STUDENTS ARE REQUIRED TO TAKE FNCE 101
Activity: Lecture
1 Course Unit

**FNCE 203 Advanced Corporate Finance**
The objective of this course is to study the major decision-making areas of managerial finance and some selected topics in financial theory. The course reviews the theory and empirical evidence related to the investment and financing policies of the firm and attempts to develop decision-making ability in these areas. This course serves as an extension of FNCE 100 (FNCE 611). Some are as of financial management not covered in FNCE 100 are covered in FNCE 203. These may include leasing, mergers and acquisitions, corporate reorganizations, financial planning and working capital management, and some other selected topics. Other areas that are covered in FNCE 100 are covered more in depth and more rigorously in FNCE 203. These include investment decision making under uncertainty, cost of capital, capital structure, pricing of selected financial instruments and corporate liabilities, and dividend policy. During the Spring semester, Professor Opp does not allow students to take this course pass/fail.
One-term course offered either term
Also Offered As: FNCE 726
Prerequisites: FNCE 100, (FNCE 611), STAT 101, and STAT 102.
Activity: Lecture
1 Course Unit
Notes: Professor Opp's sections may not be taken Pass/Fail.
FNCE 205 Investment Management
This course studies the concepts and evidence relevant to the management of investment portfolios. Topics include diversification, asset allocation, portfolio optimization, factor models, the relation between risk and return, trading, passive (e.g., index-fund) and active (e.g., hedge-fund, long-short) strategies, mutual funds, performance evaluation, long-horizon investing and simulation. The course deals very little with individual security valuation and discretionary investing (i.e., "equity research" or "stock picking").

One-term course offered either term
Prerequisites: The prerequisites for Undergraduates are FNCE 100, and STAT 101, 102 (STAT 102 may be taken concurrently with this course. Given that investment management requires one to analyze and deal effectively with uncertainty, a good grounding in statistics is essential, and familiarity with statistics should extend through multiple regression, covariance, and correlation.
Activity: Lecture
1 Course Unit

FNCE 206 Financial Derivatives
This course covers one of the most exciting yet fundamental areas in finance: derivative securities. In the modern financial architecture, financial derivatives can be the most challenging and exotic securities traded by institutional specialists, while at the same time, they can also be the basic securities commonly traded by retail investors such as S&P Index Options. Beyond trading, the basic ideas of financial derivatives serve as building blocks to understand a much broader class of financial problems, such as complex asset portfolios, strategic corporate decisions, and stages in venture capital investing. The global derivatives market is one of the most fast-growing markets, with over $600 trillion notional value in total. It is important as ever to understand both the strategic opportunities offered by these derivative instruments and risks they imply. The main objective of this course is to help students gain the intuition and skills on (1) pricing and hedging of derivative securities, and (2) using them for investment and risk management.
In terms of methodologies, we apply the non-arbitrage principle and the law of one price to dynamic models through three different approaches: the binomial tree model, the Black-Scholes-Merton option pricing model, and the simulation-based risk neutral pricing approach. We discuss a wide range of applications, including the use of derivatives in asset management, the valuation of corporate securities such as stocks and corporate bonds with embedded options, interest rate derivatives, credit derivatives, as well as crude oil derivatives. In addition to theoretical discussions, we also emphasize practical considerations of implementing strategies using derivatives as tools, especially when no-arbitrage conditions do not hold.
One-term course offered either term
Also Offered As: FNCE 717
Prerequisites: The following introductory Finance and Statistics courses are recommended but not required. FNCE 101 and STAT 102 are recommended and can be taken concurrently.
Activity: Lecture
1 Course Unit

FNCE 207 Corporate Valuation
The focus of this course is on the valuation of companies. The course covers current conceptual and theoretical valuation frameworks and translates those frameworks into practical approaches for valuing companies. The relevant accounting topics and the appropriate finance theory are integrated to show how to implement the valuation frameworks discussed on a step-by-step basis. The course teaches how to develop the required information for valuing companies from financial statements and other information sources in a real-world setting. Topics covered in depth include discounted cash flow techniques and price multiples. In addition, the course covers other valuation techniques such as leveraged buyout analysis.

One-term course offered either term
Prerequisites: FNCE 100, (FNCE 611) ACCT 101, AND STAT 101, 111 OR EQUIVALENT ACCT 201 RECOMMENDED
Activity: Lecture
1 Course Unit

FNCE 208 International Corporate Finance
Analyzes financial problems corporations face that result from operating in an international environment. Major topics include managing exchange risk through hedging and financing, measuring exchange rate exposure, calculating the cost of capital for foreign operations, assessment of sovereign risks, capital budgeting from a project and parent perspective, and international taxation.

Also Offered As: FNCE 731
Prerequisites: A thorough knowledge of FNCE 100 (FNCE 611) is assumed.
Activity: Lecture
1 Course Unit

FNCE 209 Real Estate Investment: Analysis and Financing
This course provides a broad introduction to real estate with a focus on investment and financing issues. Project evaluation, financing strategies, investment decision making and real estate capital markets are covered. No prior knowledge of the industry is required, but students are expected to rapidly acquire a working knowledge of real estate markets. Classes are conducted in a standard lecture format with discussion required. The course contains cases that help students evaluate the impact of more complex financing and capital market tools used in real estate. There are case studies and two midterms, depending on instructor.

Taught by: Ferreira, Handbury, Harari, Keys, Sinai, Wong
One-term course offered either term
Also Offered As: FNCE 721, REAL 209, REAL 721
Prerequisite: FNCE 100
Activity: Lecture
1 Course Unit

FNCE 210 International Financial Markets
This course focuses on international financial markets and exchange rates. Topics include pricing in the foreign currency and Eurocurrency markets, use of forward exchange for hedging, short-term returns and market efficiency in the international money markets, foreign currency options, international capital asset pricing, pricing of foreign currency bonds, currency swaps, Eurocurrency syndicated loans, foreign currency financing and exposure management.

One-term course offered either term
Prerequisites: FNCE 100, (FNCE 611), FNCE 101, (FNCE 613) STAT 101.
Activity: Lecture
1 Course Unit
FNCE 220 International Banking
This course focuses on international financial institutions, especially the activities of global, systemically important banks. We will examine how current and historical events are reshaping the industry and highlight the basic analytics of managing a bank’s exposure to liquidity, credit, market and reputational risk. Most classes will begin with discussion of a current event related to course topics. Three team projects will be assigned that will give you deeper exposure to analytic techniques related to the course. Throughout the semester, we will discuss public policy issues facing the international financial system.
Taught by: Professor Richard Herring
Course usually offered in spring term
Prerequisites: FNCE 100, FNCE 101, one of which may be taken concurrently.
Activity: Lecture
1 Course Unit

FNCE 230 Urban Fiscal Policy
The purpose of this course is to examine the financing of governments in the urban economy. Topics to be covered include the causes and consequences of the urban fiscal crisis, the design of optimal tax and spending policies for local governments, funding of public infrastructures and the workings of the municipal bond market, privatization of government services, and public financial systems for emerging economies. Applications include analyses of recent fiscal crises, local services and taxes as important determinants of real estate prices, the infrastructure crisis, financing and the provision of public education, and fiscal constitutions for new democracies using South Africa as an example.
Taught by: Robert Inman
Course usually offered in fall term
Also Offered As: BEPP 230, BEPP 899, REAL 230
Prerequisites: FNCE 101 and ECON 001
Activity: Lecture
1 Course Unit

FNCE 235 Fixed Income Securities
This course covers fixed income securities (including fixed income derivatives) and provides an introduction to the markets in which they are traded, as well as to the tools that are used to value these securities and to assess and manage their risk. Quantitative models play a key role in the valuation and risk management of these securities. As a result, although every effort will be made to introduce the various pricing models and techniques as intuitively as possible and the technical requirements are limited to basic calculus and statistics, the class is by its nature quantitative and will require a steady amount of work. In addition, some computer proficiency will be required for the assignments, although familiarity with a spreadsheet program (such as Microsoft Excel) will suffice.
One-term course offered either term
Prerequisites: FNCE 100 and STAT 101 or STAT 102 or STAT 111
Activity: Lecture
1 Course Unit

FNCE 238 Capital Markets
The objective of this course is to give you a broad understanding of the framework and evolution of U.S. capital markets, the instruments that are traded, the mechanisms that facilitate their trading and issuance, and the motivations of issuers and investors across different asset classes. The course will highlight the problems that capital market participants are seeking to solve, which you can use in your post-Wharton careers to evaluate future market innovations. We will consider design, issuance, and pricing of financial instruments, the arbitrage strategies which keep their prices in-line with one another, and the associated economic and financial stability issues. We will draw from events in the aftermath of the recent financial crisis, which illustrate financing innovations and associated risks, as well as policy responses that can change the nature of these markets.
One-term course offered either term
Prerequisites: FNCE 100, (FNCE 611)
Activity: Lecture
1 Course Unit

FNCE 239 Behavioral Finance
There is an abundance of evidence suggesting that the standard economic paradigm - rational agents in an efficient market - does not adequately describe behavior in financial markets. In this course, we will survey the evidence and use psychology to guide alternative theories of financial markets. Along the way, we will address the standard argument that smart, profit-seeing agents can correct any distortions caused by irrational investors. Further, we will examine more closely the preferences and trading decisions of individual investors. We will argue that their systematic biases can aggregate into observed market inefficiencies. The second half of the course extends the analysis to corporate decision making. We then explore the evidence for both views in the context of capital structure, investment, dividend, and merger decisions.
Course usually offered in spring term
Prerequisites: FNCE 100, FNCE 101. Recommended: FNCE 205 and FNCE 203
Activity: Lecture
1 Course Unit

FNCE 250 Venture Capital and the Finance of Innovation
This course covers the finance of technological innovation, with a focus on the valuation tools useful in the venture capital industry. These tools include the “venture capital method,” comparables analysis, discounted cash flow analysis, contingent-claims analysis. The primary audience for this course is finance majors interested in careers in venture capital or in R&D-intensive companies in health care or information technology.
Course usually offered in fall term
Prerequisites: FNCE 100 (FNCE 611) and FNCE 101 (FNCE 613); (FNCE 101 and FNCE 613 may be taken concurrently)
Activity: Lecture
1 Course Unit
FNCE 251 The Finance of Buyouts and Acquisitions
The course focuses on financial tools, techniques, and best practices used in buyouts (financial buyers) and acquisitions (strategic buyers). While it will touch upon various strategic, organizational, and general management issues, the main lens for studying these transactions will be a financial one. It will explore how different buyers approach the process of finding, evaluating, and analyzing opportunities in the corporate-control market; how they structure deals and how deal structure affects both value creation and value division; how they add value after transaction completion; and how they realize their ultimate objectives (such as enhanced market position or a profitable exit). The course is divided into two broad modules. The first module covers mergers and acquisitions, and the second one studies buyouts by private equity partnerships. During the spring semester this course cannot be taken pass/fail. Prerequisites: FNCE 100 (FNCE 611), FNCE 101 (FNCE 613), Co-Requisite FNCE 203 (FNCE 726) Advanced Corporate Finance or FNCE 207 (FNCE 728) Corporate Valuation. Activity: Lecture 1 Course Unit Notes: Lectures, cases, and guest speakers. Grading: Class participation, two students projects, two exams.

FNCE 256 Finance Energy
The objective of this course is to provide students with detailed knowledge of corporate structures, valuation methods, project finance, risk management practices, corporate governance issues, and geopolitical risks in the energy industry. In general, this course seeks to provide students with an overall context for understanding energy issues and risks, and how these might affect financing and investment decisions for both providers of energy and end-users of energy. Taught by: Professor Erik Gilje Course usually offered in spring term Prerequisites: FNCE 203, Advanced Corporate Finance or FNCE 207, Corporate Valuation. Students that receive permission to enroll without the prerequisites are expected to review the relevant topics as necessary to meet the requirements of the class. Activity: Lecture 1 Course Unit

FNCE 383 Strategic Equity Finance
This course combines lectures and cases, and will go through actual situations where companies need to make strategic decisions on raising equity capital. We will address different phases of a company's life cycle. Through these cases, from the decision-makers perspective, we will explore the different paths that can be taken and consider issues such as investor activism, governance and regulatory and valuation impact. FNCE 383 is a half semester course offered in Q3 during the spring semester. Taught by: Professor David Musto and Professor David Erickson Course usually offered in spring term Prerequisite: FNCE 100 - Corporate Finance Activity: Seminar 0.5 Course Units

FNCE 385 ASP - Fin-Tech
The course exposes students to this fast-growing and exciting intersection between finance (Fin) and technology (Tech) while emphasizing the role data and analytics play. The course is structured around three main FinTech areas: (i) Lending/Banking services, (ii) Clearing (iii) Trading. It provides specific coverage and examples of developments from(1) peer-to-peer lending, (2) blockchain and distributed ledgers, (3) networks and their use in trading, and (4) algo trading and its use of non-standard inputs. In each of these areas, we start by analyzing the marketplace, and the incumbents, and the business case and strategies of the incoming technology-based players, while understanding the role data and analytics play in driving the technology-based services. The course is built around a large number of examples and cases, guest lectures, student presentations, and group projects. Student are thus expected to work in teams and demonstrate a high level of independent learning and initiative. Also Offered As: FNCE 885 Prerequisites: A thorough knowledge of FNCE 100 is assumed. Activity: Lecture 0.5 Course Units

FNCE 386 ASP - Hedge Funds
This course will cover critical aspects and characteristics of hedge funds and the hedge fund industry. It will look at the legal foundations and structures of hedge funds including the primary regulations in the U.S. and abroad that are most relevant for hedge funds. It will also present the major hedge fund strategies, describe operation, control, administration, due diligence and valuation issues. Performance evaluation and investing in hedge funds from the investor's perspective will be discussed as will be issues of potential changes in regulation, risk management, and the use of leverage. The format of the course will mix lectures with presentations from industry participants, hedge fund managers, those who invest in hedge funds, those who advise them and provide services to them, and those who regulate them. Those who want to launch a hedge fund, join an existing one, invest in one, or provide services to one will want to register for this course. Taught by: Professor Scott Richard Course usually offered in fall term Prerequisite: FNCE 100 Activity: Lecture 0.5 Course Units

FNCE 387 ASP - Shareholder Activism
The aim of the course is to provide an introduction to shareholder activism. The course makes use of lectures and case studies. The lectures expose the students to the institutional and empirical facts as well as approaches followed by leading shareholder activists. The case studies are designed to provide students an experience on identifying potential opportunity for value creation through active engagement. Assignments require students to develop/practice skills on fundamental analysis. Taught by: Professor Bilge Yilmaz and Kevin Kaiser Course usually offered in spring term Activity: Lecture 1 Course Unit
**FNCE 397 Finance In The Middle East & North Africa**
This is a Wharton Global Modular Course on finance in the Middle East and North Africa. Its objective is to bring students, academics and industry experts together to study financial markets, practice, and institutions in this region.

Taught by: Professor Bulent Gultekin, Finance Department and Professor Michael J.T. McMillen, Penn Law School

Also Offered As: FNCE 897

Activity: Lecture

0.5 Course Units

Notes: Course Format - This course will be taught through cases and lectures. Guest Lecturers - Distinguished practitioners will lecture and conduct case discussions. Our guest lecturers will bring their experience and insights to the classroom.

**FNCE 399 Supervised Study in Finance**
Integrates the work of the various courses and familiarizes the student with the tools and techniques of research.

Prerequisites: Senior standing, 3.4 grade point average. Must be supervised by a Standing Faculty member in the Finance Department.

Activity: Independent Study

1 Course Unit

**FNCE 611 Corporate Finance**
This course serves as an introduction to business finance (corporate financial management and investments) for both non-majors and majors preparing for upper-level course work. The primary objective is to provide the framework, concepts, and tools for analyzing financial decisions based on fundamental principles of modern financial theory. The approach is rigorous and analytical. Topics covered include discounted cash flow techniques; corporate capital budgeting and valuation; investment decisions under uncertainty; capital asset pricing; options; and market efficiency. The course will also analyze corporate financial policy, including capital structure, cost of capital, dividend policy, and related issues. Additional topics will differ according to individual instructors.

Also Offered As: FNCE 100

Prerequisites: ACCT 611, 612, 613; MGEC 612, 611; STAT 613, 621 prerequisite or concurrent.

Activity: Lecture

1 Course Unit

**FNCE 612 Accelerated Corp Finance**
This course is intended for students with prior knowledge of finance or with strong analytical backgrounds. Together with the pre-term preparation course (FNCE604) the foundation for subsequent courses in corporate finance, corporate valuation, investments, and financial derivatives. Its purpose is to develop a framework for analyzing a firm's investment and financial decisions. This course will start where FNCE604 ends. More precisely, it will provide an introduction to capital budgeting techniques under uncertainty, asset valuation, the operation and efficiency of capital markets, the optimal capital structure and dividend policy of the firm and options. In short, it will cover all the topics of a typical semester-long finance introductory class in six weeks. This course assumes that students are familiar with the material covered in FNCE 604. As a result, it is only available to those students who successfully passed the Finance Placement Exam at the end of the pre-term. This course is not suitable for students new to finance and with limited analytical backgrounds. This course is hard. The pace is fast and it requires a major investment of time and effort outside class.

Activity: Lecture

0.5 Course Units

Notes: Q-1 Half Semester course

**FNCE 613 Macroeconomics and the Global Economic Environment**
This course is required for all students except those who, having prior training in macroeconomics, money and banking, and stabilization policy at an intermediate or advanced level, can obtain a waiver by passing an examination. The purpose of FNCE 613 is to train the student to think systematically about the current state of the economy and macroeconomic policy, and to be able to evaluate the economic environment within which business and financial decisions are made. The course emphasizes the use of economic theory to understand the workings of financial markets and the operation and impact of government policies. Specifically, the course studies the determinants of the level of national income, employment, investment, interest rates, the supply of money, inflation, exchange rates, and the formulation and operation of stabilization policies.

Activity: Lecture

1 Course Unit

**FNCE 614 Corporate Finance (Half CU)**
This course serves as an introduction to corporate investments for non-majors. The primary objective is to provide a framework, concepts, and tools for analyzing financial decisions based on fundamental principles of modern financial theory. The approach is rigorous and analytical. Topics covered include discounted cash flow techniques, corporate capital budgeting and valuation, investment decisions under uncertainty, and capital asset pricing. This course will not cover the following topics included in FNCE 611, the full semester Corporate Finance course: market efficiency, corporate financial policy (including capital structure, cost of capital, dividend policy, and related issues), and options. Please Note: This course will not count towards the Finance Major. Format: Primarily lecture. Grading based on problem sets, one or two cases, and a final exam.

Prerequisites: ACCT 611, 612, 613; MGEC 612, 611; STAT 613, 621; prerequisite or concurrent.

Activity: Lecture

0.5 Course Units

**FNCE 615 Macroeconomics and The Global Economic Environment (Half CU)**
FNCE 615 Introduction To Macroeconomics and The Global Economic Environment (Half CU) is intended for non-finance majors. It is a half-semester course in macroeconomics, with an emphasis on current events and policy applications. The goal of this course is to provide the foundation needed to recognize and understand broad economic and financial movements in the global economy. Key topics include national income accounting, production and economic growth, employment, business cycles, monetary and fiscal policy, and international finance. By the end of this course, students will be able to evaluate and discuss the global economic environment in which business and financial decisions are made. PLEASE NOTE: This course will not count towards a Finance Major.

Prerequisite: FNCE 611 or FNCE 612

Activity: Lecture

0.5 Course Units
FNCE 717 Financial Derivatives
This course covers one of the most exciting yet fundamental areas in finance: derivative securities. In the modern financial architecture, financial derivatives can be the most challenging and exotic securities traded by institutional specialists, while at the same time, they can also be the basic securities commonly traded by retail investors such as S&P Index Options. Beyond trading, the basic ideas of financial derivatives serve as building blocks to understand a much broader class of financial problems, such as complex asset portfolios, strategic corporate decisions, and stages in venture capital investing. The global derivatives market is one of the most fast-growing, with over $600 trillion notional value in total. It is important as ever to understand both the strategic opportunities offered by these derivative instruments and risks they imply. The main objective of this course is to help students gain the intuition and skills on (1) pricing and hedging of derivative securities, and (2) using them for investment and risk management. In terms of methodologies, we apply the non-arbitrage principle and the law of one price to dynamic models through three different approaches: the binomial tree model, the Black-Scholes-Merton option pricing model, and the simulation-based risk neutral pricing approach. We discuss a wide range of applications, including the use of derivatives in asset management, the valuation of corporate securities such as stocks and corporate bonds with embedded options, interest rate derivatives, credit derivatives, as well as crude oil derivatives. In addition to theoretical discussions, we also emphasize practical considerations of implementing strategies using derivatives as tools, especially when no-arbitrage conditions do not hold.
One-term course offered either term
Also Offered As: FNCE 206
Prerequisites: The following introductory Finance and Statistics courses are recommended but not required. FNCE 611 or FNCE 612; STAT 613, FNCE 613 may be taken concurrently.
Activity: Lecture
1 Course Unit

FNCE 719 International Financial Markets
FNCE 719 is a course on international financial markets and exchange rates. Topics include pricing in the foreign currency and Eurocurrency markets, use of forward exchange for hedging, short-term returns and market efficiency in the international money markets, foreign currency options, international capital asset pricing, pricing of foreign currency bonds, currency swaps, Eurocurrency syndicated loans, foreign currency financing and exposure management.
One-term course offered either term
Prerequisites: FNCE 611 or FNCE 612; FNCE 613 may be taken concurrently.
Activity: Lecture
1 Course Unit

FNCE 720 Investment Management
This course studies the concepts and evidence relevant to the management of investment portfolios. Topics include diversification, asset allocation, portfolio optimization, factor models, the relation between risk and return, trading, passive (e.g., index-fund) and active (e.g., hedge-fund, long-short) strategies, mutual funds, performance evaluation, long-horizon investing and simulation. The course deals very little with individual security valuation and discretionary investing (i.e., "equity research" or "stock picking").
One-term course offered either term
Prerequisites: The prerequisites for MBA students are FNCE 611 or FNCE 612; and STAT 613 or STAT 621 Given that investment management requires one to analyze and deal effectively with uncertainty, a good grounding in statistics is essential, and familiarity with statistics should extend through multiple regression, covariance, and correlation.
Activity: Lecture
1 Course Unit

FNCE 725 Fixed Income Securities
This course covers fixed income securities (including fixed income derivatives) and provides an introduction to the markets in which they are traded, as well as to the tools that are used to value these securities and to assess and manage their risk. Quantitative models play a key role in the valuation and risk management of these securities. As a result, although every effort will be made to introduce the various pricing models and techniques as intuitively as possible and the technical requirements are limited to basic calculus and statistics, the class is by its nature quantitative and will require a steady amount of work. In addition, some computer proficiency will be required for the assignments, although familiarity with a spreadsheet program (such as Microsoft Excel) will suffice.
Course usually offered in fall term
Prerequisites: FNCE 611 or FNCE 612 and STAT 613 or STAT 621
Activity: Lecture
1 Course Unit

FNCE 726 Advanced Corporate Finance
The objective of this course is to study the major decision-making areas of managerial finance and some selected topics in financial theory. The course reviews the theory and empirical evidence related to the investment and financing policies of the firm and attempts to develop decision-making ability in these areas. This course serves as an extension of FNCE 611. Some areas of financial management not covered in FNCE 611 are covered in FNCE 726. These may include leasing, mergers and acquisitions, corporate reorganizations, financial planning, and working capital management, and some other selected topics. Other areas that are covered in FNCE 611 are covered more in depth and more rigorously in FNCE 726. These include investment decision making under uncertainty, cost of capital, capital structure, pricing of selected financial instruments and corporate liabilities, and dividend policy.
One-term course offered either term
Also Offered As: FNCE 203
Prerequisites: FNCE 611 or FNCE 612; and FNCE 613.
Activity: Lecture
1 Course Unit
Notes: Professor Opp's sections cannot be taken Pass/Fail
FNCE 728 Corporate Valuation
The focus of this course is on the valuation of companies. The course covers current conceptual and theoretical valuation frameworks and translates those frameworks into practical approaches for valuing companies. The relevant accounting topics and the appropriate finance theory are integrated to show how to implement the valuation frameworks discussed on a step-by-step basis. The course teaches how to develop the required information for valuing companies from financial statements and other information sources in a real-world setting. Topics covered in depth include discounted cash flow techniques and price multiples. In addition, the course covers other valuation techniques such as leveraged buyout analysis.
Taught by: Professor Glode in the spring semester
One-term course offered either term
Prerequisites: Minimum of normal first-year courses in accounting, economics, statistics, and FNCE 611 or 612; FNCE 613 (further coursework in financial accounting such as ACCT 742 is very useful).
Activity: Lecture
1 Course Unit
Notes: Professor Glode’s sections may not be taken Pass/Fail

FNCE 730 Urban Fiscal Policy
The purpose of this course is to examine the financing of governments in the urban economy. Topics to be covered include the causes and consequences of the urban fiscal crisis, the design of optimal tax and spending policies for local governments, funding of public infrastructures and the workings of the municipal bond market, privatization of government services, and public financial systems for emerging economies. Applications include analyses of recent fiscal crises, local services and taxes as important determinants of real estate prices, the infrastructure crisis, financing and the provision of public education, and fiscal constitutions for new democracies using South Africa as an example.
Taught by: Dr. Robert Inman
Course usually offered in fall term
Also Offered As: BEPP 773, REAL 730
Prerequisites: MGEC 621, FNCE 611
Activity: Lecture
1 Course Unit
Notes: Lectures. There is a mid-term and final exam.

FNCE 731 International Corporate Finance
This course analyzes financial problems corporations face that result from operating in an international environment. Major topics covered are corporate strategy and the decision to invest abroad, international portfolio diversification, managing exchange risk, taxation issues, cost of capital and financial structure in the multinational firm, and sources of financing.
Departmental Website: https://fnce.wharton.upenn.edu/
Registration: Registration for MBA electives is handled through the MBA Course Auction. For questions about core courses or MBA electives that don't appear in the course auction please contact the MBA Program Office. Non-MBAs interested in graduate classes must work through the academic department and the MBA Program Office.
Also Offered As: FNCE 208
Prerequisite: FNCE 611 or 612 - A thorough knowledge of Corporate Finance is assumed
Activity: Lecture
1 Course Unit

FNCE 732 International Banking
This course focuses on international financial institutions, especially the activities of global, systemically important banks. We will examine how current and historical events are reshaping the industry and highlight the basic analytics of managing a bank's exposure to liquidity, credit, market and reputational risk. Most classes will begin with discussion of a current event related to course topics. Three team projects will be assigned that will give you deeper exposure to analytic techniques related to the course. Throughout the semester, we will discuss public policy issues facing the international financial system.
Taught by: Professor Richard Herring
Course usually offered in spring term
Prerequisites: FNCE 611 or 612; FNCE 613. One, but not both, can be taken concurrently.
Activity: Lecture
1 Course Unit

FNCE 738 Capital Markets
The objective of this course is to give you a broad understanding of the instruments traded in modern financial markets, the mechanisms that facilitate their trading and issuance, as well as, the motivations of issuers and investors across different asset classes. The course will balance functional and institutional perspectives by highlighting the problems capital markets participants are seeking to solve, as well as, the existing assets and markets which have arisen to accomplish these goals. We will consider design, issuance, and pricing of financial instruments, the arbitrage strategies which keep their prices in-line with one another, and the associated economic and financial stability issues. The course is taught in lecture format, and illustrates key concepts by drawing on a collection of case studies and visits from industry experts.
One-term course offered during either term
Also Offered As: FNCE 238
Prerequisites: FNCE 611 or 612, and FNCE 613
Activity: Lecture
1 Course Unit

FNCE 739 Behavioral Finance
There is an abundance of evidence suggesting that the standard economic paradigm - rational agents in an efficient market - does not adequately describe behavior in financial markets. In this course, we will survey the evidence and use psychology to guide alternative theories of financial markets. Along the way, we will address the standard argument that smart, profit-seeing agents can correct any distortions caused by irrational investors. Further, we will examine more closely the preferences and trading decisions of individual investors. We will argue that their systematic biases can aggregate into observed market inefficiencies. The second half of the course extends the analysis to corporate decision making. We then explore the evidence for both views in the context of capital structure, investment, dividend, and merger decisions.
Course usually offered in spring term
Prerequisites: FNCE 611 or 612, and FNCE 613. Recommended: FNCE 720 and FNCE 726.
Activity: Lecture
1 Course Unit
FNCE 750 Venture Capital and the Finance of Innovation
This course covers the finance of technological innovation, with a focus on the valuation tools useful in the venture capital industry. These tools include the "venture capital method," comparables analysis, discounted cash flow analysis, contingent-claims analysis. The primary audience for this course is finance majors interested in careers in venture capital or in R&D-intensive companies in healthcare or information technology. Course usually offered in spring term
Prerequisites: FNCE 611 and FNCE 613 - FNCE 613 may be taken concurrently
Activity: Lecture
1 Course Unit

FNCE 751 The Finance of Buyouts and Acquisitions
The focus of this course is on buying (or acquiring controlling stakes in) firms. The main topics to be covered are mergers and friendly acquisitions, hostile takeovers and buyouts. Using case studies, the course surveys the drivers of success in the transactions. While issues regarding motive and strategy will be discussed, financial theory would be the main lens used to view these control acquiring transactions. This will allow students to (1) evaluate transactions through valuation approaches and (2) structure deals employing financial innovation as a response to legal framework and economic frictions. This course should be of interest to students interested in pursuing careers as private equity investors, advisors in investment banking and corporate managers that deal with these issues. This course assumes familiarity with valuation analysis. During the spring semester students are not permitted to take this course pass fail.
Prerequisites: Pre-Requisites FNCE 611 and FNCE 613 (Or 612) - C0-Requisites FNCE 726 or FNCE 728 may be taken concurrently.
Activity: Lecture
1 Course Unit

FNCE 754 Impact Investing
This course explores Impact Investing, a discipline that seeks to generate social benefits as well as financial returns. From tiny beginnings, the Impact Investment space has expanded and now commands significant attention from policymakers, wealthy and public-spirited individuals, academia and, not least, the world's largest asset managers and philanthropic foundations. Evangelists believe it may be the key to freeing the world from poverty. Skeptics think it will remain confined to the boutique. Regardless, Impact Investing is becoming a distinct career specialization for finance professionals despite the diverse skillset each must have and the uncertainty of the new field's growth.
Taught by: Christopher Geczy, Ph.D.
Prerequisites: Prerequisites This course has no specific prerequisites, but given its wide-ranging subject matter, students will benefit from completion of any of the following Wharton courses: FNCE 613 Macroeconomics and the Global Economic Environment; FNCE 720 Investment Management; FNCE 738 Capital Markets; and FNCE 895 Private Equity. Coursework or practical experience in microeconomics, development economics, international philanthropy, Non-Governmental Organizations, financial risk management and political risk analysis will also be useful.
Activity: Lecture
1 Course Unit

FNCE 756 Finance Energy
The objective of this course is to provide students with detailed knowledge of corporate structures, valuation methods, project finance, risk management practices, corporate governance issues, and geopolitical risks in the energy industry. In general, this course seeks to provide students with an overall context for understanding energy issues and risks, and how these might affect financing and investment decisions for both providers of energy and end-users of energy.
Taught by: Professor Erik Giljie
One-term course offered either term
Prerequisites: The prerequisites for the course are FNCE 726 Advanced Corporate Finance or FNCE 728 Corporate Valuation. Students who receive permission to enroll without the prerequisites are expected to review the relevant topics as necessary to meet the requirements of the class.
Activity: Lecture
1 Course Unit

FNCE 883 Strategic Equity Finance
This course combines lectures and cases, and will go through actual situations where companies need to make strategic decisions on raising equity capital. We will address different phases of a company's life cycle. Through these cases, from the decision-makers perspective, we will explore the different paths that can be taken and consider issues such as investor activism, governance and regulatory and valuation impact.
FNCE 883 is a half semester course offered in Q3 of the spring semester. Taught by: Professor David Musto and Professor David Erickson
Course usually offered in spring term
Prerequisite: FNCE 611 - Corporate Finance
Activity: Lecture
0.5 Course Units

FNCE 884 ASP - Advanced Topics in Private Equity
This course will address a variety of applied topics in private equity (PE), with a focus on growth and later-stage buyout transactions (venture capital is not explicitly addressed in this course), and a primarily U.S.-centric view that should be largely applicable in other markets. In addition, the course will focus on the transaction stage of PE investing i.e., the art of the deal and mostly leave aside deal sourcing, portfolio management and investor relations. The goal of this course is to educate students about the substance, process and mechanics of PE investing, through the lens of the investment professionals, counterparties and advisors that drive transactions to completion. Course topics will address the entire deal process, and will include the following: Commercial Diligence (incl. financial modeling); Debt Financing; Accounting Diligence; Sales & Purchase Agreements; Comps Analysis; and Other Advisory Work. Throughout the course, students will learn about each element of the deal process through in-class lectures, while concurrently apply those learnings to a real-time mock deal, and preparing dealmaterials that mirror a real private equity transaction. The in-class lectures will cover both conceptual frameworks and real-world examples.
Taught by: Professor Bilge Yilmaz (yilmaz@wharton.upenn.edu) and Fellow David Bard
Prerequisites: Successful completion of core finance requirements, FNCE 611 and FNCE 613, as well as FNCE 726 or FNCE 751; special permission can also be requested based on relevant professional experience.
Activity: Lecture
1 Course Unit
FNCE 885 Fin-Tech
The course exposes students to this fast-growing and exciting intersection between finance (Fin) and technology (Tech) while emphasizing the role data and analytics play. The course is structured around three main FinTech areas: (i) Lending/Banking services, (ii) Clearing (iii) Trading. It provides specific coverage and examples of developments from (1) peer-to-peer lending, (2) blockchain and distributed ledgers, (3) networks and their use in trading, and (4) algo trading and its use of non-standard inputs. In each of these areas, we start by analyzing the marketplace, and the incumbents, and the business case and strategies of the incoming technology-based players, while understanding the role data and analytics play in driving the technology-based services. The course is built around a large number of examples and cases, guest lectures, student presentations, and group projects. Student are thus expected to work in teams and demonstrate a high level of independent learning and initiative.
Also Offered As: FNCE 385
Prerequisite: A thorough knowledge of FNCE 611 is assumed
Activity: Lecture
0.5 Course Units

FNCE 886 ASP - Hedge Funds
This course will cover critical aspects and characteristics of hedge funds and the hedge fund industry. It will look at the legal foundations and structures of hedge funds including the primary regulations in the U.S. and abroad that are most relevant for hedge funds. It will also present the major hedge fund strategies, describe operation, control, administration, due diligence and valuation issues. Performance evaluation and investing in hedge funds from the investor’s perspective will be discussed as will be issues of potential changes in regulation, risk management, and the use of leverage. The format of the course will mix lectures with presentations from industry participants, hedge fund managers, those who invest in hedge funds, those who advise them and provide services to them, and those who regulate them. Those who want to launch a hedge fund, join an existing one, invest in one, or provide services to one will want to register for this course.
Taught by: Professor Scott Richard
Prerequisite: FNCE 611 or FNCE 612
Activity: Lecture
0.5 Course Units

FNCE 887 ASP - Shareholder Activism
The aim of the course is to provide an introduction to shareholder activism. The course makes use of lectures and case studies. The lectures expose the students to the institutional and empirical facts as well as approaches followed by leading shareholder activists. The case studies are designed to provide students an experience on identifying potential opportunity for value creation through active engagement. Assignments require students to develop/practice skills on fundamental analysis.
Taught by: Professor Bilge Yilmaz and Kevin Kaiser
Activity: Lecture
1 Course Unit

FNCE 893 Global Monetary and Financial Stability Policy
This course aims to provide the future global manager and financial analyst with the knowledge on policies set by central banks, regulators and governments to reach the goals of price and financial stability as well as support of growth and employment. The core of the course connects between the formal and actualgoals that central banks follow and the related economic analysis on which the goals and the policies are set. We will explain the economic rationale for the policy prescriptions to reach the goals and how these are implemented using institutional framework in the US, the European Central Bank (ECB), Israel and remarks on other countries. We use data, current events and events of the 2007-2013 financial crisis as a basis for discussion and assignments. All these are aimed at understanding how and why the Federal Reserve of the US (the Fed), The bank of Israel (BOI) and the European Central Bank (ECB) set their policies and how that is related to academic research on these issues.
Taught by: Professor Zvi Eckstein; Dean and Professor, ThArison School of Business And The Tiomkin School of Economics. Herzliya, Israel
Prerequisites: FNCE 611 or 612; FNCE 613; STAT 613.
Activity: Lecture
0.5 Course Units
Notes: Requirements; Final examinations (60%-passing grade is required); three out of four assignments done by teams of 3-4 students (30%); active participation in class discussion (10%)

FNCE 895 Private Equity.
This course will be a survey of the private equity asset class. Its objective is to provide an understanding of the concepts, agents, and institutions involved in the late stage corporate private equity market in the U.S. and around the globe. It will examine the buyout market and the activities of buyout funds from the differing perspectives of private equity investors, private equity fund sponsors, and managers of the portfolio companies. The course will be taught almost entirely with cases. Distinguished Wharton alumni in the private equity industry will be our guest speakers for many of the cases based on transactions they concluded. While this course is primarily intended for graduate students, admission may be granted to a limited number of interested undergraduate students. PLEASE NOTE: this course may be recorded for live or subsequent distribution, display, broadcast, or commercialization in any media, including video, audio, or electronic media. For additional information, see the course syllabus or contact the department.
Also Offered As: FNCE 395
Prerequisites: FNCE 726 and FNCE 751 or permission from the instructor.
Activity: Lecture
0.5 Course Units

FNCE 896 Finance in Europe
Also Offered As: WH 215
Activity: Lecture
0.5 Course Units
FNCE 897 Finance In The Middle East & North Africa
This is a Wharton Global Modular Course on finance in the Middle East and North Africa. Its objective is to bring students, academics and industry experts together to study financial markets, practice, and institutions in this region.
Taught by: Professor Bulent Gultekin, Finance Department and Professor Michael J.T. McMillen, Penn Law School
Also Offered As: FNCE 397, WH 214
Activity: Lecture
0.5 Course Units
Notes: Course Format - This course will be taught through cases and lectures. Guest Lecturers - Distinguished practitioners will lecture and conduct case discussions. Our guest lecturers will bring their experience and insights to the classroom.

FNCE 899 Independent Study Project in Finance
Independent Study Projects require extensive independent work and a considerable amount of writing. ISP in Finance are intended to give students the opportunity to study a particular topic in Finance in greater depth than is covered in the curriculum. The application for ISP's should outline a plan of study that requires at least as much work as a typical course in the Finance Department that meets twice a week. At a minimum, we need a description of the methodology you intend to employ, a bibliography and description of the data that you will use as well as a list of interim deliverables and dates to ensure that you complete the project within the semester. Applications for FNCE 899 ISP's will not be accepted after the THIRD WEEK OF THE SEMESTER. You must submit your Finance ISP request using the Finance Department's ISP form located at https://fnce.wharton.upenn.edu under the Course ISP section
Prerequisites: FNCE 899, ISP's must be supervised by a Standing Faculty member of the Finance Department.
Activity: Independent Study
1 Course Unit

FNCE 911 Financial Economics
The objective of this course is to undertake a rigorous study of the theoretical foundations of modern financial economics. The course will cover the central themes of modern finance including individual investment decisions under uncertainty, stochastic dominance, mean variance theory, capital market equilibrium and asset valuation, arbitrage pricing theory, option pricing, and incomplete markets, and the potential application of these themes. Upon completion of this course, students should acquire a clear understanding of the major theoretical results concerning individuals' consumption and portfolio decisions under uncertainty and their implications for the valuation of securities. Course usually offered in fall term
Prerequisites: ECON 681 or ECON 701, Matrix Algebra, and Calculus
Activity: Lecture
1 Course Unit

FNCE 912 Corporate Finance and Financial Institutions
This course provides students with an overview of the basic contributions in the modern theory of corporate finance and financial institutions. The course is methodology oriented in that students are required to master necessary technical tools for each topic. The topics covered may include capital structure, distribution policy, financial intermediation, incomplete financial contracting, initial and seasoned public offerings, market for corporate control, product market corporate finance interactions, corporate reorganization and bankruptcy, financing in imperfect markets, security design under adverse selection and moral hazard, and some selected topics. Course usually offered in spring term
Prerequisite: ECON 681 or ECON 701
Activity: Lecture
1 Course Unit

FNCE 921 Introduction to Empirical Methods in Finance
This course is an introduction to empirical methods commonly employed in finance. It provides the background for FNCE 934, Empirical Research in Finance. The course is organized around empirical papers with an emphasis on econometric methods. A heavy reliance will be placed on analysis of financial data. Course usually offered in spring term
Prerequisites: FNCE 911 (can be taken concurrently), STAT 510 and 511 or equivalent.
Activity: Lecture
1 Course Unit

FNCE 922 Continuous-Time Financial Economics
This course covers some advanced material on the theory of financial markets developed over the last two decades. The emphasis is on dynamic asset pricing and consumption choices in a continuous time setting. The articles discussed include many classical papers in the field as well as some of the most recent developments. The lectures will emphasize the concepts and technical tools needed to understand the articles. Course usually offered in fall term
Prerequisites: FNCE 911, ECON 701, ECON 703. (Graduate level knowledge of analysis and statistics is highly recommended but not required)
Activity: Lecture
1 Course Unit

FNCE 923 Financial Economics Under Imperfect Information
This course covers General equilibrium and rational expectations, foundations of the theory of information; learning from prices in rational expectations equilibrium models, moral hazard, adverse selection, and signalling Bidding theories. Course not offered every year
Prerequisite: FNCE 922
Activity: Lecture
1 Course Unit
FNCE 924 Intertemporal Macroeconomics and Finance  
This is a doctoral level course on macroeconomics, with special emphasis on intertemporal choice under uncertainty and topics related to finance. Topics include: optimal consumption and saving, the stochastic growth model, q-theory of investment, (incomplete) risk sharing and asset pricing. The course will cover and apply techniques, including dynamic programming, to solve dynamic optimization problems under uncertainty. Numerical solution methods are also discussed.  
Course usually offered in spring term  
Prerequisite: FNCE 911  
Activity: Lecture  
1 Course Unit

FNCE 925 Topics in Asset Pricing  
This course will analyze several aspects of liquidity. Mostly, it will concentrate on liquidity as an asset's property of being traded quickly and at low cost, but the notion of availability of cash will also be studied. Particular attention will be devoted to exogenous transaction costs, asymmetric information and search frictions as determinants of asset liquidity and, consequently, price. We will also look at liquidity risk, institutional features arising as response to liquidity problems, and financing constraints. The course will concentrate on theoretical models, but the empirical literature will be referred to throughout.  
Course not offered every year  
Activity: Lecture  
1 Course Unit

FNCE 926 Empirical Methods in Corporate Finance  
The course will cover a variety of microeconometric models and methods including panel data models, program evaluation methods e.g. difference in differences, matching techniques, regression discontinuity design? instrumental variables, duration models, structural estimation ? e.g. simulated methods of moments?. The structure of the course consists of lectures, student presentations, and empirical exercises. I will utilize published studies in a variety of fields such as corporate finance, labor economics, and industrial organization to illustrate the various techniques. The goal of the course is to provide students with a working knowledge of various econometric techniques that they can apply in their own research. As such, the emphasis of the course is on applications, not theory.  
Course usually offered in fall term  
Prerequisites: STAT 521 - Students are required to have taken a graduate sequence in Econometrics, you should be comfortable with econometrics at the level of William Green's "Econometric Analysis of Cross-Section and Panel Data".  
Activity: Lecture  
1 Course Unit

FNCE 927 Selected Topics in Empirical Corporate Finance  
The general objective of the course is to teach and encourage students to explore interesting research questions in corporate finance. We will work toward this goal by introducing students to several advanced topics in empirical corporate finance and expose students to some current work. An emphasis will be put on the link between empirical and theoretical work, and how to think about research questions critically.  
Course not offered every year  
Prerequisites: While there are no official prerequisites, it would be very beneficial if you have taken the Financial Institutions (FNCE 912) and Empirical Methods in Corporate Finance (FNCE 926) Ph.D courses. You should be comfortable with the basic concepts covered in those courses.  
Activity: Lecture  
0.5 Course Units

FNCE 928 Methods in Finance Theory  
This doctoral level course introduces students to game theory and continuous-time methods. Both techniques represent fundamental approaches to organizing, modeling and understanding complex financial phenomena. The game theory half will cover equilibrium concepts, moral hazard, signaling and screening. Highlights include rigorous formulations and analyses of the perfect Bayesian equilibrium concept and the principal-agent relationship. Both ideas are central to theories of corporate finance and financial markets - subjects that the students will be exposed to in the spring. The continuous-time methods half will cover basic stochastic calculus and applications to capital structure, Merton's consumption-portfolio, and problem and optimal contracts.  
Taught by: PROFESSOR YIRAN JOHN ZHU  
Course usually offered in spring term  
Prerequisites: Some mathematical sophistication. A familiarity with the basic principles of microeconomics is useful but not required.  
Activity: Lecture  
1 Course Unit

FNCE 932 Corporate Finance  
This course covers Advanced theory and empirical investigations; financial decisions of the firm, dividends, capital structure, mergers, and takeovers.  
Course not offered every year  
Prerequisites: FNCE 911, FNCE 921, or permission of instructor.  
Activity: Lecture  
1 Course Unit

FNCE 933 International Finance  
This course provides an understanding of current academic research in the areas of international finance and international macroeconomics. Students will learn the tools for conducting research in this field.  
Course not offered every year  
Prerequisite: FNCE 911 (FNCE 922 recommended)  
Activity: Lecture  
1 Course Unit
FNCE 934 Empirical Methods In Asset Pricing
This course has three main objectives: The first object is to introduce students to the fundamental works and the frontier of research in dynamic asset pricing. We will cover recent models that have been proposed to shed light on intriguing and important empirical patterns in the cross section and in the time series. Topics include non-separable utilities, market incompleteness, learning, uncertainty, differences of opinion, ex-ante and ex-post asymmetric information, ambiguity and Knightian uncertainty. The second objective is to teach students how to think of asset pricing research under a bigger or richer framework. We shall focus on the interactions between asset pricing and other fields such as macroeconomics, corporate finance, financial institutions, and international finance. The goal of investigating the joint dynamics is not only to better understand how asset prices are determined, but also (maybe more importantly) how would asset pricing dynamics affect other important economic variables such as investment, corporate payout and financing, unemployment, risk sharing, and international capital flows. Students will learn production-based asset pricing models, particularly the asset pricing models with investment-specific technology shocks, risk shocks, financial friction, searching frictions and information frictions. Of course, the advanced solution methods will focus too. The third objective is to introduce advanced empirical methods to analyze the data and the quantitative dynamic models. It includes how to estimate structural dynamic models, how evaluate structural models beyond goodness-of-fit tests, how confront the models predictions with empirical data by simulation and re-sampling techniques, and how to efficiently test models and explore new patterns using asset pricing and macro data.
Course usually offered in fall term
Prerequisites: FNCE 911 and FNCE 921
Activity: Lecture
1 Course Unit

FNCE 937 Applied Quantitative Methods in Finance
This is an advanced course in quantitative theory applied to macro and finance models. It is intended for doctoral students in finance, economics and related fields. The course focuses on four broad theoretical literatures: (i) firm investment and growth; (ii) corporate, household and sovereign debt; (iii) asset pricing in general equilibrium; and (iv) equilibrium macro models with a financial sector. My approach is to develop and discuss in detail a unified framework that is suited to address most topics, usually covering a few central topics and the core papers. We then discuss the more recent literature, highlighting how authors combine and expand upon the core ideas. This part of the course usually relies on regular student presentations.
Course usually offered in fall term
Prerequisite: FNCE 911
Activity: Lecture
1 Course Unit

FNCE 939 Behavioral Finance
There is an abundance of evidence suggesting that the standard economic paradigm-rational agents in an efficient market-does not adequately describe behavior in financial markets. In this course, we will survey the evidence and use psychology to guide alternative theories of financial markets with an eye towards identifying frontiers and opportunities for new research. Along the way, we will address the standard argument that arbitrage will eliminate any distortions caused by irrational investors. Further, we will examine more closely the preferences and trading decisions of individual investors. We will argue that their systematic biases can aggregate into observed market inefficiencies. The second half of the course extends the analysis to corporate decision making. We present the two themes of behavioral corporate finance: rational managers exploiting financial market inefficiencies and managerial decision-making biases. We then explore the evidence for both views in the context of capital structure, investment, dividend, and merger decisions. We emphasize the importance of differentiating the behavioral approach from information models and other more traditional methodology.
Course not offered every year
Prerequisite: FNCE 911
Activity: Lecture
1 Course Unit

Fine Arts (FNAR)

FNAR 034 Cultures of the Book
This course focuses upon the making, remaking, dissemination, and reading of texts in early modern Europe and America. Topics will include: practices of reading; learning to write; the constitution of authorship; the interaction of printing and manuscript; the economics of printing and publishing; the transatlantic book trade. Texts for the course will include: Shakespeare, Venus and Adonis and 1 and 2 Henry IV; Mary Rowlandson, The Sovereignty and Goodness of God; Alexander Pope, The Dunciad; Samuel Richardson, Pamela; Benjamin Franklin, Autobiography; the Constitution of the United States.
Course usually offered in fall term
Also Offered As: ENGL 034, HIST 034
Activity: Lecture
1 Course Unit

FNAR 061 Video I
In this studio based course, students are introduced to video production and postproduction as well as to selected historical and theoretical texts addressing the medium of video. Students will be taught basic camera operation, sound recording and lighting, as well as basic video and sound editing and exporting using various screening and installation formats. In addition to a range of short assignment-based exercises, students will be expected to complete three short projects over the course of the semester. Critiques of these projects are crucial to the course as students are expected to speak at length about the formal, technical, critical and historical dimensions of their works. Weekly readings in philosophy, critical theory, artist statements and literature are assigned. The course will also include weekly screenings of films and videos, introducing students to the history of video art as well as to other contemporary practices. If you need assistance registering for a closed section, please email the department at fnarug@design.upenn.edu
One-term course offered either term
Also Offered As: CIMS 061, FNAR 661, VLST 261
Activity: Seminar
1 Course Unit
FNAR 062 Video II
Video II offers opportunities to further explore the role of cinematic narrative technique, non-narrative forms, digital video cinematography, editing, and screen aesthetics. Through a series of several video projects and a variety of technical exercises, students will refine their ability to articulate technically and conceptually complex creative projects in digital cinema. In addition, one presentation on a contemporary issue related to the application of cinematic storytelling and/or the cultural context of digital video is required.
One-term course offered either term
Also Offered As: CIMS 062, FNAR 662
Prerequisite: FNAR 061
Activity: Seminar
1 Course Unit

FNAR 063 Documentary Video
Documentary Video is an intensive production course involving the exploration of concepts, techniques, concerns, and aesthetics of the short form documentary. Building on camera, sound, and editing skills acquired in Video I, students will produce a portfolio of short videos and one longer project over the course of the semester using advanced level camera and sound equipment. One short presentation on a genre, technique, maker, or contemporary concern selected by the student is required.
Course usually offered in fall term
Also Offered As: CIMS 063, FNAR 663
Prerequisite: FNAR 061
Activity: Seminar
1 Course Unit

FNAR 065 Cinema Production
This course focuses on the practices and theory of producing narrative based cinema. Members of the course will become the film crew and produce a short digital film. Workshops on producing, directing, lighting, camera, sound and editing will build skills necessary for the hands-on production shoots. Visiting lecturers will critically discuss the individual roles of production in the context of the history of film.
Course usually offered in fall term
Also Offered As: CIMS 065, FNAR 665
Prerequisite: FNAR 061
Activity: Seminar
1 Course Unit

FNAR 067 Advanced Video Projects
This course is structured to create a focused environment and support for individual inquiries and projects. Students will present and discuss their work in one to one meetings with the instructor and in group critiques. Readings, screenings, and technical demonstrations will vary depending on students’ past history as well as technical, theoretical, and aesthetic interests. Course approval will be based on application prior to the beginning of the semester.
Course not offered every year
Also Offered As: CIMS 067, FNAR 667
Prerequisite: FNAR 062
Activity: Seminar
1 Course Unit

FNAR 068 Cinematography
This course will be a technical, practical and aesthetic exploration of the art of cinematography as it pertains to film and digital video. Through screenings, in-class exercises and assignments, students will increase their Video I skills in lighting and cinematography as a form of visual expression. Topics covered include shot composition, camera movement, lenses, filtration and color, exposure, lighting techniques, location shooting and how to use grip equipment. Discussions, demos and lectures will include relevant and illustrative historical motion picture photography, current digital video technology, and examples that explore interactions between film and video.
Course usually offered in spring term
Also Offered As: FNAR 668
Prerequisite: FNAR 061
Activity: Seminar
1 Course Unit

FNAR 070 Film Sound: History, Aesthetics and Subversion
Sound and Image as experienced in the cinema, are not divisible. One perception influences the other, and transforms it. While a preexisting harmony between these two senses may exist, its conventions are subject to manipulation and the whims of subversion. Film Sound tracks the technological and aesthetic history of sound for film including psychoacoustics, dialogue, music, sound fx and audio’s gradual and triumphant march towards fidelity, stereo and surround sound. This lecture course, through an historical and pedagogical romp loaded with examples throughout film history and visits by lauded audio professionals from the film world, seeks to instruct students to engage in the process of sound perception, gaining an appreciation for the art of sound as it relates to the varied phenomenological dimensions of that unique audio-visual encounter we call movies.
Taught by: Novack
One-term course offered either term
Also Offered As: CIMS 070, FNAR 671
Activity: Seminar
1 Course Unit

FNAR 073 Machine for Seeing: Architecture and the Moving Image
Architecture’s relationship with cinema was established with the very first motion picture. In Sortie de l’usine Lumiere de Lyon by Auguste and Louis Lumiere we see a didactic presentation of film titles as workers from the Lumiere brother’s factory stream forth from its interior at days end. In many ways the context of the film is its subject as well. The title of the class plays on Le Corbusier’s maxim that architecture is machine for living and perhaps cinema is simply a machine for helping us understand the vast construct of our built environment. A device, which allows us to imagine even greater follies or more importantly to think critically about architecture’s relationship with and impact on society. Readings, screenings, discussions and critiques make up the curriculum along with studio time. Students will produce their own film and we will look at films produced by a range of practitioners: From architects speculating on the nature of and use of public space and urban development to documentarians researching the pathologies of neo-liberalism and its effect on the privatization of space. We will also look at the work of artists who engage with the poetics of space and who unpack the conflicted legacies of the built environment.
Taught by: Hartt
Course usually offered in spring term
Also Offered As: FNAR 673
Prerequisite: FNAR 061
Activity: Studio
1 Course Unit
FNAR 074 A Virus in the Culture: Social Critique in Media Arts
In order to change the world, we must first learn how to infect it. A Virus in the Culture is a studio class that examines and generates various forms of media culture to dominant hegemonic systems of power and control. Using filmmaking, publication design and interactive media we'll think through and develop responses to some of the most pressing issues facing us today. We'll look at historical models from the agitprop design work of Gee Vacher for Anarchopunk band Crass to Chris Marker's film Le Fond de L'Air Est Rouge, a radical analysis of global social and political turmoil in the late 60s and early 70s. We'll also look at experimental contemporary design firms like Metahaven who question the role of designers and filmmakers today - Bypassing the power dynamics of clients and briefs they took it upon themselves to create a graphic identity for WikiLeaks. Each example broadens the definition and possibilities of practice to create a more porous engagement with audiences and users while informing the practice of social critique today. Considering a diverse range of topics from education policy, to the rights of environmental refugees, we'll use the class to workshop a singular comprehensive project that targets researches and responds to a specific contested position. The outcome of which will be a class produced short film, publication and website that unpacks the social, cultural, and economic complexities of our subject. This class is co-taught by David Hartt, an artist and filmmaker along with graphic designer, Mark Owens. Reading, screenings, discussions and critiques make up the curriculum along with studio time. While the focus of this course is not technical, prior knowledge of design programs, camera functions, and post-production techniques is expected.

Taught by: David Hartt and Marks Owens
Course usually offered in fall term
Also Offered As: FNAR 674
Prerequisite: FNAR 061 or permission from instructor
Activity: Studio
1 Course Unit

FNAR 075 Image and Sound Editing
This course presents an in-depth look at the storytelling power of image and sound in both narrative and documentary motion pictures. Students apply a theoretical framework in ongoing workshops, exploring practical approaches to picture editing and sound design. Students edit scenes with a variety of aesthetic approaches, and create story-driven soundtracks with the use of sound FX, dialogue replacement, foleys, music and mixing. Students not only learn critical skills that expand creative possibilities, but also broaden their understanding of the critical relationship between image and sound.

Course usually offered in spring term
Also Offered As: CIMS 075, FNAR 675
Prerequisite: FNAR 061
Activity: Seminar
1 Course Unit

FNAR 085 Performance Studio
This course supports the individual and collaborative production of performance works. As the medium of performance consists of diverse forms, actions, activities, practices and methodologies, the course allows for an open exploration in terms of material and form. Students are invited to utilize technologies, materials and methodologies from other mediums and/or disciplines such as video, photography, writing and sound. In addition to the production component, the course will examine multiple histories of performance through readings, screenings and directed research.

Taught by: Hayes
Course usually offered in spring term
Also Offered As: FNAR 585
Prerequisites: One previous studio course (such as FNAR 123, FNAR 145, FNAR 150, or FNAR 061) or permission from instructor.
Activity: Studio
1 Course Unit

FNAR 100 Knowing the Contemporary Art World
This course introduces the student to the world of contemporary art, as it is comprised by a global community of leading artists, curators, writers, art historians and collectors within a network of galleries, museums and other institutional contexts. Contemporary art has become an increasingly important marker of a city (and nation’s) economic development. According to economist and social scientist Richard Florida, contemporary art activity is an expression of a city’s Creative Class, the generators of cultural and economic innovation. But what exactly is this world of contemporary art? The course begins by distinguishing between modern and contemporary art. There will be a teasing out of the issues from modern art that remain unresolved for contemporary art. Students will study the key pre-occupations that are spurring much contemporary art production, including issues relating to identity in the age of globalization. A question that will be studied in this course relates to the ways in which artists have responded to dominant narratives of globalization. Additionally, another important question would look into how the artist’s role has changed in the new globalized context of art production and circulation (including the rise of the art biennale.) By taking this course, students gain understanding into the constitution and of the contemporary art world and the key issues at play within it. There will be several trips to exhibitions to be announced.

One-term course offered either term
Activity: Seminar
1 Course Unit

FNAR 123 Drawing I
This course is designed to develop visual awareness and perceptual acuity through the process of drawing. Students learn to sharpen perceptual skills through observational drawing, and to explore the expressive potential of drawing. A variety of problems and media will be presented in order to familiarize students with various methods of working and ways of communicating ideas visually. Subject matter will include object study, still life, interior and exterior space, self-portrait and the figure. Different techniques and materials (charcoal, graphite, ink, collage) are explored in order to understand the relationship between means, material and concept. Critical thinking skills are developed through frequent class critiques and through the presentation of and research into historical and contemporary precedent in drawing.

If you need assistance registering for a closed section, please email the department at fnarug@design.upenn.edu

One-term course offered either term
Also Offered As: FNAR 523, VLST 253
Activity: Studio
1 Course Unit
FNAR 124 Drawing Investigations

Drawing is a fundamental means of visualization and a hub for thinking, constructing, and engaging in a wide variety of creative activities and problem-solving. This studio class explores drawing in both its traditional and contemporary forms. The projects are designed to help students in all disciplines find ways to express and clarify their ideas through the process of drawing. The semester begins with the refinement of perceptual skills acquired in Drawing I, while encouraging experimentation through the introduction of color, abstract agendas, conceptual problem solving, and collaborative exercises, as well as new materials, techniques and large format drawings. Particular attention is given to ways to conduct visual research in the development of personal imagery. Assignments are thematic or conceptually based with ample opportunity for individual approaches to media, subject, scale and process. The goal is to strengthen facility, develop clarity in intent and expand expression. Attention is paid to the development of perceptual sensitivity, methods of image construction, and the processes of synthesis and transformation in order to communicate ideas through visual means. Recommended for students in all areas.

One-term course offered either term
Also Offered As: FNAR 524
Prerequisite: FNAR 123
Activity: Studio
1 Course Unit

FNAR 126 Sequential Drawing

Sequential drawing instructs in the visualization of story telling through the exploration of visual narrative components (visual iconography, panel-to-panel transition types, picture/word relations) and their application to a narrative through the use of formal drawing techniques (composition, color, perspective, line, form). The class begins with various exercises in paneling, pacing and style development, and concludes with the student applying the concepts and techniques they’ve acquired to the creation of a graphic novel.

Course usually offered in spring term
Also Offered As: FNAR 526
Prerequisite: FNAR 123
Activity: Studio
1 Course Unit

FNAR 130 Writing on the City: Letterforms, Technology and Philadelphia Culture

This seminar explores the rich history of writing and typography from colonial to contemporary Philadelphia through primary source research at the city’s many libraries and collections and through direct engagement with professional designers, crafts workers, and manufacturers. The course will be divided into two parts. The first phase will be devoted to information gathering: lectures, readings, and visits, including presentations, demonstrations, and hands-on research. Students will keep a journal of their inquiries and regularly share their insights during class sessions, developing a plan for final documentation. In the second phase students will synthesize and distill their research, developing theories, defining individual and group projects, and collectively writing, designing, and publishing a public framework (web/print/exhibition, etc.) to chronicle their scholarship.

Taught by: Comberg
Course usually offered in fall term
Activity: Seminar
1 Course Unit

FNAR 142 3-D Design

Students will make work that draws from and interacts with the three-dimensional world we live in. Formal strategies will explore principles of organization. Planar construction, modeling and assemblage methods will be used for investigations spanning from bas-relief to environmental art. This is a "learn by doing" process with no prerequisites.

One-term course offered either term
Also Offered As: FNAR 542
Activity: Studio
1 Course Unit

FNAR 145 Sculpture Practices

As an introduction to traditional and contemporary three-dimensional practice, this course is concerned with the concepts and methodologies surrounding three-dimensional art making in our time. Students experiment with a variety of modes of production, and develop some of the fundamental techniques used in sculpture. In addition to these investigations, assignments relative to the history and social impact of these practices are reinforced through readings and group discussion. Processes covered include use of the Fab Lab, wood construction, clay, paper, mixed media, and more. If you need assistance registering for a closed section, please email the department at fnarug@design.upenn.edu

One-term course offered either term
Also Offered As: FNAR 545, VLST 252
Activity: Studio
1 Course Unit

FNAR 147 Advanced Sculpture: Installation & Interventions

In this course students will create sculptural installations and spatial interventions that explore site specificity and architectural environments. A range of traditional sculptural materials and techniques will be investigated along with more ephemeral interventions in space such as sound, light, and projection. Through lectures, readings, and critiques, students will explore the history of installation and interactive sculptural work and develop self-directed projects that interrogate historical, social, and psychological conditions of the built environment.

Also Offered As: FNAR 607
Prerequisite: FNAR 145 Sculpture Practices
Activity: Studio
1 Course Unit

FNAR 148 Clay Practices

This course introduces clay as a sculptural medium through fundamental clay-building techniques, mold making, model making, and casting. Through experimentation with these methods, this course promotes an understanding of materials, processes, visual concepts and techniques for creating three-dimensional forms in space. In addition to using different water-based clays and plaster, other materials such as wax, plasteline, paper pulp, and cardboard will be explored. Students will explore the full range of clay’s capabilities and its role in contemporary art through lectures, readings, demonstrations, and assignments that incorporate conceptual and technical issues.

Also Offered As: FNAR 508
Activity: Studio
1 Course Unit
FNAR 150 Photography Practices
This course is an introduction to the basic principles, strategies and processes of photographic practice. It is designed to broaden the student's aesthetic explorations and to help the student develop a visual language based on cross-disciplinary artistic practice. Through a series of projects and exercises students will be exposed to a range of camera formats, techniques and encouraged to experiment with the multiple modes and roles of photography - both analogue and digital. Attention will also be given to developing an understanding of critical aesthetic and historical issues in photography. Students will examine a range of historical and contemporary photowork as an essential part of understanding the possibilities of image making. This course is primarily for freshman and sophomores. If you need assistance registering for a closed section, please email the department at fnarug@design.upenn.edu
One-term course offered either term
Also Offered As: VLST 260
Activity: Studio
1 Course Unit

FNAR 177 On Thoughts Occasioned By
The Essay Film is an important tradition within the various genres that constitute the field of Film and Video Art. Through the element of time it differentiates itself from its literary and photographic antecedents. It borrows selectively from both narrative fiction and documentary - highly subjective and occasionally poetic but without perhaps the burden of truth. The Essay Film is an attempt to dimensionalize our experience of the world and our place in it. It represents an argument, a meditation, a critical engagement with a place, a time or a subject. This is a combination seminar/studio course. Through readings, screenings and discussion students will gain an historical perspective on the genre. The core assignment is for each student to complete a short film (20 minutes max.) in the tradition of the Essay Film.
Taught by: Hartt/Corrigan
Also Offered As: CIMS 177, ENGL 257, FNAR 677
Activity: Seminar
1 Course Unit

FNAR 220 Producing Ephemera: Letterpress, Risograph, Inkjet, Xerox
This studio course introduces students to the world of printmaking and circulation through techniques in letterpress and Risograph (a high-speed digital printing system developed in Japan in the 1980s), in addition to Xerox, laser, inkjet, and off-set printing. Focusing particularly on the format of prints, artists’ ephemera, and the role of ephemera in understanding culture. Students will create their own broadsides, flyers, announcement cards, and independent publications throughout the course, exploring ways in which artists, designers, musicians, and activists make or have made use of the print to disseminate information; initiate happenings; advertise events; or format change. Students will learn about some of the most significant producers working within this realm - from Conceptualists to punk bands - and develop skills in page layout, typography, and design; mechanized and hand-pulled press operations; and digital to analog pre-press and post-print production methods. This course is designed for highly motivated students and requires out-of-class time commitment. However, no prior coursework is required. Students from all levels and backgrounds are encouraged to register. The course employs combined collaborative / self-directed approaches to learning to enhance students’ understandings of ways in which print media and multiples serve as vital conduits for disseminating ideas involving visual art, popular culture, literature, politics, performance and many other topics students will wish to explore.
Taught by: Romberger
Course usually offered in fall term
Also Offered As: FNAR 620
Activity: Studio
1 Course Unit

FNAR 222 The Big Picture: Mural Arts in Philadelphia
The history and practice of the contemporary mural movement couples step by step analysis of the process of designing with painting a mural. In addition students will learn to see mural art as a tool for social change. This course combines theory with practice. Students will design and paint a large outdoor mural in West Philadelphia in collaboration with Philadelphia high school students and community groups. The class is co-taught by Jane Golden, director of the Mural Arts Program in Philadelphia, and Shira Walinsky, a mural arts painter and founder of Southeast by Southeast project, a community center for Burmese refugees in South Philadelphia.
One-term course offered either term
Also Offered As: FNAR 622, URBS 322
Activity: Seminar
1 Course Unit

FNAR 227 Writing with Pictures: Children's Picture Books
A children's picture book is a unique book form in that it is written with pictures. Words, if used at all, serve to illustrate what the picture cannot say. In this course students will learn the complexities of designing what looks to be, a simple picture book for children. Visualizing the story begins with both writing and drawing prompts, image collecting, and exposure to a range of children's literature. Students will learn to sequence a main character and an environment into a storyboard through stages of changes towards a resolution. By the end of the semester students will have a good understanding of how a picture book works, with a personal "dummy" book well on its way. This course will include two guest artists.
Taught by: Edgerton
One-term course offered either term
Activity: Studio
1 Course Unit
FNAR 231 Painting Practices
Painting practices is an introduction to the methods and materials of oil painting. This course begins with an investigation of color and color relationships. The beginning of the semester will cover technical issues and develop the student’s ability to create a convincing sense of form in space using mass, color, light and composition. The majority of work is from direct observation including object study, still life, landscape, interior and exterior space and the self portrait. Class problems advance sequentially with attention paid to perceptual clarity, the selection and development of imagery, the process of synthesis and translation, color, structure and composition, content and personal expression. Students will become familiar with contemporary and art historical precedent in order to familiarize them with the history of visual ideas and find appropriate solutions to their painting problems.
One-term course offered either term
Also Offered As: FNAR 531
Prerequisite: FNAR 123
Activity: Studio
1 Course Unit

FNAR 232 Painting Studio
Painting Studio presents an ongoing exploration of the techniques, problems and poetics of painting, the nuances of the painting language, and the development of a personal direction. A wide variety of problems will address such issues as color, composition, and the development of imagery, process, and content. Students are expected to improve in technical handling of paints and move towards developing personal modes of seeing, interpreting, and thinking for themselves. This course introduces different topics, strategies and individual challenges each semester, so it may be repeated with advanced course numbers.
One-term course offered either term
Also Offered As: FNAR 532
Prerequisite: FNAR 231
Activity: Studio
1 Course Unit
Notes: This course can be continued by registering for FNAR 333 Painting Studio (III), and FNAR 334 Painting Studio (IV).

FNAR 233 Digital Illustration
Digital Illustration is a course designed to expose students to the diverse techniques and approaches used in creating digital illustration for print publication. Course assignments will include two-dimensional animation, storyboard rendering, figure illustration, technical diagram illustration, photographic retouching and enhancing. Digital applications will include morphing with layers, surface cloning, three-dimensional modeling and spatial transformation of scenes and objects. Students completing this course will possess the capability to design and plan creatively and skillfully execute finished artwork.
One-term course offered either term
Also Offered As: FNAR 633
Prerequisites: FNAR 264 and FNAR 123
Activity: Studio
1 Course Unit

FNAR 234 Art of the Web: Interactive Concepts for Art & Design
Art of the Web: Interactive concepts for art and design is a first step in learning how to create, analyze and discuss interactive content, as a visual creator. It is an exploration of the culture of the internet, the ideas behind its quirks, the dreams and freedoms it encapsulates, and the creative power it gives to us. Students will be assigned projects that will challenge their current understanding of the web, and the ways it shapes human connectivity and interaction. Upon completion of this course, students will possess a working knowledge how to organize and design websites and learn to critique web-content including navigation, UX design and information architecture. The course will require analytical and conceptual skills and foster creative thinking.
One-term course offered either term
Also Offered As: FNAR 634
Prerequisite: FNAR 264
Activity: Studio
1 Course Unit

FNAR 235 3-D Computer Modeling
Students will develop a comprehensive knowledge of how virtual worlds are constructed using contemporary computer graphics technique with a fine arts perspective. The course will offer the opportunity to explore the construction, texturing, and rendering of forms, environments, and mechanisms while conforming to modeling specifications required for animation, real-time simulations or gaming environments, and rapid prototyping.
One-term course offered either term
Also Offered As: FNAR 635
Prerequisites: FNAR 123 and FNAR 264
Activity: Studio
1 Course Unit

FNAR 236 Digital Figure Modeling
This course introduces methods of modeling, texturing, and rendering human and animal figures. Students will study anatomical bone and muscle structures, and then employ this knowledge as they develop polygonal models for real-time 3D simulations or gaming environments, high-resolution renderings, and rapid prototyping.
Course usually offered in spring term
Also Offered As: FNAR 536
Prerequisite: FNAR 235
Activity: Studio
1 Course Unit

FNAR 238 Open Book
"Open Book" will focus on visual communication of information. It will address two methods of inquiry and the corresponding means of visual representation: the objective, well structured research of facts and images, and the creative process of their subjective evaluation and restatement. Students will propose a topic based on their area of interest and engage in a focused, semester-long exploration, which they will present in the form of a designed and printed book.
Course usually offered in fall term
Also Offered As: FNAR 538
Activity: Seminar
1 Course Unit
FNAR 239 Photographic Thinking
This course will explore the vitality and range of photography as a discursive practice by analyzing the way images are structured and deployed in contemporary art and wider media culture. Students will be introduced to the key issues surrounding photography now-led through these questions by lectures, readings, group discussion and project-based work. A series of photo-assignments challenge the students to integrate critical thought with practice, exploring a range of formal strategies and thematic frameworks that affect the meaning of their images. Students should have a strong interest in philosophy and art histories (especially the history of photography.) They should be motivated to work independently & experiment creatively. There are no prerequisites for this course. It is intended for all different levels of technical experience, but the minimum requirements are a digital camera, a basic familiarity with Photoshop and access to a computer with imaging software.
Activity: Seminar
1 Course Unit

FNAR 241 Hand-Drawn Computer Animation
Using software tools designed for hand-drawn animation, students will develop animation skills applicable to all forms of animation. In this course students will learn to draw with a sense of urgency and purpose as they represent motion and drama in a series of frames. Through careful study of natural movements, precedents in the history of animation, and through the completion of a series of animation projects students will develop strategies for representing naturalistic movement, inventing meaningful transformations of form, and storytelling.
Course not offered every year
Also Offered As: FNAR 541
Prerequisite: FNAR 264
Activity: Studio
1 Course Unit

FNAR 243 Figure Sculpture I
An introduction of modeling the human figure in clay. Students will work from the live model, acquainting themselves with issues of basic anatomy, form and function, and clay modeling. No previous experience is required; drawing experience a plus.
Course usually offered in spring term
Also Offered As: FNAR 543
Activity: Studio
1 Course Unit

FNAR 245 Book and Publication Design
Book and Publication Design will focus on the theory and professional practice of designing multi-page publications. Students will analyze formal structures of different types of books-literature and poetry, fiction and non-fiction compilations, illustrated volumes such as art catalogues, monographs and textbooks, and serial editions-discussing both traditional and experimental approaches. The format of the course will be split between theoretical and historical evaluations of book formats by drawing on the Van Pelt Rare Book Collection-and studio time where students will design books with attention to the format's conceptual relationship to the material at hand with a focus on typography and page layout, as well as on understanding production methods of printing and binding. In addition to the conventions of page layout students will examine paratextual elements (title page, practices of pagination and other internal structuring, content lists and indexes, colophons, notes and marginalia, end-leaves, binding, etc.).
Taught by: Hyland
Course usually offered in fall term
Also Offered As: FNAR 645
Prerequisites: FNAR 264 or permission from the instructor.
Activity: Studio
1 Course Unit

FNAR 247 Environmental Animation
This studio-based course examines the disciplinary spaces of landscape, art, and architecture through the medium of 3D animation and storytelling. We immerse ourselves in environments that may be as small as a cell or as large as a planet. From the refiguring of images, models, graphic design, or video to visualization or coding the genesis of whole environments, this course will allow for a variety of entry point for students of different disciplines and skill levels. Projects will range in scope from animated GIFs to animated shorts. This course embraces a spirit of invention, collaborative learning, and interdisciplinary cross-pollination. Experience in landscape architecture, architecture, animation, programming, film, GIS, and/or graphic design is encouraged. We will examine and discuss some standard typologies such as the walk-through, data-visualization, as well as filmic and avant garde strategies as starting points for creative reinterpretation of space. We will primarily be using 3D Studio Max and After Effects with support from Next Engine 3D Scanner, Rhino, and Grasshopper. Scripting will be included in most assignments to enhance artistic control of the software.
Taught by: Landau
Course usually offered in spring term
Also Offered As: FNAR 547
Prerequisites: Experience in landscape architecture, architecture, animation, programming, film, Photoshop, or graphic design is strongly encouraged but not required.
Activity: Studio
1 Course Unit

FNAR 249 Experimental Clay
In this advanced course students will experiment with the evolutionary and sculptural qualities of contemporary materials that act as clay through studio based projects. Through various stages of conceptual development, students will explore how materials perform and transform within radically different settings and processes, which may include but are not limited to working with photography, performance, architecture. Applications from other majors encouraged: engineering, digital media design, physics, poetry.
Also Offered As: FNAR 609
Prerequisite: FNAR 258 or FNAR 148
Activity: Studio
1 Course Unit
FNAR 250 Introduction to Printmaking
The course offers an introduction to several forms of printmaking including: intaglio, screen printing, relief, and monoprinting. Through in-class demonstrations students are introduced to various approaches to making and printing in each medium. The course enhances a student's capacity for developing images through two-dimensional design and conceptual processes. Technical and conceptual skills are developed through discussions and critiques. If you need assistance registering for a closed section, please email the department at fnarug@design.upenn.edu
Course usually offered in spring term
Also Offered As: FNAR 550, VLST 250
Activity: Studio
1 Course Unit

FNAR 251 Printmaking: Etching
The class will challenge the possibilities of experimental drawing and ways of creating incisions and textures using copper plates as the matrix, which then will be printed on paper and other materials. The class offers full technical and historical description of each individual process: Dry Point, Etching, Hard ground, Soft Ground, Aquatint, Shine Cole', Spit-Biting, Sugar Lift, Color Printing and Viscosity printing.
One-term course offered either term
Also Offered As: FNAR 551
Activity: Studio
1 Course Unit

FNAR 252 Printmaking: Relief & Screen Printing
This course is an introduction to technical skills and investigative processes in screen printing and relief and examines methods for combining digital technology with traditional print media. The course introduces students to several contemporary applications of silkscreen and relief printmaking including techniques in multi-color printing, photo-based silkscreening, digital printing, woodcut, linocut, and letterpress. Demonstrations include photo and image manipulation, color separating and output techniques, hand carving and printing, as well as drawing and collage. Both traditional and experimental approaches are explored and encouraged and technical and conceptual skills are developed through discussions and critiques.
One-term course offered either term
Also Offered As: FNAR 552
Activity: Studio
1 Course Unit

FNAR 253 Advanced Projects in Printmaking
This course will concentrate on expanding imagery in print media. The course requires the proposal of a directed final project to be developed during the semester. Three initial exploratory projects will culminate in the final. Projects are open to all print media, but there will be an emphasis on screen printing. Techniques will be addressed as they serve the needs of ideas rather than a set technical procedure. Through individual consultation, scheduled class critiques, and field trips, attention will be given to studio work in and out of printmaking so that the technical and conceptual strengths of print media can serve as a worthwhile adjunct to an overall studio practice.
Course usually offered in spring term
Also Offered As: FNAR 553
Prerequisites: FNAR 252 or FNAR 257 and FNAR 251
Activity: Studio
1 Course Unit

FNAR 254 Printmaking & Publications: Intro to Independent Publishing and Artists’ Publications
This course introduces students to independent publishing and artists’ publications through print methods in letterpress, Risograph, and Xerox. The class will focus on the self-published artists’ zine/book as an affordable, accessible, and easily reproducible format for exploring ideas, disseminating artists’ work, and collaborating across disciplines. Students will learn a range of skills, including techniques in both mechanized and hand-pulled forms of printed media (Risograph, copy machine, Vandercook letterpress); short-run editions and binding; design and layout; pre-press and print production; and the web as it relates to and supports independent and democratic modes of distribution. Students will learn about and become acquainted with some of the most significant independent publishers working today and throughout history. Students will leave class having completed three individual projects: a 16-page booklet/zine; a carefully considered online publication, and a final collaborative book designed, developed and published as a class. The course commences with a field trip to New York City’s Printed Matter, one of the oldest and most important nonprofit facilities dedicated to the promotion of artists’ books, where students will be encouraged to submit a publication by semester’s end.
Taught by: Romberger
Course usually offered in spring term
Also Offered As: FNAR 654
Activity: Studio
1 Course Unit

FNAR 255 Printmaking: Mixed Media
This course will explore the interplay of analog and digital processes and products of printing through various media, technology and conceptual approaches. In this changing world of communication, explore the intersection of old and new media to fabricate new and experimental design for print media. Using the printshop, the computer, and the equipment in the fabrication lab as our interface for exploration, we will focus on text and image relationships by integrating design, typography, print, and digital systems in a printing workshop environment. This course begins with an exploration of processes and experimentation, resulting in the creation of an edition that is conceptually centered on individual interests that engage the senses, the imagination, and the intellect.
One-term course offered either term
Also Offered As: FNAR 557
Activity: Studio
1 Course Unit

FNAR 256 Introduction to Clay: the Potter’s Wheel and Beyond
In this introductory clay class, students will learn all the fundamental skills needed to create three-dimensional forms in clay using a variety of methods: wheel throwing, handbuilding (such as coil building and slab construction), and press molding. Whether creating utilitarian forms or creating sculpture, projects are designed to strengthen both craftsmanship and individual creativity. In addition to developing a working knowledge of the ceramic process, including surface treatments and glazing, students will also be introduced to design issues as well as contemporary art/ceramics topics that influence our aesthetic sensibilities. No prerequisites.
Taught by: FNAR Faculty
One-term course offered either term
Also Offered As: FNAR 558
Activity: Studio
1 Course Unit
FNAR 259 Beginning Clay: Handbuilding and Casting Techniques
Modeling and casting are fundamental methods of object-making. Students will learn basic handbuilding techniques such as coil building, slab construction, and mold making through assignments that incorporate conceptual and technical issues. Through experimentation with these methods, this course promotes an understanding of materials, processes, visual concepts, and techniques for creating three-dimensional forms in space. In addition to using different water-based clays and plaster, other materials such as wax, plastilene, paper pulp, cardboard, and tar paper will be explored. No prerequisites.
Taught by: FNAR Faculty
One-term course offered either term
Also Offered As: FNAR 559
Activity: Studio
1 Course Unit

FNAR 263 Advanced Wheel Studio
This course teaches students more advanced wheel throwing techniques while helping to develop their critical skills in other areas of ceramic work. Students will learn to throw, employing larger masses of clay, and to increase the complexity of their work by combining and altering thrown parts. There will be an emphasis on experimentation in surface treatment and design, the goal of which is to expand a student’s ability to create more complicated and personalized clay works. In addition to learning the technical knowledge, there will be critical discussions of contemporary ceramics issues through image presentations, reading materials and field trips.
One-term course offered either term
Also Offered As: FNAR 563
Prerequisite: FNAR 261
Activity: Studio
1 Course Unit

FNAR 264 Art, Design and Digital Culture
This course is an introduction to the fundamental perception, representation, aesthetics, and design that shape today’s visual culture. It addresses the way artists and designers create images; design with analog and digital tools; communicate, exchange, and express meaning over broad range of media; and find their voices within the fabric of contemporary art, design, and visual culture. Emphasis is placed on building an extended form of visual literacy by studying and making images using a variety of representation techniques; learning to organize and structure two-dimensional and three-dimensional space, and designing with time-based and procedural media. Students learn to develop an individual style of idea-generation, experimentation, iteration, and critique as part of their creative and critical responses to visual culture. If you need assistance registering for a closed section, please email the department at fnarug@design.upenn.edu
One-term course offered either term
Also Offered As: FNAR 636, VLST 264
Activity: Studio
1 Course Unit

FNAR 266 Graphic Design with Creative Technologies
The aim of this course is to introduce students creative ways to use color, typography, and layout across new materials and media, ranging from print to physical objects. Students will explore visual design through a set of assignments and projects that are geared towards exploring the role of design in visual arts, interaction design, media design and architecture. The course introduces a number of design concepts such as content organization, navigation, interaction and data-driven design and show ways to develop new design metaphors, presentation techniques, and imagery using old and new technologies. course is structured as a combination of lectures and hands on workshops where students will have the chance to work both individually and collaboratively to realize their projects.
One-term course offered either term
Also Offered As: FNAR 566
Prerequisite: FNAR 264/636
Activity: Studio
1 Course Unit

FNAR 267 Computer Animation
Through a series of studio projects this course introduces techniques of 2D and 3D computer animation. Emphasis is placed on time-based design and storytelling through animation performance and montage. Students will develop new sensitivities to movement, composition, cinematography, editing, sound, color and lighting.
One-term course offered either term
Also Offered As: CIMS 267, FNAR 567
Prerequisite: FNAR 264
Activity: Studio
1 Course Unit

FNAR 268 Integrative Design Studio: Biological Design
This course is a research-based design studio that introduces new materials, fabrication, and prototyping techniques to develop a series of design proposals in response to the theme: Biological Design. The studio introduces life sciences and biotechnologies to designers, artists, and non-specialists to develop creative and critical propositions that address the social, cultural, and environmental needs of the 21st century. The course will be a pilot study of the first biodesign challenge organized by CUT/PASTE/GROW. The final projects will be submitted to a competition and the winning entry will be featured at Biofabricate in Summer 2017.
One-term course offered either term
Also Offered As: FNAR 568, IPD 568
Prerequisite: FNAR 264
Activity: Studio
1 Course Unit

FNAR 269 Typography
The study and practice of typography spans the history of individual letterforms through the typesetting of full texts. It is a complete immersion into type as an integral part of visual communication. Typesetting conventions and variables including legibility, readability, texture, color and hierarchy will be stressed, as well as a form for organizing information and expressing visual ideas. Studio work will include collecting and analyzing type, designing an original typeface, researching type history and experimenting with typographic forms.
One-term course offered either term
Also Offered As: FNAR 569
Prerequisite: FNAR 264
Activity: Studio
1 Course Unit
FNAR 270 Graphic Design Practicum
Practicum provides a real world experience for students interested in solving design problems for non-profit and community organizations. The studio works with two clients each semester, and previous projects have included print design, web design, interpretive signage and exhibit interactives. All projects are real and will result in a portfolio-ready finished product. Students will participate in a full design experience including design, client interaction, presentations, production, and project management. In addition, students will take field trips, meet professionals and go on studio visits.
One-term course offered either term
Also Offered As: FNAR 570
Prerequisite: None
Activity: Studio
1 Course Unit

FNAR 271 Introduction to Photography
This course is an introduction to the basic processes and techniques of black & white photography. Students will learn how to expose and process 35mm film, SLR camera operation, darkroom procedures & printing, basic lighting and controlled applications. It begins with an emphasis on understanding and mastering technical procedures and evolves into an investigation of the creative and expressive possibilities of making images. This is a project-based course, where students will begin to develop their personal vision, their understanding of aesthetic issues and photographic history. Assignments, ideas and important examples of contemporary art will be presented via a series of slide lectures, critiques and discussion. No previous experience necessary. 35mm SLR cameras will be available throughout the semester for reservation and checkout from the photography equipment room. If you need assistance registering for a closed section, please email the department at fnarug@design.upenn.edu
One-term course offered either term
Also Offered As: FNAR 571, VLST 251
Prerequisite: None
Activity: Studio
1 Course Unit

FNAR 272 Advanced Photography: Integrated Techniques and Strategies
This studio course seeks to broaden each student’s skills by experimenting with a wide range of photographic media. Advanced analog, digital and experimental lens-based techniques will be covered, as well as larger camera formats to expand their vocabulary as image-makers. Emphasis will be on an integrated experience of the photographic medium and the development of a body of work that is both theoretically and historically informed. The course will be a means to view and discuss various strategies of important contemporary photographers. Focused assignments, readings, slide lectures and gallery visits will supplement each student’s artistic practice and research.
One-term course offered either term
Also Offered As: FNAR 572
Prerequisite: FNAR 271 or Permission From Instructor
Activity: Seminar
1 Course Unit

FNAR 274 Reconfiguring Portraiture
As methods of representation are constantly shifting, one thing is clear - the photographic portrait is not what is used to be. Exploring both traditional and contemporary methods of portraiture, this class will uncover and discuss the ways in which we perceive each other in imagery, both as individuals and as groups. Throughout the semester, we will consider how portraits deal with truth, physical absence, the gaze, cultural embodiment, voyeurism and the digital persona. This course will build on the combination of perception, technology, and practice. Throughout the semester, students will advance by learning lighting techniques and strategies of presentation - as these core skills will become tools in the execution of project concepts. In tandem with each project, students will encounter and discuss a wide array of photography and writings from the past to the present, in an effort to understand the meanings and psychological effects of freezing the human image in time.
Course usually offered in spring term
Also Offered As: FNAR 574
Prerequisite: FNAR 271 or FNAR 340 or Permission of Instructor
Activity: Seminar
1 Course Unit

FNAR 278 Documentary Strategies
This course offers a context for photographers to develop a documentary project - either within a traditional photojournalistic framework or one that challenges these traditions. The aim is to understand documentary as an evolving practice and to develop an artistic response when depicting our social reality- from everyday experience to the events that shape the world. An important aspect of the class will be examining the diversity of ways that journalists and artists have used the camera to extend and question the power of photography as document. The class will address key questions of media and mediation, the nature and status of documentary in the context of globalizing media and how traditional documentary work has been affected by video, performance, conceptual art and activism.
One-term course offered either term
Also Offered As: FNAR 578
Prerequisite: FNAR 271 or FNAR 340 or Permission from Instructor
Activity: Seminar
1 Course Unit

FNAR 279 Studio Lighting
The necessity of light and how light is rendered in relationship to what is seen and understood, is often a key ingredient in the portrayal of a subject. The origin of the still life can be found in images as far back as antiquity and has dealt with notions of death, science, class, social customs and even sex. Photography picked up on the tradition in 1827 and has not only made use of the form, but has expanded the topic into very unique territories. Contemporary artists have re-invented and re-invigorated the still life, formalism & abstract photography. As a framework for exploring "hands-on" lighting techniques, students will creatively grapple with the photography of objects in the studio. Working with the physical, symbolic, and conceptual ramifications of depicting specific forms in an image, teamed with the discussion of key texts, critiques, and studio lighting seminars, each student will create a considered and unique portfolio of images.
Taught by: Wahl
Course usually offered in spring term
Also Offered As: FNAR 679
Prerequisite: FNAR 271 or Permission of Instructor
Activity: Studio
1 Course Unit
FNAR 280 Figure Drawing I
Students work directly from the nude model and focus on its articulation through an understanding of anatomical structure and function. Students will investigate a broad variety of drawing techniques and materials. The model will be used as the sole element in a composition and as a contextualized element.
One-term course offered either term
Also Offered As: FNAR 580
Prerequisite: FNAR 123
Activity: Studio
1 Course Unit

FNAR 281 Figure Drawing II
Figure Drawing II is an advanced class designed to further develop the student's skill and facility in capturing the human form. Content and conceptual issues will be explored through individualized projects concentrating on the figure. Students will also expand on their knowledge of drawing media and application.
One-term course offered either term
Also Offered As: FNAR 581
Prerequisite: FNAR 280
Activity: Studio
1 Course Unit

FNAR 282 Advanced Topics in Photography: Site, Space and Documentation
This course will challenge students to create immersive environments and activated spaces through interdisciplinary means. Students will be working on individual as well as collaborative projects; they will be encouraged to incorporate different media with photography and explore the various methods and materials of installation. They will learn how to develop and present professional proposals and experiment with different modes of documentation. We will examine the history of Installation Art with an emphasis on contemporary trends and important emerging artists. Topics of discussion will range from site-specificity/architecture, Social Practice models and performance-oriented residue. The course culminates with a public presentation-an exhibition of student projects created for specific sites on campus.
Course usually offered in fall term
Also Offered As: FNAR 582
Prerequisite: FNAR 271 or FNAR 340 or Permission from Instructor
Activity: Seminar
1 Course Unit

FNAR 284 Photography and Fashion
Since the invention of photography, the fashion industry has been one of the cornerstones of creative expression, innovation and visionary provocation. Contemporary fashion photography has continued to attract a leading group of image-makers that continue the tradition of creating artwork that not only is being published in cutting edge magazines such as V, Another Magazine and Citizen K, but also are exhibiting their work in various galleries and museums around the world. This course is designed for students who are interested in creating contemporary fashion images through specific assignments that define the process: lighting in studio or location, working with fashion designers, stylists, models, hair/makeup artists, and the application of a variety of post production techniques, via Photoshop. The class will explore modern constructs that define the importance of branding, marketing, advertising and the relationship of fashion photography in contemporary art and culture today.
Also Offered As: FNAR 684
Prerequisite: FNAR 271 or FNAR 340 or Permission from Instructor
Activity: Studio
1 Course Unit

FNAR 285 Photography and Fiction
In spite of photography's traditional relationship with fact, the medium has been a vehicle for fiction since the very beginning. Fiction and photography encompass a broad range of meanings, from elaborately staging and performing for the camera, to manipulations using digital technology such as Photoshop to construct the work. This class will examine and trace the history of manipulated photography while paying special attention to the complex negotiations between the decisive moment, the constructed tableau, and the digitally manipulated image. There will be a combination of class lectures, studio projects, assigned readings, visiting artists, film screenings, field trips, and class critiques.
Taught by: Diamond
Course usually offered in spring term
Also Offered As: FNAR 685
Prerequisite: FNAR 271 or FNAR 340 or Permission from the Instructor
Activity: Studio
1 Course Unit

FNAR 286 Visual Narrative
Visual Narrative is an introduction to the practice of storytelling with images. From news and information to art, law, and science, visual storytelling is a critical aspect of creating and navigating contemporary culture. This course is situated at the intersection of design, art, and visual culture, focusing on relevant forms and topics including the photo essay, information design and visual explanation, the photographic sequence in contemporary art, scenario design and concept visualization. Visual Narrative focuses on traditional as well as emerging modes of production and distribution for documentary, visual storytelling, and photojournalism, exploring new aesthetics and the social impact of visual narratives.
Taught by: Comberg and Diamond
Course usually offered in fall term
Also Offered As: FNAR 686
Activity: Studio
1 Course Unit

FNAR 289 Mixed Media Animation
Mixed Media Animation is a contemporary survey of stop-motion animation concepts and techniques. Students use digital SLR cameras, scanners and digital compositing software to produce works in hand-drawn animation, puppet and clay animation, sand animation, and multiplane collage animation. Screenings and discussions in the course introduce key historical examples of animation demonstrating how these techniques have been used in meaningful ways. Students then learn how to composite two or more of these methods with matte painting, computer animation or video.
One-term course offered either term
Also Offered As: CIMS 289, FNAR 589
Prerequisites: FNAR 123 and FNAR 264
Activity: Studio
1 Course Unit
FNAR 305 Monument Lab: Public Art & Civic Research Praxis
What is an appropriate monument for the current city of Philadelphia? This question is the central prompt for Fall 2017 citywide public art and history project, as well as a specifically designed community-based and engaged research course in Fine Arts. Students in Monument Lab: Public Art & Civic Research Praxis will participate as members of specialized research teams, in partnership with local high school research fellows, embedded in iconic public squares, West Philadelphia sites, and neighborhood parks around the city; serve as trained art guides to facilitate learning around over twenty temporary monument installations by internationally and locally-based artists; collect research proposals as a form of creative datasets managed by Penn’s PriceLab and Library; and engage civic partners and public audiences around key issues of the project, including issues of race, gender, sexuality, class, social justice, and civic belonging. The class is structured as a socially-engaged art praxis experience: students will meet weekly for group facilitations, civic dialogues, and special guest lectures by participating artists. In lieu of midterms and a final exam, students will work at research “labs” throughout the city for a set amount of hours per week, write reflection papers, and produce final site specific research portfolio. The course is ideal for students invested in issues of socially-engaged public art, history, and civic engagement.
Taught by: Neff & Farber
Also Offered As: FNAR 604
Activity: Studio
1 Course Unit

FNAR 310 Critical Issues in Art
Perspectives on Critical Issues aims to engage students in an ongoing and informed study of both historical and contemporary issues in a spirit of curiosity and critique. We will investigate how these concepts can clarify and complicate our creative practice and our understanding of the contemporary art world. This seminar will explore the shifts in artistic production, theory and criticism and topics will range from traditional investigations of aesthetics, Modernism, Post-Modernism and contemporary themes. Through discussions of assigned readings, class presentations, films, lectures, and field trips, this seminar will help establish a critical and theoretical foundation where your own beliefs and doubts about art and culture will be called into question and will provoke an ongoing inquiry into how you understand art, you own creative process, and the relationship of art and artists to society and creative culture.
Taught by: Diamond
Course usually offered in spring term
Activity: Seminar
1 Course Unit

FNAR 313 The Chinese Body and Spatial Consumption in Chinatown
This is a primarily art and planning course that centers on the representation of the oriental, specifically the Chinese, in both its historical and present contexts. The localization of the Chinese throughout the Americas within Chinatown precincts were also subject to representational imaginations that were negotiated through the lens of civic planning. This course will study the often fraught negotiation between representation and planning. The hyper-urbanization of China over the past several decades has radically altered traditional conceptions of public space in China. Mass migration from rural to urban areas has meant very high population densities in Chinese cities. Traditional courtyards surrounded by housing and other modestly scaled buildings are rapidly disappearing, incongruent with the demands of heated property development. Moreover, Chinese cities have comparatively little public green space per resident compared to equivalents in the West. Zoning in Chinese cities is also much more varied for any given area than what one would find in cities such as New York, Paris, and London. Intensifying density of urban areas precludes the construction of large public squares. Furthermore, large public squares tend to be either intensively congested and overcrowded or underused due to their oversight by government that render such spaces somewhat opprobrious in terms of use. Historically, the urban courtyards of temples, native place associations, and provincial guilds served as public spaces of gathering. They were also sites of festivals and the conducting of neighbourhood and civic business. These spaces have become increasingly privatized or commodified with entrance fees. The air-conditioned concourses of enclosed shopping malls or busy outdoor market streets have become de facto public spaces in China where collective window shopping or promenading is the primary activity rather than bodily repose as one might find in a public space in a large Western city. The seminar/studio will investigate the meaning of the term public in the constitution of Chinese space, audience and critical voice through firstly the enclave of Chinatown and secondly through examples from China. The course will look into the changing conceptualization of public space in Chinatown as it has declined in its traditional form and become reinvented in the form of high-end shopping centered districts. This flux has its roots in post 1979 China as well as the post 1997 reversion of Hong Kong to China.
Taught by: Lum
Also Offered As: FNAR 613
Activity: Seminar
1 Course Unit

FNAR 315 Across Forms: Art and Writing
What if a poem spoke from inside a photograph? What if a sculpture unfurled a political manifesto? What if a story wasn't just like a dance, but was a dance or a key component of a video, drawing, performance, or painting? In this course, artists and writers will develop new works that integrate the forms, materials, and concerns of both art and writing. Many artists employ writing in their practices, but may not look at the texts they create as writing. And many writers have practices that go beyond the page and deserve attention as art. This course will employ critique and workshop, pedagogic methodologies from art and writing respectively, to support and interrogate cross-pollination between writing and art practices. Additionally, the course will will examine a field of artists and writers who are working with intersections between art and writing to create dynamic new ways of seeing, reading, and experiencing.
Taught by: Hayes and Zolf
Course usually offered in fall term
Also Offered As: ENGL 129, FNAR 615
Activity: Seminar
1 Course Unit
FNAR 318 Paris Modern: Spiral City
Paris has been shaped by a mixture of organic development, which is still today perceptible in the "snail" pattern of its arrondissements whose numbers, from 1 to 20, coil around a central island several times so as to exemplify a "spiral city," and of the violent cuts, interruptions and sudden transformations that again and again forced it to catch up with modern times, the most visible of which was Baron Haussmann's destruction of medieval sections of the city to make room for huge boulevards. Thus Parisian modernism has always consisted in a negotiation between the old and the new, and a specific meaning of modernity allegorized for Louis Aragon, the Surrealists and Walter Benjamin consisted in old-fashioned arcades built in the middle of the 19th century and obsolete by the time they turned into icons of Paris. The aim of the class will be to provide conceptual and pragmatic (visual, experiential) links between a number of texts, theories and films deploying various concepts of the modern in Paris, with a guided tour of the main places discussed. The course that Professors Jean Michel Rabate (English) and Ken Lum (Fine Arts) will lead studies Paris as a work of science-fiction where its many futures are embedded in its many pasts, where discontinuity is a continuous process and where the curving line of the snail's shell is a line of ceaseless curling resulting in a perennial oscillation where an outside converts into an inside and an inside then converts to an outside. The course will travel to Paris over spring break to get an in-depth look at the topics discussed in class.
Taught by: Ken Lum and Jean-Michel Rabate
One-term course offered either term
Also Offered As: ENGL 211, FNAR 518
Activity: Seminar
1 Course Unit

FNAR 320 Topics in Animation
This course will look at animation as an art form, a technology and an industry. We will explore the way in which artistic, technical, historical, and cultural conditions shape the development of animation and in turn, how animation impacts viewers. Topics will include trends in animation and their relation to contemporary popular culture, issues of art versus commerce in the creation of cartoons, the intersection of animation and politics, and shifts in style and technique throughout the years. We will look at the figures who have shaped the art forms and continue to influence it, the rise in animation's popularity, and current day applications of animate imagery.
Course usually offered in fall term
Also Offered As: ARTH 301, CIMS 320, CIMS 393, ENGL 291
Activity: Seminar
1 Course Unit

FNAR 330 Making Space and Public Art
The French social philosopher Michel de Certeau upset the common understanding of the relationship between space and place by elevating space as practice place. By this, he meant that place is but a set of geographical particularities that has no dynamic meaning unless activated through social engagement so that space is produced. Spatial practice is a key concept in the modern understanding of the city as a society of abstract space, one in which the problem of human alienation is riven with the logic of spatial spectacularization. Public Art is often employed to address or mollify such urban problems through concepts of historical reconstruction or institutional critique, including possibly testing the limits of public expression. Historical markers play a somewhat different role by calling attention to lost or negative histories, albeit most often vetted through the language of tourism factoids. This course will examine the discursive issues at play in respect to art and markers, particularly for Philadelphia. Additionally, important public art works from around the world will be examined. The course will also include the occasional visit of several key works downtown in which the question of what can and cannot said will be pondered.
Taught by: Lum
Course usually offered in fall term
Also Offered As: FNAR 530
Activity: Seminar
1 Course Unit

FNAR 331 Interdisciplinary Studio: Sites of Convergence and Hybridity
This course takes an experimental multimedia approach to investigating some of the boundaries in contemporary art making practices. Painting, photography, video, design and sculpture intersect, overlap, and converge in complicated ways. Projects will be designed to explore hybrid forms, collage, space/ installation, and color through a variety of strategic and conceptual proposals as students work towards unique ways of expanding their own work. Weekly readings, critiques, and presentations will be integrated with studio projects. This studio/seminar is appropriate for students at all levels and from all areas of Fine Arts and Design.
Taught by: Tileston
Course usually offered in spring term
Also Offered As: FNAR 631
Prerequisites: One previous studio course (such as FNAR 123, FNAR145, FNAR150, FNAR 231 or FNAR 264) or permission from the instructor.
Activity: Studio
1 Course Unit

FNAR 334 Painting Studio
Painting Studio IV focuses on continuing the student's exploration of techniques, problems, and poetics of painting, the nuances of the painting language, and the development of a personal direction. While students may choose to work on assigned projects (either in consultation with the instructor or following the projects that the Painting II/III students may be involved in), the emphasis is on the investigation of the student's own sensibility. Students will be expected to engage in ongoing critical analysis of their own practices and assumptions.
One-term course offered either term
Also Offered As: FNAR 534
Prerequisites: FNAR 123 and FNAR 333
Activity: Studio
1 Course Unit
FNAR 337 Information Design and Visualization
Information Design and Visualization is an introductory course that explores the structures of information (text, numbers, images, sounds, video, etc.) and presents strategies for designing effective visual communication appropriate for various users and audiences. The course seeks to articulate a vocabulary of information visualization and find new design forms for an increasingly complex culture.
One-term course offered either term
Also Offered As: FNAR 637
Prerequisite: FNAR-061 or FNAR-271 or FNAR-340 or permission from instructor
Activity: Studio
1 Course Unit

FNAR 338 Creative Research
This seminar explores what it means to do research in creative and critical practices. Students learn about different research methods from design, engineering, humanities and sciences; utilize them for developing and evaluating their individual creative work as cultural producers. This is an interdisciplinary course that encourages students to observe, measure, analyze, test, study, experiment, diagram, prototype, speculate, generate and criticize; apply multiple modes of inquiry; be conceptual, analytical, propositional and critical at the same time to develop their work from different perspectives.
Taught by: Telhan
Course usually offered in fall term
Also Offered As: FNAR 638
Activity: Seminar
1 Course Unit

FNAR 340 Digital Photography
This class offers an in-depth technical and conceptual foundation in digital imagery and the opportunity to explore the creative, expressive possibilities of photography. Students will become proficient with the basic use of the camera, techniques of digital capture, color management and color correction. They will also develop competency in scanning, retouching, printing and a variety of manipulation techniques in Photoshop. Through weekly lectures and critiques, students will become familiar with some of the most critical issues of representation, consider examples from photo history, analyze the impact of new technologies and social media. With an emphasis on structured shooting assignments, students are encouraged to experiment, expand their visual vocabulary while refining their technical skills. No previous experience is necessary. Although it is beneficial for students to have their own Digital SLR camera, registered students may reserve and checkout Digital SLR cameras and other high-end equipment from the department. If you need assistance registering for a closed section, please email the department at fnarug@design.upenn.edu
One-term course offered either term
Also Offered As: FNAR 640, VLST 265
Activity: Studio
1 Course Unit

FNAR 343 Language of Design
The course will explore the changing relationship during the modern era between design (structure, model, plan of a work of art) and language (metaphor for a system of communication; speech, writing, literature). Our readings and visual presentations will focus on topics in the decorative arts, painting, architecture, typography and visual communication. We will focus on primary sources in order to situate our inquiry in a larger historical context. The discussion will center on claims about the inherent meaning of form, discuss different roles for design - as an ideological statement, as an agent of social change, and as an idiosyncratic expression. Topics will also include the search for a universal visual language, attempts at bridging the perceived gap between spoken and written language, and the impact of visual form on the meaning of literary texts (particularly when the author has been involved in the publication process). Students can suggest additional topics related to their field of study.
Course usually offered in spring term
Also Offered As: FNAR 643
Activity: Seminar
1 Course Unit

FNAR 347 Expanded Documentary
The sites and situations of documentary in our culture have exploded exponentially - from standardized formulas (like reality TV), to social media and cross-platform journalism. In contemporary art, documentary practice has also significantly expanded and diversified. Since the early 2000's, with several influential exhibitions following Documenta XI, a new generation of artists have taken up the ambition of depicting our social reality, and have done so by re-engaging and re-inventing the documentary mode. This intermediate course will examine this vital contemporary field and will also offer students a comprehensive introduction to the history of documentary practice. We will investigate a series of key questions regarding the relation between politics and aesthetics, mediums and mobility, how documents function to both approximate and deny a sense of 'reality' and perhaps most importantly - a series of key questions regarding the relation between politics and aesthetics, mediums and mobility, how documents function to both approximate and deny a sense of 'reality' and perhaps most importantly-aesthetic and ideological statements, as an agent of social change, and as an idiosyncratic expression. Topics will also include the search for a universal visual language, attempts at bridging the perceived gap between spoken and written language, and the impact of visual form on the meaning of literary texts (particularly when the author has been involved in the publication process). Students can suggest additional topics related to their field of study.
Course usually offered in spring term
Also Offered As: FNAR 647
Prerequisite: FNAR-061 or FNAR-271 or FNAR-340 or permission from instructor
Activity: Studio
1 Course Unit
FNAR 348 Counter the Land: Photography and the Landscape
Starting with the representation of landscape in painting in the early 1800s, the course will then move through Pictorialism and the Modernist movement in photography. Revisiting the later half of the 20th century, we will begin to consider the shifting practices of landscape and the ways it has been photographically depicted up to the present. Collaborating with the Brandywine River Museum of Art in Chadds Ford, students will begin their photographic exploration with the work of Andrea Wyeth and the landscape of the Brandywine Valley. As we consider Wyeth, the images of James Welling will also be introduced. Credited for pioneering new forms of representation in photography in the 1970s, Welling also revisited the work of Wyeth from 2010-2015, and committed to a fresh (and challenging) look at tradition. Working with imagery and text, this class will also touch on conceptual art, the New Topographics, and postmodernism. Through these various concentrations, students will consider and counter the traditions that they are already familiar with, while creating work based on issues of the landscape today. Questions about meaning, politics, social critique, land rights, technology and methods of presentation will be encouraged and explored throughout the course.
Taught by: Wahl
Course usually offered in fall term
Also Offered As: FNAR 648
Prerequisites: FNAR 271 or FNAR 340 or with permission from the instructor.
Activity: Studio
1 Course Unit

FNAR 349 Advanced Digital Photography
In this studio course, students will become proficient in advanced techniques of image production while expanding their artistic process and refining their photographic work. With an emphasis on self-directed projects and research, students will further their knowledge of image control and manipulation, retouching and collage, advanced color management; become familiar with high-end equipment and develop professional printing skills. Class discussion, lectures and assigned readings will address the critical issues in contemporary art, media and photographic culture. Emphasis will be on integrating practice and critical dialogue.
One-term course offered either term
Also Offered As: FNAR 649
Prerequisite: FNAR 340
Activity: Studio
1 Course Unit

FNAR 350 Shared Culture: New Strategies for Artists in the Digital Age
Our digital world has forced us to entirely rethink what it means to be an artist in the digital age, socially, economically, and politically. Ideas that have long been stable - including originality, creativity, and genius - are ripe for reexamination and redefinition in the twenty-first century. When the entire internet is copy-and-pasteable - and distribution moves swiftly - is anything off limits for the artist? Can we imagine our artistic production mimicking the meme, rippling through the networks for a day, then disappearing forever? Are we doomed to make works that are supposed to live for eternity or, in the face of environmental meltdown and collapsing financial markets, can we instead move our production toward the ephemeral? What would this look like? Can our output be steered toward the political? Can we frame these ideas as acts of resistance? Or compliance? Is there an inside? Is there an outside?
Taught by: Goldsmith
Course usually offered in spring term
Also Offered As: FNAR 650
Activity: Studio
1 Course Unit
Notes: Fine Arts Majors or MFA students ONLY or permission of instructor.

FNAR 353 Advanced Projects in Animation
Students will explore facial animation at great depth. Investigating both skeletal and muscular anatomy, students will implement their knowledge in the creation of facial rigs and realistic animation of 3D computer characters. Strong emphasis will be placed on drawing and acting skills to achieve a successful working knowledge of both form and function. As an advanced seminar course, students are expected and encouraged to work and explore topics outside of the classroom.
Course usually offered in spring term
Also Offered As: CIMS 353, FNAR 653
Prerequisites: FNAR 235 and FNAR 267, or Instructor Permission
Activity: Studio
1 Course Unit

FNAR 366 Advanced 3-D Modeling
Advanced 3-D Modeling will give students the opportunity to refine skills in modeling, texturing, lighting and rendering with an emphasis on the evolution of ideas through constant revision based on class critique. Students will use a variety of industry standard software packages, including, but not limited to Maya and Mudbox to compose complex environments. Projects are designed to give students the opportunity to work with original content within a simulated production environment.
One-term course offered either term
Also Offered As: FNAR 646
Prerequisite: FNAR 235/365 or FNAR 236/536
Activity: Studio
1 Course Unit

FNAR 370 Advanced Graphic Design and Typography
This course will explore advanced commercial, public and personal forms of visual communication. Emphasis will be placed on creative problem solving with consideration for audience. Discussion of design history, current ideology and future design applications will inform individual student projects. Work generated in this studio can be used to build a portfolio.
Course usually offered in fall term
Also Offered As: FNAR 670
Prerequisites: FNAR 266 and FNAR 269 or Permission of Instructor.
Activity: Studio
1 Course Unit
FNAR 378 Interfacing Cultures: Designing for Mobile, Web and Public Media
This course introduces advanced topics related to contemporary media technologies, ranging from social media to mobile phones and applications and urban interfaces. Students learn how to use new methods from interaction design, service design, and social media and work towards prototyping their ideas using new platforms and media. The class will cover a range of topics such as online-gaming, viral communication, interface culture, networked environments, internet of things and discuss their artistic, social, and cultural implications to the public domain.
Course usually offered in spring term
Also Offered As: FNAR 678
Prerequisite: See Department for section number
Activity: Studio
1 Course Unit

FNAR 399 Independent Study
One-term course offered either term
Prerequisite: See Department for section number
Activity: Independent Study
1 Course Unit
Notes: A minimum three-page proposal must be submitted and approved by both the Instructor and the Undergraduate Director.

FNAR 488 Senior Seminar and Project (Fall Semester)
This rigorous pair of courses, one offered in the Fall and one offered in the Spring semester, are designed as the capstone of the Fine Arts major and are required for all graduating fine arts seniors. They can only be taken in the senior year. Students work in individual studio spaces provided by the department and then meet with faculty for seminar, critique, and professional practice exercises. Through individual and group critiques, students begin to conceptualize their final thesis exhibition or project. The senior seminar allows students to create lasting professional relationships with the fine arts faculty and visiting lecturers. The fall semester culminates in a group exhibition of senior student work paired with final semester critiques.
Course usually offered in fall term
Prerequisites: Fine Arts Majors in Senior Year only.
Activity: Seminar
1 Course Unit

FNAR 489 Senior Seminar Project
The Spring semester seminar culminates in a senior thesis exhibition for each graduating student. These exhibitions have traditionally been held as a small group exhibition featuring a few students in one group, or as a larger end of semester exhibition with each student installing a series of works. The format of the exhibition will be determined during the fall semester by the senior faculty. The process of preparing, installing, and promoting the thesis exhibition is covered in detail throughout the semester. Students will work in their on-campus studio spaces to produce dynamic, thoughtful and well-crafted work that will serve as their final portfolio. They will present their portfolio of work during a final critique before graduation.
Course usually offered in spring term
Prerequisites: FNAR 488; Fine Arts Majors in Senior Year only.
Activity: Seminar
1 Course Unit

FNAR 501 Graduate Studio I
First year studio for MFA students’ core pursuit of self-directed interdisciplinary problems that contribute to one or more of the visual arts disciplines.
Taught by: Lum/Freedman/Mosley/Telhan/Tileston/Hartt/Lopez/Hayes/Davenport
Course usually offered in fall term
Activity: Studio
2 Course Units

FNAR 502 Graduate Studio II
Second year studio for MFA students’ core pursuit of self-directed interdisciplinary problems that contribute to one or more of the visual arts disciplines.
Taught by: Adkins/Davenport/Freedman/Mosley/Telhan/Tileston
Course usually offered in spring term
Activity: Studio
3 Course Units

FNAR 508 Clay Practices
This course introduces clay as a sculptural medium through fundamental clay-building techniques, mold making, model making, and casting. Through experimentation with these methods, this course promotes an understanding of materials, processes, visual concepts and techniques for creating three-dimensional forms in space. In addition to using different water-based clays and plaster, other materials such as wax, plastilne, paper pulp, and cardboard will be explored. Students will explore the full range of clay’s capabilities and its role in contemporary art through lectures, readings, demonstrations, and assignments that incorporate conceptual and technical issues.
Also Offered As: FNAR 148
Activity: Studio
3 Course Units

FNAR 513 The Racial Imaginary
Also Offered As: ENGL 252, THAR 251
Activity: Seminar
1 Course Unit

FNAR 515 Photography Studio Abroad
This Traveling Studio is offered every other spring term to upper level photography & related media students. It is a cross-cultural visual exploration, exploring the contradictions and significance of the chosen city. This course incorporates multi-disciplinary research in preparation for the trip; exploring various fields of knowledge production such as art, history, social sciences, markets and governance. Class discussion, readings and individual research will be focused towards the development of each student's photo/media project, which will be realized while abroad. After returning to Philadelphia, students will develop and refine their work; the remaining classes will emphasize critique, editing, printing and presentation options. The final projects will be included in a group exhibition at the end of the semester. Admission to the course is on a competitive basis.
Course offered spring; odd-numbered years
Prerequisite: Permission of Instructor Required - Competitive Application
Process Only
Activity: Studio
1 Course Unit
FNAR 518 Paris Modern: Spiral City
Paris has been shaped by a mixture of organic development, which is still today perceptible in the "snail" pattern of its arrondissements whose numbers, from 1 to 20, coil around a central island several times so as to exemplify a "spiral city," and of the violent cuts, interruptions and sudden transformations that again and again forced it to catch up with modern times, the most visible of which was Baron Haussmann's destruction of medieval sections of the city to make room for huge boulevards. Thus Parisian modernism has always consisted in a negotiation between the old and the new, and a specific meaning of modernity allegorized for Louis Aragon, the Surrealists and Walter Benjamin consisted in old-fashioned arcades built in the middle of the 19th century and obsolete by the time they turned into icons of Paris. The aim of the class will be to provide conceptual and pragmatic (visual, experiential) links between a number of texts, theories and films deploying various concepts of the modern in Paris, with a guided tour of the main places discussed. The course that Professors Jean Michel Rabate (English) and Ken Lum (Fine Arts) will lead studies Paris as a work of science-fiction where its many futures are embedded in its many pasts, where discontinuity is a continuous process and where the curving line of the snail's shell is a line of ceaseless curling resulting in a perennial oscillation where an outside converts into an inside and an inside then converts to an outside. The course will travel to Paris over spring break to get an in-depth look at the topics discussed in class.
Taught by: Ken Lum and Jean-Michel Rabate
Also Offered As: ENGL 211, FNAR 318
Activity: Seminar
1 Course Unit

FNAR 523 Drawing I
This course is designed to develop visual awareness and perceptual acuity through the process of drawing. Students learn to sharpen perceptual skills through observational drawing, and to explore the expressive potential of drawing. A variety of problems and media will be presented in order to familiarize students with various methods of working and ways of communicating ideas visually. Subject matter will include object study, still life, interior and exterior space, self-portrait and the figure. Different techniques and materials (charcoal, graphite, ink, collage) are explored in order to understand the relationship between means, material and concept. Critical thinking skills are developed through frequent class critiques and through the presentation of and research into historical and contemporary precedent in drawing. If you need assistance registering for a closed section, please email the department at fnarug@design.upenn.edu
One-term course offered either term
Also Offered As: FNAR 123, VLST 253
Activity: Studio
1 Course Unit

FNAR 524 Drawing Investigations
Drawing is a fundamental means of visualization and a hub for thinking, constructing, and engaging in a wide variety of creative activities and problem-solving. This studio class explores drawing in both its traditional and contemporary forms. The projects are designed to help students in all disciplines find ways express and clarify their ideas through the process of drawing. The semester begins with the refinement of perceptual skills acquired in Drawing I, while encouraging experimentation through the introduction of color, abstract agendas, conceptual problem solving, and collaborative exercises, as well as new materials, techniques and large format drawings. Particular attention is given to ways to conduct visual research in the development of personal imagery. Assignments are thematic or conceptually based with ample opportunity for individual approaches to media, subject, scale and process. The goal is to strengthen facility, develop clarity in intent and expand expression. Attention is paid to the development of perceptual sensitivity, methods of image construction, and the processes of synthesis and transformation in order to communicate ideas through visual means. Recommended for students in all areas.
One-term course offered either term
Also Offered As: FNAR 124
Prerequisite: FNAR 523
Activity: Studio
1 Course Unit

FNAR 525 Figure Painting: Then and Now
Beyond the introduction to technique and materials this course will emphasize the figure in historical & contemporary painting. This course will be based in perception, working from the model and move through modernism and toward varying approaches to the figure. Further investigation about the language of color through color theory will be covered. Drawing 1 pre-requisite, Painting 1 pre-requisite recommended but not mandatory.
Taught by: MURPHY
Course usually offered summer term only
Also Offered As: FNAR 225
Prerequisite: FNAR 523
Activity: Studio
1 Course Unit

FNAR 526 Sequential Drawing
Sequential drawing instructs in the visualization of story telling through the exploration of visual narrative components (visual iconography, panel-to-panel transition types, picture/word relations) and their application to a narrative through the use of formal drawing techniques (composition, color, perspective, line, form). The class begins with various exercises in paneling, pacing and style development, and concludes with the student applying the concepts and techniques they've acquired to the creation of a graphic novel.
Course usually offered in spring term
Also Offered As: FNAR 126
Prerequisite: FNAR 523
Activity: Studio
1 Course Unit
FNAR 530 Making Space and Public Art
The French social philosopher Michel de Certeau upset the common understanding of the relationship between space and place by elevating space as practice place. By this, he meant that place is but a set of geo-physical particularities that has no dynamic meaning unless activated through social engagement so that space is produced. Spatial practice is a key concept in the modern understanding of the city as a society of abstract space, one in which the problem of human alienation is riven with the logic of spatial spectacularization. Public Art is often employed to address or mollify such urban problems through concepts of historical reconstruction or institutional critique, including possibly testing the limits of public expression. Historical markers play a somewhat different role by calling attention to lost or negative histories, albeit most often vetted through the language of tourism factoids. This course will examine the discursive issues at play in respect to art and markers, particularly for Philadelphia. Additionally, important public art works from around the world will be examined. The course will also include the occasional visit of several key works downtown in which the question of what can and cannot said will be pondered. Taught by: Lum Course usually offered in fall term Also Offered As: FNAR 330 Activity: Seminar 1 Course Unit

FNAR 531 Painting Practices
Painting practices is an introduction to the methods and materials of oil painting. This course begins with an investigation of color and color relationships. The beginning of the semester will cover technical issues and develop the student’s ability to create a convincing sense of form in space using mass, color, light and composition. The majority of work is from direct observation including object study, still life, landscape, interior and exterior space and the self portrait. Class problems advance sequentially with attention paid to perceptual clarity, the selection and development of imagery, the process of synthesis and translation, color, structure and composition, content and personal expression. Students will become familiar with contemporary and art historical precedent in order to familiarize them with the history of visual ideas and find appropriate solutions to their painting problems. One-term course offered either term Also Offered As: FNAR 231 Prerequisite: FNAR 523 Activity: Studio 1 Course Unit

FNAR 532 Painting Studio
Painting Studio presents an ongoing exploration of the techniques, problems and poetics of painting, the nuances of the painting language, and the development of a personal direction. A wide variety of problems will address such issues as color, composition, and the development of imagery, process, and content. Students are expected to improve in technical handling of paints and move towards developing personal modes of seeing, interpreting, and thinking for themselves. This course introduces different topics, strategies and individual challenges each semester, so it may be repeated with advanced course numbers. One-term course offered either term Also Offered As: FNAR 232 Prerequisite: FNAR 531 Activity: Studio 1 Course Unit Notes: This course can be continued by registering for FNAR 533 Painting Studio (III), and FNAR 534 Painting Studio (IV).

FNAR 533 Painting Studio
FNAR 534 Painting Studio
Painting Studio IV focuses on continuing the student’s exploration of techniques, problems, and poetics of painting, the nuances of the painting language, and the development of a personal direction. While students may choose to work on assigned projects (either in consultation with the instructor or following the projects that the Painting II/III students may be involved in), the emphasis is on the investigation of the student’s own sensibility. Students will be expected to engage in ongoing critical analysis of their own practices and assumptions. One-term course offered either term Also Offered As: FNAR 334 Prerequisites: FNAR 523 and FNAR 533 Activity: Studio 1 Course Unit

FNAR 536 Digital Figure Modeling
This course introduces methods of modeling, texturing, and rendering human and animal figures. Students will study anatomical bone and muscle structures, and then employ this knowledge as they develop polygonal models for real-time 3D simulations or gaming environments, high-resolution renderings, and rapid prototyping. Course usually offered in spring term Also Offered As: FNAR 236 Prerequisite: FNAR 635, Recommended FNAR 543 or FNAR 580 Activity: Studio 1 Course Unit

FNAR 538 Open Book
"Open Book" will focus on visual communication of information. It will address two methods of inquiry and the corresponding means of visual representation: the objective, well structured research of facts and images, and the creative process of their subjective evaluation and restatement. Students will propose a topic based on their area of interest and engage in a focused, semester-long exploration, which they will present in the form of a designed and printed book. Course usually offered in fall term Also Offered As: FNAR 238 Activity: Seminar 1 Course Unit

FNAR 541 Hand-Drawn Computer Animation
Using software tools designed for hand-drawn animation, students will develop animation skills applicable to all forms of animation. In this course students will learn to draw with a sense of urgency and purpose as they represent motion and drama in a series of frames. Through careful study of natural movements, precedents in the history of animation, and through the completion of a series of animation projects students will develop strategies for representing naturalistic movement, inventing meaningful transformations of form, and storytelling. Course not offered every year Also Offered As: FNAR 241 Prerequisite: FNAR 636 Activity: Studio 1 Course Unit
FNAR 542 3-D Design
Students will make work that draws from and interacts with the three-dimensional world we live in. Formal strategies will explore principles of organization. Planar construction, modeling and assemblage methods will be used for investigations spanning from bas-relief to environmental art. This is a "learn by doing" process with no prerequisites.
One-term course offered either term
Also Offered As: FNAR 142
Activity: Studio
1 Course Unit

FNAR 543 Figure Sculpture I
An introduction of modeling the human figure in clay. Students will work from the live model, acquainting themselves with issues of basic anatomy, form and function, and clay modeling. No previous experience is required; drawing experience a plus.
One-term course offered either term
Also Offered As: FNAR 243
Activity: Studio
1 Course Unit

FNAR 545 Sculpture Practices
As an introduction to traditional and contemporary three-dimensional practice, this course is concerned with the concepts and methodologies surrounding three-dimensional art making in our time. Students experiment with a variety of modes of production, and develop some of the fundamental techniques used in sculpture. In addition to these investigations, assignments relative to the history and social impact of these practices are reinforced through readings and group discussion.
Processes covered include use of the Fab Lab, wood construction, clay, paper, mixed media, and more. If you need assistance registering for a closed section, please email the department at fnarug@design.upenn.edu
One-term course offered either term
Also Offered As: FNAR 145, VLST 252
Activity: Studio
1 Course Unit

FNAR 547 Environmental Animation
This studio-based course examines the disciplinary spaces of landscape, art, and architecture through the medium of 3D animation and storytelling. We immerse ourselves in environments that may be as small as a cell or as large as a planet. From the refiguring of images, models, graphic design, or video to visualization or coding the genesis of whole environments, this course will allow for a variety of entry point for students of different disciplines and skill levels. Projects will range in scope from animated GIFs to animated shorts. This course embraces a spirit of invention, collaborative learning, and interdisciplinary cross-pollination. Experience in landscape architecture, architecture, animation, programming, film, GIS, and/or graphic design is encouraged. We will examine and discuss some standard typologies such as the walk-through, data-visualization, as well as filmic and avant garde strategies as starting points for creative reinterpretation of space. We will primarily be using 3D Studio Max and After Effects with support from Next Engine 3D Scanner, Rhino, and Grasshopper. Scripting will be included in most assignments to enhance artistic control of the software.
Taught by: Landau
Course usually offered in spring term
Also Offered As: FNAR 247
Prerequisites: Experience in landscape architecture, architecture, animation, programming, film, Photoshop, or graphic design is strongly encouraged but not required.
Activity: Studio
1 Course Unit

FNAR 550 Introduction to Printmaking
The course offers an introduction to several forms of printmaking including: intaglio, screen printing, relief, and monoprinting. Through in-class demonstrations students are introduced to various approaches to making and printing in each medium. The course enhances a student's capacity for developing images through two-dimensional design and conceptual processes. Technical and conceptual skills are developed through discussions and critiques.
Course usually offered in spring term
Also Offered As: FNAR 250, VLST 250
Activity: Studio
1 Course Unit

FNAR 551 Printmaking: Etching
This course is an introduction to technical skills and investigative processes in screen printing and relief and examines methods for combining digital technology with traditional print media. The course introduces students to several contemporary applications of silkscreen and relief printmaking including techniques in multi-color printing, photo-based silkscreening, digital printing, woodcut, linocut, and letterpress. Demonstrations include photo and image manipulation, color separating and output techniques, hand carving and printing, as well as drawing and collage. Both traditional and experimental approaches are explored and encouraged and technical and conceptual skills are developed through discussions and critiques.
One-term course offered either term
Also Offered As: FNAR 251
Activity: Studio
1 Course Unit

FNAR 552 Printmaking: Relief & Screen Printing
This is an introduction to technical skills and investigative processes in screen printing and relief and examines methods for combining digital technology with traditional print media. The course introduces students to several contemporary applications of silkscreen and relief printmaking including techniques in multi-color printing, photo-based silkscreening, digital printing, woodcut, linocut, and letterpress. Demonstrations include photo and image manipulation, color separating and output techniques, hand carving and printing, as well as drawing and collage. Both traditional and experimental approaches are explored and encouraged and technical and conceptual skills are developed through discussions and critiques.
One-term course offered either term
Also Offered As: FNAR 252
Activity: Studio
1 Course Unit

FNAR 553 Advanced Projects in Printmaking
This course will concentrate on expanding imagery in print media. The course requires the proposal of a directed final project to be developed during the semester. Three initial exploratory projects will culminate in the final. Projects are open to all print media, but there will be an emphasis on screen printing. Techniques will be addressed as they serve the needs of ideas rather than a set technical procedure. Through individual consultation, scheduled class critiques, and field trips, attention will be given to studio work in and out of printmaking so that the technical and conceptual strengths of print media can serve as a worthwhile adjunct to an overall studio practice.
Course usually offered in spring term
Also Offered As: FNAR 253
Prerequisites: FNAR 551 and FNAR 552 or FNAR 557
Activity: Studio
1 Course Unit
**FNAR 554 Graduate Printmaking I**
This course will cover the traditional print processes while offering a chance to develop visual skills. The processes covered in class will include monoprinting (one of a kind prints), relief printing and a variety of etching techniques. Demonstrations will be offered to introduce more advanced processes like lithography and silkscreening. This class is an excellent introduction to the visual arts because the though process as well as the development of the image can be recorded. $40 Studio Fee. Taught by: Adkins
One-term course offered either term
Activity: Studio
1 Course Unit

**FNAR 557 Printmaking: Mixed Media**
This course will explore the interplay of analog and digital processes and products of printing through various media, technology and conceptual approaches. In this changing world of communication, explore the intersection of old and new media to fabricate new and experimental design for print media. Using the printshop, the computer, and the equipment in the fabrication lab as our interface for exploration, we will focus on text and image relationships by integrating design, typography, print, and digital systems in a printing workshop environment. This course begins with an exploration of processes and experimentation, resulting in the creation of an edition that is conceptually centered on individual interests that engage the senses, the imagination, and the intellect.
One-term course offered either term
Also Offered As: FNAR 257
Activity: Studio
1 Course Unit

**FNAR 558 Introduction to Clay: the Potter’s Wheel and Beyond**
In this introductory clay class, students will learn all the fundamental skills needed to create three-dimensional forms in clay using a variety of methods: wheel throwing, handbuilding (such as coil building and slab construction), and press molding. Whether creating utilitarian or creative sculptural projects are designed to strengthen both craftsmanship and individual creativity. In addition to developing a working knowledge of the ceramic process, including surface treatments and glazing, students will also be introduced to design issues as well as contemporary art/ceramics topics that influence our aesthetic sensibilities. No prerequisites.
Taught by: FNAR Faculty
One-term course offered either term
Also Offered As: FNAR 258
Activity: Studio
1 Course Unit

**FNAR 559 Beginning Clay: Handbuilding and Casting Techniques**
Modeling and casting are fundamental methods of object-making. Students will learn basic handbuilding techniques such as coil building, slab construction, and mold making through assignments that incorporate conceptual and technical issues. Through experimentation with these methods, this course promotes an understanding of materials, processes, visual concepts, and techniques for creating three-dimensional forms in space. In addition to using different water-based clays and plaster, other materials such as wax, plastilene, paper pulp, cardboard, and tar paper will be explored. No prerequisites.
Taught by: FNAR Faculty
One-term course offered either term
Also Offered As: FNAR 259
Activity: Studio
1 Course Unit

**FNAR 563 Advanced Wheel Studio**
This course teaches students more advanced wheel throwing techniques while helping to develop their critical skills in other areas of ceramic work. Students will learn to throw, employing larger masses of clay, and to increase the complexity of their work by combining and altering thrown parts. There will be an emphasis on experimentation in surface treatment and design, the goal of which is to expand a student’s ability to create more complicated and personalized clay works. In addition to learning the technical knowledge, there will be critical discussions of contemporary ceramics issues through image presentations, reading materials and field trips.
One-term course offered either term
Also Offered As: FNAR 263
Prerequisite: FNAR 561
Activity: Studio
1 Course Unit

**FNAR 566 Graphic Design with Creative Technologies**
The aim of this course is to introduce students creative ways to use color, typography, and layout across new materials and media, ranging from print to physical objects. Students will explore visual design through a set of assignments and projects that are geared towards exploring the role of design in visual arts, interaction design, media design and architecture. The course introduces a number of design concepts such as content organization, navigation, interaction and data-driven design and show ways to develop new design metaphors, presentation techniques, and imagery using old and new technologies. course is structured as a combination of lectures and hands on workshops where students will have the chance to work both individually and collaboratively to realize their projects.
One-term course offered either term
Also Offered As: FNAR 266
Prerequisite: FNAR 636
Activity: Studio
1 Course Unit

**FNAR 567 Computer Animation**
Through a series of studio projects this course introduces techniques of 2D and 3D computer animation. Emphasis is placed on time-based design and storytelling through animation performance and montage. Students will develop new sensitivities to movement, composition, cinematography, editing, sound, color and lighting.
One-term course offered either term
Also Offered As: FNAR 267
Activity: Studio
1 Course Unit

**FNAR 568 Interactive Design Studio: Biological Design**
This course is a research-based design studio that introduces new materials, fabrication, and prototyping techniques to develop a series of design proposals in response to the theme: Biological Design. The studio introduces life sciences and biotechnologies to designers, artists, and non-specialists to develop creative and critical propositions that address the social, cultural, and environmental needs of the 21st century. The course will be a pilot study of the first biodesign challenge organized by CUT/PASTE/GROW. The final projects will be submitted to a competition and the winning entry will be featured at Biofabricate in Summer 2017.
One-term course offered either term
Also Offered As: FNAR 268, IPD 568
Activity: Studio
1 Course Unit
FNAR 569 Typography
The study and practice of typography spans the history of individual letterforms through the typesetting of full texts. It is a complete immersion into type as an integral part of visual communication. Typesetting conventions and variables including legibility, readability, texture, color and hierarchy will be stressed, as well as a form for organizing information and expressing visual ideas. Studio work will include collecting and analyzing type, designing an original typeface, researching type history and experimenting with typographic forms.
Course usually offered in spring term
Also Offered As: FNAR 269
Prerequisite: FNAR 636
Activity: Studio
1 Course Unit

FNAR 570 Graphic Design Practicum
Practicum provides a real world experience for students interested in solving design problems for non-profit and community organizations.
The studio works with two clients each semester, and previous projects have included print design, web design, interpretive signage and exhibit interactives. All projects are real and will result in a portfolio-ready finished product. Students will participate in a full design experience including design, client interaction, presentations, production, and project management. In addition, students will take field trips, meet professionals and go on studio visits.
One-term course offered either term
Also Offered As: FNAR 270
Prerequisite: FNAR 566 or FNAR 569
Activity: Studio
1 Course Unit

FNAR 571 Introduction to Photography
This course is an introduction to the basic processes and techniques of black & white photography. Students will learn how to expose and process 35mm film, SLR camera operation, darkroom procedures & printing, basic lighting and controlled applications. It begins with an emphasis on understanding and mastering technical procedures and evolves into an investigation of the creative and expressive possibilities of making images. This is a project-based course, where students will begin to develop their personal vision, their understanding of aesthetic issues and photographic history. Assignments, ideas and important examples of contemporary art will be presented via a series of slide lectures, critiques and discussion. No previous experience necessary. 35mm SLR cameras will be available throughout the semester for reservation and checkout from the photography equipment room. If you need assistance registering for a closed section, please email the department at fnarug@design.upenn.edu.
One-term course offered either term
Also Offered As: FNAR 271, VLST 251
Activity: Studio
1 Course Unit

FNAR 572 Advanced Photography: Integrated Techniques and Strategies
This studio course seeks to broaden each student's skills by experimenting with a wide range of photographic media. Advanced analog, digital and experimental lens-based techniques will be covered, as well as larger camera formats to expand their vocabulary as image-makers. Emphasis will be on an integrated experience of the photographic medium and the development of a body of work that is both theoretically and historically informed. The course will be a means to view and discuss various strategies of important contemporary photographers. Focused assignments, readings, slide lectures and gallery visits will supplement each student's artistic practice and research.
One-term course offered either term
Also Offered As: FNAR 272
Prerequisite: FNAR 571 or Permission of Instructor
Activity: Seminar
1 Course Unit

FNAR 574 Reconfiguring Portraiture
As methods of representation are constantly shifting, one thing is clear - the photographic portrait is not what is used to be. Exploring both traditional and contemporary methods of portraiture, this class will uncover and discuss the ways in which we perceive each other in imagery, both as individuals and as groups. Throughout the semester, we will consider how portraits deal with truth, physical absence, the gaze, cultural embodiment, voyeurism and the digital persona. This course will build on the combination of perception, technology, and practice. Throughout the semester, students will advance by learning lighting techniques and strategies of presentation - as these core skills will become tools in the execution of project concepts. In tandem with each project, students will encounter and discuss a wide array of photography and writings from the past to the present, in an effort to understand the meanings and psychological effects of freezing the human image in time.
Course usually offered in spring term
Also Offered As: FNAR 274
Prerequisite: FNAR 571 or FNAR 640 or Instructor Permission
Activity: Seminar
1 Course Unit

FNAR 575 Graduate Drawing Seminar
This seminar examines the essential nature drawing has in an artist's process. Direct visual perception, self-referential mark making, the viability of space and understanding it, and drawing from one's own work are some of the drawing experiences encountered in the course. There are regular critiques and discussions based on the work and readings.
Taught by: Tileston/Freedman
Course usually offered in spring term
Activity: Seminar
1 Course Unit
FNAR 576 Critical Issues Seminar
This seminar investigates issues concerning visual artists. Part one begins with Plato and Kant and progresses through a history of ideas in art, exploring the questions which concern artists today, including Modernism, post-modernism, abstraction and representation, appropriation, context, art and politics, identity, and the artist’s relationship to these subjects. Part two of the course will focus on current texts in contemporary art, the current dialogue(s), and issues specific to our time and place as artists. The seminar engages contemporary issues in a spirit of curiosity and critique, and relates them to our studio practice.
Taught by: Tileston
One-term course offered either term
Activity: Seminar
1 Course Unit

FNAR 578 Documentary Strategies
This course offers a context for photographers to develop a documentary project - either within a traditional photojournalistic framework or one that challenges these traditions. The aim is to understand documentary as an evolving practice and to develop an artistic response when depicting our social reality - from everyday experience to the events that shape the world. An important aspect of the class will be examining the diversity of ways that journalists and artists have used the camera to extend and question the power of photography as document. The class will address key questions of media and mediation, the nature and status of documentary in the context of globalizing media and how traditional documentary work has been affected by video, performance, conceptual art and activism.
One-term course offered either term
Also Offered As: FNAR 278
Prerequisite: FNAR 571 or FNAR 640 or Permission from Instructor
Activity: Seminar
1 Course Unit

FNAR 580 Figure Drawing I
Students work directly from the nude model and focus on its articulation through an understanding of anatomical structure and function. Students will investigate a broad variety of drawing techniques and materials. The model will be used as the sole element in a composition and as a contextualized element.
One-term course offered either term
Also Offered As: FNAR 280
Prerequisite: FNAR 523
Activity: Studio
1 Course Unit

FNAR 581 Figure Drawing II
Figure Drawing II is an advanced class designed to further develop the student’s skill and facility in capturing the human form. Content and conceptual issues will be explored through individualized projects concentrating on the figure. Students will also expand on their knowledge of drawing media and application.
One-term course offered either term
Also Offered As: FNAR 281
Prerequisite: FNAR 580
Activity: Studio
1 Course Unit

FNAR 582 Advanced Topics in Photography: Site, Space and Documentation
This course will challenge students to create immersive environments and activated spaces through interdisciplinary means. Students will be working on individual as well as collaborative projects; they will be encouraged to incorporate different media with photography and explore the various methods and materials of installation. They will learn how to develop and present professional proposals and experiment with different modes of documentation. We will examine the history of Installation Art with an emphasis on contemporary trends and important emerging artists. Topics of discussion will range from site-specificity/architecture, Social Practice models and performance-oriented residue. The course culminates with a public presentation-an exhibition of student projects created for specific sites on campus.
Course usually offered in fall term
Also Offered As: FNAR 282
Prerequisite: FNAR 571 or FNAR 640 or Permission from Instructor
Activity: Seminar
1 Course Unit

FNAR 585 Performance Studio
This course supports the individual and collaborative production of performance works. As the medium of performance consists of diverse forms, actions, activities, practices and methodologies, the course allows for an open exploration in terms of material and form. Students are invited to utilize technologies, materials and methodologies from other mediums and/or disciplines such as video, photography, writing and sound. In addition to the production component, the course will examine multiple histories of performance through readings, screenings and directed research.
Taught by: Hayes
Course usually offered in spring term
Also Offered As: FNAR 085
Prerequisite: One previous studio course (such as FNAR523, FNAR545, FNAR640, OR FNAR661) or permission from the instructor.
Activity: Studio
1 Course Unit

FNAR 589 Mixed Media Animation
Mixed Media Animation is a contemporary survey of stop-motion animation concepts and techniques. Students use digital SLR cameras, scanners and digital compositing software to produce works in hand-drawn animation, puppet and clay animation, sand animation, and multiplane collage animation. Screenings and discussions in the course introduce key historical examples of animation demonstrating how these techniques have been used in meaningful ways. Students then learn how to composite two or more of these methods with matte painting, computer animation or video.
Course usually offered in spring term
Also Offered As: CIMS 289, FNAR 289
Prerequisites: FNAR 523 and FNAR 636
Activity: Studio
1 Course Unit
FNAR 591 The Body and Photography
The last few decades have introduced dramatic changes in the way we interact with each other, the way we communicate, the way we date, watch porn, etc. Ethical concerns have arisen with scientific advances such as stem cell research, fertility drugs, Botox, cloning and erectile dysfunction. This studio course will investigate the myriad ways in which the corporeal is addressed and manipulated in contemporary art, science, religion, pop culture and media. Students will develop photographic projects related to updated questions concerning gender, sexuality and social issues. Lectures, readings and class discussion will focus and inform their individual work.
Course usually offered in spring term
Prerequisites: FNAR 271 or FNAR 340 and Instructor Permission Required
Activity: Seminar
1 Course Unit

FNAR 594 Graduate Photography Seminar
This seminar will examine contemporary issues in photography from the point of view of the practicing artist. Students will meet with visiting critics during the semester, the course will also include student presentations, weekly discussions and group critiques, visits to artists' studios and gallery and museum exhibitions. Texts for the seminar will be drawn from contemporary critical theory in art, philosophy, history and popular culture. Required for all graduate photographers.
Taught by: Davenport
Activity: Seminar
1 Course Unit

FNAR 598 Grad Sculpture Seminar
Sculpture instructor (to be announced) will lead this studio course based on improvisational approaches to developing individually made sculptural works, as well as works that are made in collaboration with others. As in Music or Theater, these works involve the collaboration of others, yet they are equally initiated by small thoughts, and carry those thoughts into a more public and interactive format of installation.
Course usually offered in spring term
Activity: Seminar
1 Course Unit

FNAR 601 Graduate Studio III
First year studio for MFA students' core pursuit of self-directed interdisciplinary problems that contribute to one or more of the visual art disciplines.
Taught by: Lum/Freedman/Mosley/Telhan/Telhan/Hartt/Hayes/Lopez
Course usually offered in fall term
Activity: Studio
2 Course Units

FNAR 602 Graduate Studio IV
Second year studio for MFA students' core pursuit of self-directed interdisciplinary problems that contribute to one or more of the visual art disciplines.
Taught by: Adkins/Davenport/Freedman/Mosley/Telhan/Telhan
Course usually offered in spring term
Activity: Studio
3 Course Units

FNAR 604 Graduate Sculpture Studio
Second-year studio for MFA students exploring advanced discipline in sculpture.
Taught by: Adkins
One-term course offered either term
Also Offered As: FNAR 305
Activity: Studio
1 Course Unit

FNAR 607 Advanced Sculpture: Installation & Intervention
In this course students will create sculptural installations and spatial interventions that explore site specificity and architectural environments. A range of traditional sculptural materials and techniques will be investigated along with more ephemeral interventions in space such as sound, light, and projection. Through lectures, readings, and critiques, students will explore the history of installation and interactive sculptural work and develop self-directed projects that interrogate historical, social, and psychological conditions of the built environment.
Also Offered As: FNAR 147
Activity: Studio
1 Course Unit

FNAR 609 Experimental Clay
In this advanced course students will experiment with the evolutionary and sculptural qualities of contemporary materials that act as clay through studio based projects. Through various stages of conceptual development, students will explore how materials perform and transform within radically different settings and processes, which may include but are not limited to working with photography, performance, architecture. Applications from other majors encouraged: engineering, digital media design, physics, poetry.
Also Offered As: FNAR 249
Activity: Studio
1 Course Unit
**FNAR 613 The Chinese Body and Spatial Consumption in Chinatown**

This is a primarily an art and planning course that centers on the representation of the oriental, specifically the Chinese, in both its historical and present contexts. The localization of the Chinese throughout the Americas within Chinatown precincts were also subject to representational imaginations that were negotiated through the lens of civic planning. This course will study the often fraught negotiation between representation and planning. The hyper-urbanization of China over the past several decades has radically altered traditional conceptions of public space in China. Mass migration from rural to urban areas has meant very high population densities in Chinese cities. Traditional courtyards surrounded by housing and other modestly scaled buildings are rapidly disappearing, incongruent with the demands of heated property development. Moreover, Chinese cities have comparatively little public green space per resident compared to equivalents in the West. Zoning in Chinese cities is also much more varied for any given area than what one would find in cities such as New York, Paris, and London. Intensifying density of urban areas precludes the construction of large public squares. Furthermore, large public squares tend to be either intensively congested and overcrowded or underused due to their oversight by government that render such spaces somewhat impoverished in terms of use. Historically, the urban courtyards of temples, native place associations, and provincial guilds served as public spaces of gathering. They were also sites of festivals and the conducting of neighborhood and civic business. These spaces have become increasingly privatized or commodified with entrance fees. The air-conditioned concourses of enclosed shopping malls or busy outdoor market streets have become de facto public spaces in China where collective window shopping or promenading is the primary activity rather than bodily repose as one might find in a public space in a large Western city. The seminar/studio will investigate the meaning of the term public in the constitution of Chinese space, audience and critical voice through firstly the enclave of Chinatown and secondly through examples from China. The course will look into the changing conceptualization of public space in Chinatown as it has declined in its traditional form and become reinvented in the form of high-end shopping centers districts. This flux has its roots in post 1979 China as well as the post 1997 reversion of Hong Kong to China.

Also Offered As: FNAR 331  
Activity: Seminar  
1 Course Unit

**FNAR 615 Across Forms: Art and Writing**

What if a poem spoke from inside a photograph? What if a sculpture unfurled a political manifesto? What if a story wasn’t just like a dance, but was a dance—or a key component of a video, drawing, performance, or painting? In this course, artists and writers will develop new works that integrate the forms, materials, and concerns of both art and writing. Many artists employ writing in their practices, but may not look at the texts they create as writing. And many writers have practices that go beyond the page and deserve attention as art. This course will employ critique and workshop, pedagogic methodologies from art and writing respectively, to support and interrogate cross-pollination between writing and art practices. Additionally, the course will examine a field of artists and writers who are working with intersections between art and writing to create dynamic new ways of seeing, reading, and experiencing.

Taught by: Hayes and Zolf  
Course usually offered in fall term  
Also Offered As: ENGL 119, FNAR 315  
Activity: Seminar  
1 Course Unit

**FNAR 620 Producing Ephemera: Letterpress, Risograph, Inkjet, Xerox**

This studio course introduces students to the world of printmaking and circulation through techniques in letterpress and Risograph (a high-speed digital printing system developed in Japan in the 1980s), in addition to Xerox, laser, inkjet, and off-set printing, focusing particularly on the format of prints, artists’ ephemera, and the role of ephemera in understanding culture. Students will create their own broadsides, flyers, announcement cards, and independent publications throughout the course, exploring ways in which artists, designers, musicians, and activists make or have made use of the print to disseminate information; initiate happenings; advertise events; or format change. Students will learn about some of the most significant producers working within this realm - from Conceptualists to punk bands - and develop skills in page layout, typography, and design; mechanized and hand-pulled press operations; and digital to analog pre-press and post-print production methods. This course is designed for highly motivated students and requires out-of-class time commitment. However, no prior coursework is required. Students from all levels and backgrounds are encouraged to register. The course employs combined collaborative / self-directed approaches to learning to enhance students’ understandings of ways in which print media and multiples serve as vital conduits for disseminating ideas involving visual art, popular culture, literature, politics, performance and many other topics students will wish to explore.

Taught by: Romberger  
Course usually offered in fall term  
Also Offered As: FNAR 220  
Activity: Studio  
1 Course Unit

**FNAR 622 The Big Picture: Mural Arts in Philadelphia**

The history and practice of the contemporary mural movement couples step by step analysis of the process of designing with painting a mural. In addition students will learn to see mural art as a tool for social change. This course combines theory with practice. Students will design and paint a large outdoor mural in West Philadelphia in collaboration with Philadelphia high school students and community groups. The class is co-taught by Jane Golden, director of the Mural Arts Program in Philadelphia, and Shira Wainsky, a mural arts painter and founder of Southeast by Southeast project, a community center for Burmese refugees in South Philadelphia.

One-term course offered either term  
Also Offered As: FNAR 222, URBS 322  
Activity: Seminar  
1 Course Unit

**FNAR 631 Interdisciplinary Studio: Sites of Convergence and Hybridity**

This course takes an experimental multimedia approach to investigating some of the boundaries in contemporary art making practices. Painting, photography, video, design and sculpture intersect, overlap, and converge in complicated ways. Projects will be designed to explore hybrid forms, collage, space/ installation, and color through a variety of strategic and conceptual proposals as students work towards unique ways of expanding their own work. Weekly readings, critiques, and presentations will be integrated with studio projects. This studio/seminar is appropriate for students at all levels and from all areas of Fine Arts and Design.

Taught by: Tileston  
Course usually offered in spring term  
Also Offered As: FNAR 331  
Prerequisites: One previous studio course (such as FNAR 523, FNAR545, FNAR640, FNAR 531 or FNAR 636 or Penn Design course) or permission from the instructor.  
Activity: Studio  
1 Course Unit
FNAR 633 Digital Illustration
Digital Illustration is a course designed to expose students to the diverse techniques and approaches used in creating digital illustration for print publication. Course assignments will include two-dimensional animation storyboard rendering, figure illustration, technical diagram illustration, photographic retouching and enhancing. Digital applications will include morphing with layers, surface cloning, three-dimensional modeling and spatial transformation of scenes and objects. Students completing this course will possess the capability to design and plan creatively and skillfully execute finished artwork.
One-term course offered either term
Prerequisites: FNAR 233
Also Offered As: FNAR 634 and FNAR 523
Activity: Studio
1 Course Unit

FNAR 634 Art of the Web: Interactive Concepts for Art & Design
Art of the Web: Interactive concepts for art and design is a first step in learning how to create, analyze and discuss interactive content, as a visual creator. It is an exploration of the culture of the internet, the ideas behind its quirks, the dreams and freedoms it encapsulates, and the creative power it gives to us. Students will be assigned projects that will challenge their current understanding of the web, and the ways it shapes human connectivity and interaction. Upon completion of this course, students will possess a working knowledge how to organize and design websites and learn to critique web-content including navigation, UX design and information architecture. The course will require analytical and conceptual skills and foster creative thinking.
One-term course offered either term
Prerequisite: FNAR 636
Also Offered As: FNAR 234
Activity: Studio
1 Course Unit

FNAR 635 3-D Computer Modeling
Students will develop a comprehensive knowledge of how virtual worlds are constructed using contemporary computer graphics technique with a fine arts perspective. The course will offer the opportunity to explore the construction, texturing, and rendering of forms, environments, and mechanisms while conforming to modeling specifications required for animation, real-time simulations or gaming environments, and rapid prototyping.
One-term course offered either term
Prerequisites: FNAR 523 and FNAR 636
Activity: Studio
1 Course Unit

FNAR 636 Art, Design and Digital Culture
This course is an introduction to the fundamental perception, representation, aesthetics, and design that shape today's visual culture. It addresses the way artists and designers create images; design with analog and digital tools; communicate, exchange, and express meaning over broad range of media; and find their voices within the fabric of contemporary art, design, and visual culture. Emphasis is placed on building an extended form of visual literacy by studying and making images using a variety of representation techniques; learning to organize and structure two-dimensional and three-dimensional space, and designing with time-based and procedural media. Students learn to develop an individual style of idea-generation, experimentation, iteration, and critique as part of their creative and critical responses to visual culture. If you need assistance registering for a closed section, please email the department at fnarug@design.upenn.edu
One-term course offered either term
Also Offered As: FNAR 264, VLST 264
Activity: Studio
1 Course Unit

FNAR 637 Information Design and Visualization
Information design and visualization is an introductory course that explores the structure of information (text, numbers, images, sounds, video, etc.) and presents strategies for designing effective visual communication appropriate for various users and audiences. The course seeks to articulate a vocabulary of information visualization and find new design forms for an increasingly complex culture.
One-term course offered either term
Prerequisite: FNAR 637
Also Offered As: FNAR 337
Activity: Studio
1 Course Unit

FNAR 638 Creative Research
This seminar explores what it means to do research in creative and critical practices. Students learn about different research methods from design, engineering, humanities and sciences; utilize them for developing and evaluating their individual creative work as cultural producers. This is an interdisciplinary course that encourages students to observe, measure, analyze, test, study, experiment, diagram, prototype, speculate, generate and criticize; apply multiple modes of inquiry; be conceptual, analytical, propositional and critical at the same time to develop their work from different perspectives.
Taught by: Telhan
Course usually offered in fall term
Also Offered As: FNAR 338
Activity: Seminar
1 Course Unit
FNAR 640 Digital Photography
This class offers an in-depth technical and conceptual foundation in
digital imagery and the opportunity to explore the creative, expressive
possibilities of photography. Students will become proficient with the
basic use of the camera, techniques of digital capture, color management
and color correction. They will also develop competency in scanning,
retouching, printing and a variety of manipulation techniques in
Photoshop. Through weekly lectures and critiques, students will become
familiar with some of the most critical issues of representation, consider
examples from photo history, analyze the impact of new technologies
and social media. With an emphasis on structured shooting assignments,
students are encouraged to experiment, expand their visual vocabulary
while refining their technical skills. No previous experience is necessary.
Although it is beneficial for students to have their own Digital SLR
camera, registered students may reserve and checkout Digital SLR
cameras and other high-end equipment from the department. If you need
assistance registering for a closed section, please email the department
at fnarug@design.upenn.edu
One-term course offered either term
Also Offered As: FNAR 340, VLST 265
Activity: Studio
1 Course Unit

FNAR 643 Language of Design
The course will explore the changing relationship during the modern
era between design(structure, model, plan of a work of art) and
language (metaphor for a system of communication; speech, writing,
literature). Our readings and visual presentations will focus on topics
in the decorative arts, painting, architecture, typography and visual
communication. We will focus on primary sources in order to situate
our inquiry in a larger historical context. The discussion will center on
claims about the inherent meaning of form, discuss different roles for
design -as an ideological statement, as an agent of social change, and
as an idiosyncratic expression. Topics will also include the search for
a universal visual language, attempts at bridging the perceived gap
between spoken and written language, and the impact of visual form
on the meaning of literary texts (particularly when the author has been
involved in the publication process). Students can suggest additional
topics related to their field of study.
Course usually offered in spring term
Also Offered As: FNAR 343
Activity: Seminar
1 Course Unit

FNAR 645 Book and Publication Design
Book and Publication Design will focus on the theory and professional
practice of designing multi-page publications. Students will analyze
formal structures of different types of books-literature and poetry, fiction
and non-fiction compilations, illustrated volumes such as art catalogues,
monographs and textbooks, and serial editions-discussing both
traditional and experimental approaches. The format of the course will
be split between theoretical and historical evaluations of book formats
by drawing on the Van Pelt Rare Book Collection-and studio time where
students will design books with attention to the format's conceptual
relationship to the material at hand with a focus on typography and
page layout, as well as on understanding production methods of printing
and binding. In addition to the conventions of page layout students will
examine paratextual elements (title page, practices of pagination and
other internal structuring, content lists and indexes, colophons, notes and
marginalia, end-leaves, binding, etc.).
Taught by: Hyland
Course usually offered in fall term
Also Offered As: FNAR 245
Prerequisites: FNAR 636 is strongly suggested but not required.
Activity: Studio
1 Course Unit

FNAR 646 ADVANCED 3D MODELING
Advanced 3D Modeling will give students the opportunity to refine skills
in modeling, texturizing, lighting, and rendering with an emphasis on the
evolution of ideas through constant revision based on class critique.
Students will use a variety of industry standard software packages,
including, but not limited to Maya and Mudbox to compose complex
environments. Projects are designed to give students the opportunity to
work with original content within a simulated production environment.
One-term course offered either term
Also Offered As: FNAR 366
Prerequisite: FNAR 235/635 or FNAR 236/536
Activity: Studio
1 Course Unit
FNAR 647 Expanded Documentary
The sites and situations of documentary in our culture have exploded exponentially— from standardized formulas (like reality tv), to social media and cross-platform journalism. In contemporary art, documentary practice has also significantly expanded and diversified. Since the early 2000’s, with several influential exhibitions following Documenta XI, a new generation of artists have taken up the ambition of depicting our social reality, and have done so by re-engaging and re-inventing the documentary mode. This intermediate course will examine this vital contemporary field and will also offer students a comprehensive introduction to the history of documentary practice. We will investigate a series of key questions regarding the relation between politics and aesthetics, mediums and mobility, how documents function to both approximate and deny a sense of ‘reality’ and perhaps most importantly— what kinds of social, political or personal realities you want to propose in your artwork. The class will be driven by a series of studio assignments and practical experimentation. Although there will be an emphasis on photography and video, students will also explore a multiplicity of strategies and forms (including archival display, essayistic installation, image-text relationships, and the documentation of performance.)

Taught by: Davenport
Course usually offered in spring term
Also Offered As: FNAR 347
Prerequisite: FNAR-571 or FNAR-640 or FNAR-661 or permission from instructor
Activity: Studio
1 Course Unit

FNAR 648 Counter the Land: Photography and the Landscape
Starting with the representation of landscape in painting in the early 1800s, the course will then move through Pictorialism and the Modernist movement in photography. Revisiting the later half of the 20th century, we will begin to consider the shifting practices of landscape and the ways it has been photographically depicted up to the present. Collaborating with the Brandywine River Museum of Art in Chadds Ford, students will begin their photographic exploration with the work of Andrea Wyeth and the landscape of the Brandywine Valley. As we consider Wyeth, the images of James Welling will also be introduced. Credited for pioneering new forms of representation in photography in the 1970s, Welling also revisited the work of Wyeth from 2010-2015, and committed to a fresh (and challenging) look at tradition. Working with imagery and text, this class will also touch on conceptual art, the New Topographics, and postmodernism. Through these various concentrations, students will consider and counter the traditions that they are already familiar with, while creating work based on issues of the landscape today. Questions about meaning, politics, social critique, land rights, technology and methods of presentation will be encouraged and explored throughout the course.

Taught by: Wahl
Course usually offered in fall term
Also Offered As: FNAR 348
Prerequisites: FNAR 571 or FNAR 640 or with permission of the instructor.
Activity: Studio
1 Course Unit

FNAR 649 Advanced Digital Photography
In this studio course, students will become proficient in advanced techniques of image production while expanding their artistic process and refining their photographic work. With an emphasis on self-directed projects and research, students will further their knowledge of image control and manipulation, retouching and collage, advanced color management; become familiar with high-end equipment and develop professional printing skills. Class discussion, lectures and assigned readings will address the critical issues in contemporary art, media and photographic culture. Emphasis will be on integrating practice and critical dialogue.

One-term course offered either term
Also Offered As: FNAR 349
Prerequisite: FNAR 640
Activity: Studio
1 Course Unit

FNAR 650 Shared Culture: New Strategies for Artists in the Digital Age
Our digital world has forced us to entirely rethink what it means to be an artist in the digital age, socially, economically, and politically. Ideas that have long been stable— including originality, creativity, and genius— are ripe for reexamination and redefinition in the twenty-first century. When the entire internet is copy- and-pasteable - and distribution moves swiftly - is anything off limits for the artist? Can we imagine our artistic production mimicking the meme, rippling through the networks for a day, then disappearing forever? Are we doomed to make works that are supposed to live for eternity or, in the face of environmental meltdown and collapsing financial markets, can we instead move our production toward the ephemeral? What would this look like? Can our output be steered toward the political? Can we frame these ideas as acts of resistance? Or compliance? Is there an inside? Is there an outside?

Taught by: Goldsmith
Course usually offered in spring term
Also Offered As: FNAR 350
Activity: Studio
1 Course Unit
Notes: Fine Arts Majors or MFA students ONLY or permission of instructor.
FNAR 654 Printmaking & Publications: Intro to Independent Publishing and Artists' Publications
This course introduces students to independent publishing and artists’ publications through print methods in letterpress, Risograph, and Xerox. The class will focus on the self-published artists’ zine/book as an affordable, accessible, and easily reproducible format for exploring ideas, disseminating artists’ work, and collaborating across disciplines. Students will learn a range of skills, including techniques in both mechanized and hand-pulled forms of printed media (Risograph, copy machine, Vandercook letterpress); short-run editions and binding; design and layout; pre-press and print production; and the web as it relates to and supports independent and democratic modes of distribution. Students will learn about and become acquainted with some of the most significant independent publishers working today and throughout history. Students will leave class having completed three individual projects: a 16-page booklet/zine; a carefully considered online publication, and a final collaborative book designed, developed and published as a class. The course commences with a field trip to New York City’s Printed Matter, one of the oldest and most important nonprofit facilities dedicated to the promotion of artists’ books, where students will be encouraged to submit a publication by semester’s end.
Taught by: Romberger
Course usually offered in fall term
Also Offered As: FNAR 254
Activity: Seminar
1 Course Unit

FNAR 661 Video I
In this studio based course, students are introduced to video production and postproduction as well as to selected historical and theoretical texts addressing the medium of video. Students will be taught basic camera operation, sound recording and lighting, as well as basic video and sound editing and exporting using various screening and installation formats. In addition to a range of short assignment-based exercises, students will be expected to complete three short projects over the course of the semester. Critiques of these projects are crucial to the course as students are expected to speak at length about the formal, technical, critical and historical dimensions of their works. Weekly readings in philosophy, critical theory, artist statements and literature are assigned. The course will also include weekly screenings of films and videos, introducing students to the history of video art as well as to other contemporary practices. If you need assistance registering for a closed section, please email the department at fnarug@design.upenn.edu
One-term course offered either term
Also Offered As: CIMS 061, FNAR 061, VLST 261
Activity: Seminar
1 Course Unit

FNAR 662 Video II
Video II offers opportunities to further explore the role of cinematic narrative technique, non-narrative forms, digital video cinematography, editing, and screen aesthetics. Through a series of several video projects and a variety of technical exercises, students will refine their ability to articulate technically and conceptually complex creative projects in digital cinema. In addition, one presentation on a contemporary issue related to the application of cinematic storytelling and/or the cultural context of digital video is required.
One-term course offered either term
Also Offered As: CIMS 062, FNAR 062
Prerequisite: FNAR 661
Activity: Seminar
1 Course Unit

FNAR 663 Documentary Video
Documentary Video is an intensive production course involving the exploration of concepts, techniques, concerns, and aesthetics of the short form documentary. Building on camera, sound, and editing skills acquired in Video I, students will produce a portfolio of short videos and one longer project over the course of the semester using advanced level camera and sound equipment. One short presentation on a genre, technique, maker, or contemporary concern selected by the student is required.
Course usually offered in fall term
Also Offered As: FNAR 063
Prerequisite: FNAR 661
Activity: Seminar
1 Course Unit

FNAR 665 Cinema Production
This course focuses on the practices and theory of producing narrative based cinema. Members of the course will become the film crew and produce a short digital film. Workshops on producing, directing, lighting, camera, sound and editing will build skills necessary for the hands-on production shoots. Visiting lecturers will critically discuss the individual roles of production in the context of the history of film.
Course usually offered in fall term
Also Offered As: FNAR 065
Prerequisite: FNAR 661
Activity: Seminar
1 Course Unit

FNAR 666 Advanced Video Projects
This course is structured to create a focused environment and support for individual inquiries and projects. Students will present and discuss their work in one on one meetings with the instructor and in group critiques. Readings, screenings, and technical demonstrations will vary depending on students’ past history as well as technical, theoretical, and aesthetic interests. Course approval will be based on application prior to the beginning of the semester.
Course not offered every year
Also Offered As: CIMS 067, FNAR 067
Prerequisite: FNAR 662
Activity: Seminar
1 Course Unit

FNAR 668 Cinematography
This course will be a technical, practical and aesthetic exploration of the art of cinematography as it pertains to film and digital video. Through screenings, in-class exercises and assignments, students will increase their Video I skills in lighting and cinematography as a form of visual expression. Topics covered include shot composition, camera movement, lenses, filtration and color, exposure, lighting techniques, location shooting and how to use grip equipment. Discussions, demos and lectures will include relevant and illustrative historical motion picture photography, current digital video technology, and examples that explore interactions between film and video.
Course usually offered in spring term
Also Offered As: FNAR 068
Prerequisite: FNAR 661
Activity: Seminar
1 Course Unit
FNAR 669 Graduate Video Studio
Through a series of studio projects, this course focuses on the conceptualization and production of time-based works of art. A seminar component of the course reviews contemporary examples of media based art and film. A studio component of the course introduces production techniques including lighting, cinematography, audio, editing, mastering projects, and installing audio-visual works in site-specific locations or gallery spaces.
Taught by: Mosley
Course usually offered in fall term
Activity: Studio
1 Course Unit

FNAR 670 Advanced Graphic Design and Typography
This course will explore advanced commercial, public and personal forms of visual communication. Emphasis will be placed on creative problem solving with consideration for audience. Discussion of design history, current ideology and future design applications will inform individual student projects. Work generated in this studio can be used to build a portfolio.
Course usually offered in fall term
Also Offered As: FNAR 370
Prerequisites: FNAR 566 AND FNAR 569 or Permission of Instructor.
Activity: Studio
1 Course Unit

FNAR 671 Film Sound: History, Aesthetics and Subversion
Sound and Image as experienced in the cinema, are not divisible. One perception influences the other, and transforms it. While a preexisting harmony between these two senses may exist, its conventions are subject to manipulation and the whims of subversion. Film Sound tracks the technological and aesthetic history of sound for film including psychoacoustics, dialogue, music, sound fx and audio’s gradual and triumphant march towards fidelity, stereo and surround sound. This lecture course, through an historical and pedagogical romp loaded with examples throughout film history and visits by lauded audio professionals from the film world, seeks to instruct students to engage in the process of sound perception, gaining an appreciation for the art of sound as it relates to the varied phenomenological dimensions of that unique audio-visual encounter we call movies.
Taught by: Novack
Course usually offered in fall term
Also Offered As: FNAR 070
Activity: Seminar
1 Course Unit

FNAR 673 Machine for Seeing: Architecture and the Moving Image
Architecture's relationship with cinema was established with the very first motion picture. In Sortie de l'usine Lumiere de Lyon by Auguste and Louis Lumiere we see a didactic presentation of film titles as workers from the Lumiere brother’s factory stream forth from its interior at days end. In many ways the context of the film is its subject as well. The title of the class plays on Le Corbusier’s maxim that architecture is machine for living and perhaps cinema is simply a machine for helping us understand the vast construct of our built environment. A device, which allows us to imagine even greater follies or more importantly to think critically about architecture's relationship with and impact on society. Readings, screenings, discussions and critiques make up the curriculum along with studio time. Students will produce their own film and we will look at films produced by a range of practitioners: From architects speculating on the nature of and use of public space and urban development to documentarians researching the pathologies of neo-liberalism and its effect on the privatization of space. We will also look at the work of artists who engage with the poetics of space and who unpack the conflicted legacies of the built environment.
Taught by: Hartt
Course usually offered in spring term
Also Offered As: FNAR 073
Prerequisite: FNAR 607
Activity: Studio
1 Course Unit

FNAR 674 A Virus in the Culture: Social Critique in Media Arts
In order to change the world, we must first learn how to infect it. A Virus in the Culture is a studio class that examines and generates various forms of media resistance to dominant hegemonic systems of power and control. Using filmmaking, publication design and interactive media we'll think through and develop responses to some of the most pressing issues facing us today. We'll look at historical models from the agitprop design work of Gee Vaucher for Anarcho-punk band Crass to Chris Marker's film Le Fond de L’Air Est Rouge, a radical analysis of global social and political turmoil in the late 60s and early 70s. We'll also look at experimental contemporary design firms like Metahaven who question the role of designers and filmmakers today - Bypassing the power dynamics of clients and briefs they took it upon themselves to create a graphic identity for WikiLeaks. Each example broadens the definition and possibilities of practice to create a more porous engagement with audiences and users while informing the practice of social critique today. Considering a diverse range of topics from education policy, to the rights and possibilities of practice to create a more porous engagement with environmental refugees, we’ll use the class to workshop a singular comprehensive project that targets researches and responds to a specific contested position. The outcome of which will be a class produced short film, publication and website that unpacks the social, cultural, and economic complexities of our subject. This class is co-taught by David Hartt, an artist and filmmaker along with graphic designer, Mark Owens. Reading, screenings, discussions and critiques make up the curriculum along with studio time. While the focus of this course is not technical, prior knowledge of design programs, camera functions, and post-production techniques is expected.
Taught by: David Hartt and Mark Owens
Course usually offered in fall term
Also Offered As: FNAR 074
Prerequisite: FNAR 661 or permission from instructor
Activity: Studio
1 Course Unit
FNAR 675 Image and Sound Editing
This course presents an in-depth look at the storytelling power of image and sound in both narrative and documentary motion pictures. Students apply a theoretical framework in ongoing workshops, exploring practical approaches to picture editing and sound design. Students edit scenes with a variety of aesthetic approaches, and create story-driven soundtracks with the use of sound FX, dialogue replacement, foleys, music and mixing. Students not only learn critical skills that expand creative possibilities, but also broaden their understanding of the critical relationship between image and sound.
Course usually offered in spring term
Also Offered As: CIMS 075, FNAR 075
Prerequisite: FNAR 661
Activity: Seminar
1 Course Unit

FNAR 677 On Thoughts Occasioned
Also Offered As: CIMS 177, ENGL 257, FNAR 177
Activity: Seminar
1 Course Unit

FNAR 678 Interfacing Culture: Designing for Mobile, Web and Public Media
This course introduces advanced topics related to contemporary media technologies, ranging from social media to mobile phones applications and urban interfaces. Students learn how to use new methods from interaction design, service design, and social media and work towards prototyping their ideas using new platforms and media. The class will cover a range of topics such as such as online-gaming, viral communication, interface culture, networked environments, internet of things and discuss their artistic, social, and cultural implications to the public domain.
Course usually offered in spring term
Also Offered As: FNAR 378
Prerequisite: FNAR 634
Activity: Studio
1 Course Unit

FNAR 679 Studio Lighting
The necessity of light and how light is rendered in relationship to what is seen and understood, is often a key ingredient in the portrayal of a subject. The origin of the still life can be found in images as far back as antiquity and has dealt with notions of death, science, class, social customs and even sex. Photography picked up on the tradition in 1827 and has not only made use of the form, but has expanded the topic into very unique territories. Contemporary artists have re-invented and re-invigorated the still life, formalism & abstract photography. As a framework for exploring ‘hands-on’ lighting techniques, students will creatively grapple with the photography of objects in the studio. Working with the physical, symbolic, and conceptual ramifications of depicting specific forms in an image, teamed with the discussion of key texts, critiques, and studio lighting seminars, each student will create a considered and unique portfolio of images.
Taught by: Wahl
Course usually offered in spring term
Also Offered As: FNAR 279
Prerequisite: FNAR 571 or Permission of Instructor
Activity: Studio
1 Course Unit

FNAR 684 Photography & Fashion
Since the invention of photography, the fashion industry has been one of the cornerstones of creative expression, innovation and visionary provocation. Contemporary fashion photography has continued to attract a leading group of image-makers that continue the tradition of creating artwork that not only is being published in cutting edge magazines such as V, Another Magazine and Citizen K, but also are exhibiting their work in various galleries and museums around the world. This course is designed for students who are interested in creating contemporary fashion images through specific assignments that define the process: lighting in studio or location, working with fashion designers, stylists, models, hair/ make up artists, and the application of a variety of post production techniques, via Photoshopped. The class will explore modern constructs that define the importance of branding, marketing, advertising and the relationship of fashion photography in contemporary art and culture today.
Also Offered As: FNAR 284
Prerequisite: FNAR 571 or FNAR 640 or Permission from Instructor
Activity: Studio
1 Course Unit

FNAR 685 Photography and Fiction
In spite of photography's traditional relationship with fact, the medium has been a vehicle for fiction since the very beginning. Fiction and photography encompass a broad range of meanings, from elaborately staging and performing for the camera, to manipulations using digital technology such as Photoshop to construct the work. This class will examine and trace the history of manipulated photography while paying special attention to the complex negotiations between the decisive moment, the constructed tableau, and the digitally manipulated image. There will be a combination of class lectures, studio projects, assigned readings, visiting artists, film screenings, field trips, and class critiques.
Taught by: Diamond
Course usually offered in spring term
Also Offered As: FNAR 285
Prerequisite: FNAR 271 or FNAR 640 or Permission of the Instructor
Activity: Studio
1 Course Unit

FNAR 686 Visual Narrative
Visual Narrative is an introduction to the practice of storytelling with images. From news and information to art, law, and science, visual storytelling is a critical aspect of creating and navigating contemporary culture. This course is situated at the intersection of design, art, and visual culture, focusing on relevant forms and topics including the photo essay, information design and visual explanation, the photographic sequence in contemporary art, scenario design and concept visualization. It proposes that studying and making sequential images and visual essays in a wide range of media - comics and graphic novels, propaganda, environments and installations, social media, animation, video, and digital media - are critical to understanding culture. The course immerses students in the study of narrative craft and creation of visual stories covering topics relevant to designers and photographers. Beginning with the photo series and the photo documentary tradition, the course evolves through multimedia narrative and non-narrative forms. Students will explore principles of narrative construction in design and photography through lecture, studio projects, and with presentations by visiting artists, designers, and photographers.
Taught by: Comberg and Diamond
Course usually offered in fall term
Also Offered As: FNAR 286
Activity: Studio
1 Course Unit
FNAR 701 Graduate Critique I
This course is designed to introduce students to different pedagogical methodologies relating to the critical examination of works of art as well as to assist students in terms of speaking about their own work. Graduate critique provides a democratic and interactive forum for the voicing of opinion in an informed context. 1st year MFA students only.
Taught by: Faculty
Course usually offered in fall term
Also Offered As: FNAR 703
Activity: Studio
1 Course Unit

FNAR 703 Graduate Critique
This course is designed to introduce students to different pedagogical methodologies relating to the critical examination of works of art as well as to assist students in terms of speaking about their own work. Graduate critique provides a democratic and interactive forum for the voicing of opinion in an informed context. 2nd year MFA students only.
Course usually offered in fall term
Also Offered As: FNAR 701
Activity: Studio
1 Course Unit

FNAR 712 Visual Epistemologies for Creative Practices
In this joint seminar between Architecture and Fine Arts, we investigate the alternative modes of diagrammatic thinking that are influencing art and design disciplines. The course provides a historical perspective on the evolution of visual epistemologies from late 1950s and reviews its current state from the lens of contemporary representation theory, computation, fabrication and information technologies. The goal is to gain both theoretical and hands-on experience with the contemporary diagramming techniques in order to advance both designs and the thinking behind them.
Taught by: Furjan/Telhan
Course usually offered in spring term
Activity: Seminar
1 Course Unit

FNAR 720 Topics in Representation
Course usually offered in spring term
Also Offered As: LARP 720
Activity: Lecture
1 Course Unit

FNAR 801 Critical Issues in Contemporary Art
Critical Issues in Contemporary Arts is a graduate level seminar course for fine arts majors and graduate students. Offering two to three sections each semester, standing faculty will rotate topics based around critical issues in contemporary art including Creative Research Defense Against the Dark Arts, and Perspectives in Art: A Nomadic Approach. Please see the PennMFA website for specific section descriptions.
Taught by: Faculty
Course usually offered in fall term
Also Offered As: FNAR 803
Activity: Studio
1 Course Unit

FNAR 803 Critical Issues in Contemporary Art
Critical Issues in Contemporary Arts is a graduate level seminar course for fine arts majors and graduate students. Offering two to three sections each semester, standing faculty will rotate topics based around critical issues in contemporary art including Creative Research Defense Against the Dark Arts, and Perspectives in Art: A Nomadic Approach. Please see the PennMFA website for specific section descriptions.
Taught by: Faculty
Course usually offered in fall term
Also Offered As: FNAR 801
Activity: Studio
1 Course Unit

FNAR 999 Independent Study
Prerequisites: See Graduate Program Coordinator for section numbers.
Activity: Independent Study
1 Course Unit
Notes: Hours and credits arranged

Folklore (FOLK)

FOLK 022 World Music and Cultures
This course examines how we as consumers in the "Western" world engage with musical difference largely through the products of the global entertainment industry. We examine music cultures in contact in a variety of ways – particularly as traditions in transformation. Students gain an understanding of traditional music as live, meaningful person-to-person music making, by examining the music in its original site of production, and then considering its transformation once it is removed, and recontextualized in a variety of ways. The purpose of the course is to enable students to become informed and critical consumers of "World Music" by telling a series of stories about particular recordings made with, or using the music of, peoples culturally and geographically distant from the US. Students come to understand that not all music downloads containing music from unfamiliar places are the same, and that particular recordings may be embedded in intriguing and controversial narratives of production and consumption. At the very least, students should emerge from the class with a clear understanding that the production, distribution, and consumption of world music is rarely a neutral process.
For BA Students: Arts and Letters Sector
Taught by: Muller
Course usually offered in fall term
Also Offered As: AFRC 050, AFST 050, ANTH 022, MUSC 050
Activity: Lecture
1 Course Unit

FOLK 025 Science, Magic, and Religion, 1500 to the present.
The Western world once had its share of witches, alchemists, astrologers and magicians. They are thin on the ground these days, only to be replaced by New Age or cult-like movements. This course examines magic as it once was, explores the rise of science in the seventeenth and eighteenth centuries, looks at Mesmerism and theosophy within the framework of radical political movements culminating in the rise of Fascism, and for twentieth century America explores the nature of post-war Big Science and various anti-science movements. No prerequisites.
For BA Students: History and Tradition Sector
One-term course offered either term
Also Offered As: HIST 025, RELS 116
Activity: Seminar
1 Course Unit
FOLK 029 Women and Religion
Introduction to the role of women in major religious traditions, focusing on the relationship between religion and culture. Attention to views of women in sacred texts, and to recent feminist responses.
For BA Students: Humanities and Social Science S
One-term course offered either term
Also Offered As: GSWS 109
Activity: Lecture
1 Course Unit

FOLK 082 Ritual In American Life
Starting with birth and working chronologically through a series of case studies, this course invites students to examine the centrality of rituals that celebrate the human lifecycle as well as overtly competitive sporting or political rituals. We will explore rituals that unfold at the local level as well as those that most Americans experience only via the media. Rituals under examination include birthday parties, Bar Mitzvahs, Halloween, Quinceaneras, Proms, graduations, rodeos, Homecomings, weddings, Greek initiations, beauty pageants, reunions, and funerals. Students will be encouraged to critically examine their own ritual beliefs and practices and consider these and other theoretical questions: What is the status of ritual in post-industrial culture? What distinguishes popular culture from official ritual and secular from religious ritual? How do sociological variables such as race, class, gender, sexuality, and religion shape people’s understanding of, and participation in, modern family life? How do contemporary rituals bond Americans at the local and/or national level? All students will be expected to conduct original research on a ritual of their own.
Taught by: Paxton
Course not offered every year
Activity: Seminar
1 Course Unit
Notes: Freshman Seminar

FOLK 103 Performing History
From medieval processions to the Mummer’s Parade, from military reenactments to Mardi Gras, communities do more than “write” or “read” history in order to feel its power and shape their futures. Drawing upon traditions in theater, spectacle, religion, and marketing, they also perform their history—by replaying particular characters, restaging pivotal events and sometimes even changing their outcomes—in order to test its relevance to contemporary life and to both mark and contest ritual points in the annual cycle. This course will explore diverse ways of “performing history” in different cultures, including royal passages, civic parades, historical reenactments, community festivals, and film.
Taught by: St. George
Course not offered every year
Also Offered As: COML 103, HIST 093, THAR 103
Activity: Lecture
1 Course Unit

FOLK 106 Studies in African-American Music
This course explores aspects of the origins, style development, aesthetic philosophies, historiography, and contemporary conventions of African-American musical traditions. Beginning with the African legacy, we situate the conceptual approaches of African American music within the larger African Diaspora. The course provides a foundation for the advanced study of the various strains of black music to appear in the United States. Covering the 19th and 20th centuries, we explore the socio-political contexts and cultural imperatives of black music from a multidisciplinary perspective (musicology, ethnomusicology, linguistics, African-American literary criticism, cultural studies, history, anthropology). The range of genres, styles, idioms, and time periods include: the music of West and Central Africa, the music of colonial America, 19th century church and dance music, minstrelsy, music of the Harlem Renaissance, jazz, blues, gospel, hip-hop, and film music. Special attention is given to the ways in which black music generates “meaning” and to how the social energy circulating within black music articulates myriad issues about American identity at specific historical moments.
Taught by: Ramsey
One-term course offered either term
Also Offered As: AFRC 147, ANTH 156, MUSC 235
Activity: Lecture
1 Course Unit

FOLK 137 Sociology of Media and Popular Culture
This course relies on a variety of sociological approaches to media and popular, with a particular emphasis on the importance of the organization of the culture industries, the relationship between cultural consumption and status, and the social significance of leisure activities from sports to shopping. Specific course topics include the branding of Disney, Nike and Starbucks; the globalization of popular culture; the blurring of entertainment and politics; and the rise of new media technologies in the digital age.
For BA Students: Society Sector
Taught by: Grazian
One-term course offered either term
Also Offered As: SOCI 137
Activity: Lecture
1 Course Unit
Notes: Also fulfills General Requirement in Arts Letters for Class of 2009 and prior

FOLK 158 Musics of Latin America, the Caribbean, and Hispanics in the U.S.
This survey course considers Latin American musics within a broad cultural and historical framework. Latin American musical practices are explored by illustrating the many ways that aesthetics, ritual, communication, religion, and social structure are embodied in and contested through performance. These initial inquiries open onto an investigation of a range of theoretical concepts that become particularly pertinent in Latin American contexts such as post-colonialism, migration, ethnicity, and globalization. Throughout the course, we will listen to many different styles and repertories of music and then work to understand them not only in relation to the readings that frame our discussions but also in relation to our own, North American contexts of music consumption and production.
Taught by: Rommen
Course not offered every year
Also Offered As: AFRC 158, LALS 158
Activity: Lecture
1 Course Unit
FOLK 201 American Folklore
This course will examine American expressive culture, including everyday speech, narrative, music, foodways, religion, public celebrations, and material culture through an exploration of the multiple and changing avenues of diversity in the United States. Folklore can be considered the unofficial culture that exists beneath and between the institutions of power that we read about in our history books, and that is what we will be studying— the 99% of American life that goes unseen and unnoticed in other college courses. Some of the topics we will examine are: campus folklore; body art and adornment; contemporary (urban) legends and beliefs; public celebrations and rituals; and the adaptation and commodification of folk culture in popular media.
One-term course offered either term
Also Offered As: ANTH 205
Activity: Lecture
1 Course Unit

FOLK 203 Afro-American Folklore
An overview of the major forms of expressive culture developed by Afro-Americans. The course focuses on the continuous development of black cultural expression from slavery to the present, emphasizing the socio-historical context in which they are to be understood and interpreted.
One-term course offered either term
Also Offered As: AFRC 203
Activity: Lecture
1 Course Unit

FOLK 229 Myth in Society
In this course we will explore the mythologies of selected peoples in the Ancient Near East, Africa, Asia, and Native North and South America and examine how the gods function in the life and belief of each society. The study of mythological texts will be accompanied, as much as possible, by illustrative slides that will show the images of these deities in art and ritual.
Taught by: Ben-Amos
One-term course offered either term
Also Offered As: ANTH 226, COML 357, NELC 249
Activity: Lecture
1 Course Unit

FOLK 231 American Popular Culture
The course will explore the history and practice of popular culture and culture studies in the United States. We will begin by challenging the concepts of "folk," "mass" and "popular" as well as "American" and "culture." Furthermore, we will interrogate various media such as television, film, music, comics and popular romances to gain insights into the conditions for the reproduction of social relations. Through an analysis of audience response to performed or viewed events we will explore how and why people actively negotiate and interpret popular materials. This class will attempt to situate popular culture within a larger social, cultural and political framework. Some areas of popular culture we may investigate include MTV, talk shows, fashion, club cultures, rap and other musics, snacks, pro-wrestling, professional sports, Hollywood movies, advertising, McDonald's and there will be room to explore other areas students may find interesting. We will end by looking into the exportation of American popular culture and its reception, interpretation, adaptation and consumption around the world.
Taught by: Lee
Course not offered every year
Activity: Lecture
1 Course Unit

FOLK 233 African Folklore
"Despite the overwhelming reality of economic decline; despite unimaginable poverty; despite wars, malnutrition, disease and political instability, African cultural productivity grows apace: popular literatures, oral narrative and poetry, dance, drama, and visual art all thrive."-- Kwame Anthony Appiah from In My Father's House What role(s) does folklore play in the lives of Africans today? How has folklore adapted to the realities of contemporary, urban Africa? This course will investigate the continuation of traditional elements produced in diverse media and circumstances in a modern, largely urban, Africa. Although traditional African culture has been transformed and changed in the face of rapid urbanization and modernity, it continues to provide a means through which people enjoy themselves and comment on a wide range of issues affecting their lives. Issues such as identity, difference, and diversity; tradition and history; modernity and development; wealth and power; politics and political change; and gender relations.
Course not offered every year
Also Offered As: AFST 233
Activity: Lecture
1 Course Unit

FOLK 240 Fairy Tales
This course surveys the fairy tale (M rchen) as an oral narrative genre, and in its transformations as literature, sequential art, and film. Topics include classic and contemporary collections from Europe, the United States, and beyoond; issues of "authenticity" and the ownership of tales; fairy tales as folk performance, post-modern pastiche, and material culture; and the genre's relationship to geography, gender, power, and desire. This course will serve as a scholarly introduction to the field of Fairy-Tale Studies. And it may examine works from Matthew Bright, Angela Carter, Emma Donoghue, Guillermo Del Toro, Neil Gaiman, David Kaplan, and Bill Willingham.
Course not offered every year
Also Offered As: COML 240, ENGL 290
Activity: Seminar
1 Course Unit

FOLK 241 Great Story Collections
This course is intended for those with no prior background in folklore or knowledge of various cultures. Texts range in age from the first century to the twentieth, and geographically from the Middle East to Europe to the United States. Each collection displays various techniques of collecting folk materials and making them concrete. Each in its own way also raises different issues of genre, legitimacy, canon formation, cultural values and context.
For BA Students: Arts and Letters Sector
Taught by: Azzolina
Course not offered every year
Also Offered As: COML 193, ENGL 099
Activity: Lecture
1 Course Unit
FOLK 252 Themes in Jewish Tradition
Course topics will vary; they have included The Binding of Isaac, Responses to Catastrophes in Jewish History, Holy Men & Women (Ben-Amos); Rewriting the Bible (Dohrmann); Performing Judaism (Fishman); Jewish Political Thought (Fishman); Jewish Esotericism (Lorberbaum) Democratic culture assumes the democracy of knowledge - the accessibility of knowledge and its transparency. Should this always be the case? What of harmful knowledge? When are secrets necessary? In traditional Jewish thought, approaching the divine has often assumed an aura of danger. Theological knowledge was thought of as restricted. This seminar will explore the "open" and "closed" in theological knowledge, as presented in central texts of the rabbinic tradition: the Mishnah, Maimonides and the Kabbalah. Primary sources will be available in both Hebrew and English.
For BA Students: History and Tradition Sector
One-term course offered either term
Also Offered As: NELC 252
Activity: Seminar
1 Course Unit

FOLK 270 Folklore and Sexuality
Sexuality is usually thought of as being biological or social, divided into categories of natural and unnatural. Often missed are its creative and communicative aspects. Examining the constructed social elements of sexuality requires attention be paid to folklore in groups, between individuals and on the larger platform of popular technological media. The most interesting locations for exploration are those places where borderlands or margins, occur between genders, orientations and other cultural categories. A field-based paper will be required that must include documentary research.
Taught by: Azzolina
Course not offered every year
Also Offered As: GSWS 270
Activity: Lecture
1 Course Unit

FOLK 280 Jewish Folklore
The Jews are among the few nations and ethnic groups whose oral tradition occurs in literary and religious texts dating back more than two thousand years. This tradition changed and diversified over the years in terms of the migrations of Jews into different countries and the historical, social, and cultural changes that these countries underwent. The course attempts to capture the historical and ethnic diversity of Jewish folklore in a variety of oral literary forms. A basic book of Hasidic legends from the 18th century will serve as a key text to explore problems in Jewish folklore relating to both earlier and later periods.
Taught by: Ben-Amos
One-term course offered either term
Also Offered As: COML 283, JWST 260, NELC 258
Activity: Lecture
1 Course Unit

FOLK 299 Independent Study
Directed study at the sophomore level.
One-term course offered either term
Activity: Independent Study
1 Course Unit

FOLK 323 Material Life in America, 1600-1800
This course will explore the history of America’s use and fascination with material goods between 1600 and 1860. We will examine such issues as the transferal of European traditions of material culture to the New World, the creation of American creolized forms, the impact of reformers in the late eighteenth and early nineteenth centuries, and the development of regional landscapes. Thematic issues will include consumerism, objects as symbolic communication and metaphor, and the complementary issues of archaeology and history of art in material culture study.
Taught by: St. George
One-term course offered either term
Also Offered As: HIST 323
Activity: Lecture
1 Course Unit

FOLK 360 Native American Folklore
A survey of the indigenous oral literatures of North America that will read Native American myths and other traditional narratives with the primary aim to exploring their meanings to Native people. Topics will include, among other things, moral and religious significance, performance, aesthetics, humor, and the relationship of myth to landscape and individual life experience. The course will also place the study of Native American folklore in the context of the history of scholarship, and current issues such as cultural renewal, language endangerment, cultural representation, and cultural property rights.
Taught by: J. Berman
One-term course offered either term
Activity: Lecture
1 Course Unit

FOLK 399 Independent Study
Directed study at the junior level.
One-term course offered either term
Activity: Independent Study
1 Course Unit

FOLK 406 Folklore and the Supernatural
Some beliefs in the supernatural have not diminished appreciably in modern cultures, in spite of many predictions that they would do so. This course will examine traditional beliefs about supernatural beings, supernatural realms, and humans who interact with these, as well as the historical development of Western ideas of “the supernatural” itself.
Course not offered every year
Activity: Lecture
1 Course Unit
FOLK 420 Culture, Communication, and Body Language
Our perception and interpretation of body language is often subliminal, but is crucial in all communication. This course will develop skills in observation and analysis of nonverbal behavior, with a particular emphasis on cross cultural communication. In contemporary society, the analysis of nonverbal communication has applications in education, psychology, business, advertising, medicine, the justice system, the military, religion, sports, and politics. As video and digital cameras are increasingly being placed in public (and private) locations, the ethical questions of why, how, and by whom body movements and images are analyzed become a topic of primary importance for society. Clothing, scents, gestures, eye contact, silence, music, dance, the built environment -- all are used to construct relationships and develop markets for the new century. Readings from a number of disciplinary perspectives will give us the opportunity to investigate these and other issues related to the body and to nonverbal communication in multicultural societies.
Course not offered every year
Activity: Lecture
1 Course Unit

FOLK 436 Urban Folklore
This course examines the emergent aesthetic and expressive traditions of urban environments. Cities are unique places with a wide range of folkloric traditions, including neighborhood stories, ethnic festivals, and folk art. We will examine the material, customary, and verbal traditions that emerge in everyday life, including contemporary legends, urban agriculture and food ways, public displays and celebrations, body art, children's play, and Philadelphia's ethnic arts. We will consider how these contemporary practices may be understood within a traditional folklore framework, as well as what these practices reveal about contemporary values, anxieties, and concerns. Course work will involve local field observations and will be of use to anyone studying human interaction, creative processes, or urban ethnography.
Course not offered every year
Also Offered As: URBS 436
Activity: Lecture
1 Course Unit

FOLK 485 Japanese Theatre
Japan has one of the richest and most varied theatrical traditions in the world. In this course, we will examine Japanese theater in historical and comparative contexts. The readings and discussions will cover all areas of the theatrical experience (script, acting, stage design, costumes, music, audience). Audio-visual material will be used whenever appropriate and possible. The class will be conducted in English, with all English materials.
Taught by: Kano
Course usually offered in spring term
Also Offered As: COML 385, EALC 255, THAR 485
Activity: Seminar
1 Course Unit

FOLK 499 Independent Study
Directed study at the senior level.
One-term course offered either term
Activity: Independent Study
1 Course Unit

FOLK 503 Issues in Folklore Theory
"Fieldwork" is the term folklorists and scholars in related fields use to describe the process by which they arrive at their discipline's subject matter. This includes everything from the pragmatic issues of collecting and documenting materials to the complex relations involved when people study people. Readings, short writing assignments, and class discussions will probe this spectrum of concerns comprehensively. Brief exercises are planned to experience different aspects of fieldwork. On this background of theory and practice, students will work toward designing a fieldwork based project and draft a funding proposal.
One-term course offered either term
Also Offered As: ANTH 503
Activity: Seminar
1 Course Unit
Notes: An introduction to folklore for graduate students, concentrating upon certain key issues in the theory and history of the discipline.

FOLK 518 American Vernacular Architecture
This course explores the form and development of America's built landscape -- its houses, farm buildings, churches, factories, and fields -- as a source of information on folk history, vernacular culture, and architectural practice.
Taught by: St. George
One-term course offered either term
Also Offered As: HSPV 528
Activity: Seminar
1 Course Unit

FOLK 531 Prose Narrative
The topics of discussion in the course are the following: the nature of narrative, narrative taxonomy and terminology, performance in storytelling events, the transformation of historical experience into narrative, the construction of symbolic reality, the psycho-social interpretation of folktales, the search for minimal units, the historic-geographic method in folktale studies, the folktale in history and the history of folktale research.
Taught by: Ben-Amos
Course not offered every year
Also Offered As: NELC 582
Activity: Seminar
1 Course Unit

FOLK 532 Proverb, Riddle and Speech Metaphor
Through readings and collaborative projects this working seminar will explore the place of metaphor in the genres of proverb and riddle and examine their position in oral communication in traditional and modern societies. Critical readings of former definitions and models of riddles and metaphor will enable students to obtain a comprehensive perspective of these genres that will synthesize functional, structural, metaphorical, and rhetorical theories.
Taught by: Ben-Amos
Course not offered every year
Also Offered As: COML 529
Activity: Seminar
1 Course Unit
**FOLK 541 Academic Writing and Research Design in the Arts and Sciences**

Have you ever noticed that scholars in different academic disciplines seem to speak different languages? Have you wondered how scholars put together a plan for their research, explain their findings, and organize and write their papers? This class is designed to introduce MLA students and other advanced students to the research and writing conventions used by scholars in the arts and sciences. With attention to disciplines in the humanities, social sciences, and sciences, we will identify and explore some of the theories, sources, language, and qualitative and quantitative methodologies that scholars use as they conduct original research in their fields. Throughout the class, we’ll also discuss writing conventions across the arts and sciences, with special attention to the structure of argument; the use of evidence; voice and style in both traditional academic writing and more innovative forms of writing; and documentation conventions. Students will develop an original research project through incremental writing assignments, and will write a formal research proposal (15-20 pages), which can be used as their Capstone proposal if they wish.

Taught by: Rabberman
Course not offered every year
Also Offered As: MLA 541
Activity: Lecture
1 Course Unit

**FOLK 549 Structural Analysis**

In folklore scholarship, structural analysis extends over several genres. In this course we will examine the analysis of genres from structural perspectives, the critique of structural analysis and the current constructive directions that have emerged in the field in response to criticism of structuralism.

Taught by: Ben-Amos
Course not offered every year
Also Offered As: ANTH 545
Activity: Seminar
1 Course Unit

**FOLK 603 Food, Culture, and Society**

Behind a simple proverb like “You are what you eat” lies a great deal of food for thought. Human beings have always elaborated on the biological necessity of eating, and this course will explore the myriad ways in which people work, think, and communicate with food. The course will survey the major approaches from folklore, anthropology and related fields toward the role of food, cookery, feasting and fasting in culture. Among the topics to be addressed are gender roles and differences in foodways, the significance of food in historical transformations, the transmission of foodways in writing and publishing, the relationship of foodways to ethnicity and region, the intimate relationship between food and religion, and foodways in the global market place. Short exercises and a term project will provide students with opportunities to research and write about foodways from different angles.

Course not offered every year
Also Offered As: ANTH 601
Activity: Seminar
1 Course Unit

**FOLK 605 Anthropology of Music**

This seminar in ethnomusicology examines music from a cultural perspective. We investigate theoretical and methodological issues that arise when music is situated within an ethnographic context. Theories from anthropology and folklore are studied as they have been applied in ethnomusicology, including structural-functionalism, structuralism, symbolic anthropology, and performance theory. Topics include music and social structure; ritual and performance; social change and historical process; class, ethnic identity, and gender. Case studies from around the globe enrich this exploration of music in culture.

Taught by: Muller
One-term course offered either term
Also Offered As: ANTH 605, COML 605, MUSC 605
Activity: Seminar
1 Course Unit

**FOLK 606 History of Folklore Studies**

A survey of the theoretical basis and the historical development of research in international and American folkloristics.

Taught by: Ben-Amos
One-term course offered either term
Activity: Seminar
1 Course Unit

**FOLK 620 Feminist Theories**

This course gives students the opportunity to engage with the most significant theoretical influences upon feminist thought and historical scholarship in the last 35 years. Foucault, Bourdieu, Rubin, Butler, and Freud are just some of the theorists we will discuss. We will also incorporate recent works in feminist film theory and queer theory. Our focus is twofold: working collectively through difficult theory that is too daunting to tackle alone, and exploring possible applications of feminist theory for feminist politics and historical studies of women, gender and sexuality. Approximately half of our course reading will be devoted to work designated as “theory” and the other half to recent applications by historians.

Course not offered every year
Also Offered As: HIST 620
Activity: Seminar
1 Course Unit

Notes: When the topic is “Feminist Theories,” FOLK 620 will be crosslisted and the following description applies.

**FOLK 629 Theories of Myth**

Theories of myth are the center of modern and post-modern, structural and post-structural thought. Myth has served as a vehicle and a metaphor for the formulation of a broad range of modern theories. In this course we will examine the theoretical foundations of these approaches to myth focusing on early thinkers such as Vico, and concluding with modern twentieth century scholars in several disciplines that make myth the central idea of their studies.

Taught by: Ben-Amos
Course not offered every year
Also Offered As: COML 662, NELC 683, RELS 605
Activity: Seminar
1 Course Unit
FOLK 639 Issues in Cultural Studies
This course tracks the different theoretical appropriations of "culture" and examines how the meanings we attach to it depend on the perspectives through which we define it. The course first addresses perspectives on culture suggested by anthropology, sociology, communication, and aesthetics, and then considers the tensions across academic disciplines that have produced what is commonly known as "cultural studies." The course is predicated on the importance of becoming cultural critics versed in alternative ways of naming cultural problems, issues, and texts. The course aims not to lend closure to competing notions of culture but to illustrate the diversity suggested by different approaches.
Taught by: Zelizer
Course not offered every year
Also Offered As: COML 639, COMM 639
Activity: Seminar
1 Course Unit

FOLK 650 Folklore and Critical Regionalism
In tandem with global political and economic restructuring, and the related unsettling of national and local identities, scholarship on place has burgeoned. Recently, scholars from multiple disciplines have called for a shift from identity-centered approaches to the study of place and region to a more critical assessment of how the encounter of the local with "the larger than local" is articulated (Shuman, 1993). "Critical regionalism," a term hailing from architectural theory, names an effort to "frame a dialogue between localized dimensionality and the imperatives of international architecture" (Frampton, 1981). One way of framing this dialogue is to examine the imaginaries that span disjoint places "twinned" through those larger than local processes, imaginaries that regionalize from within (Herr, 1996). What are the foundations for such a project in folkloristics, and what is the role of ethnography in cultivating critical regionalism? To get at such questions, we will examine selected regional ethnographies and place-based folklore programs. Work for the course will include 1) evaluating a regional ethnography and a public program in light of critical regionalist theory and 2) developing, with a partner or group, a proposal for a multi-site ethnography anchored partly in the mid-Atlantic region.
Taught by: Hufford, M.
Course not offered every year
Activity: Seminar
1 Course Unit

FOLK 702 Practicum
Advanced students may arrange for a practicum. The nature of the learning task and the work to be completed must be discussed both with the student's advisor and the practicum supervisor at the hosting organization or institution. Suitable practicum sites are museums, community or state arts organizations, not-for-profit organizations in the realm of cultural programming and advocacy, etc. The practicum may be taken for credit only once.
Taught by: Hufford, M.
One-term course offered either term
Activity: Independent Study
1 Course Unit

FOLK 706 Culture/Power/Identities
This course will introduce students to a conceptual language and the theoretical tools to analyze the complex dynamics of racial, ethnic, gender, sexual, and class differences. The students will critically examine the interrelationships between culture, power, and identities through the recent contributions in cultural studies, critical pedagogy and post-structuralist theory and will explore the usefulness of these ideas for improving their own work as researchers and as practitioners.
Taught by: Hall
Course usually offered in fall term
Also Offered As: ANTH 704, EDUC 706, URBS 706
Activity: Lecture
1 Course Unit

FOLK 715 Seminar in Ethnomusicology
Seminar on selected topics in ethnomusicology. Freedom is a pervasive idea in the twentieth century, in the United States and elsewhere. This seminar will examine a range of texts concerned with the idea of freedom, politically, philosophically, and musically. A key part of the seminar will focus on free jazz, as it has been recorded in the twentieth century, and as it occurs in live performances on Penn campus and elsewhere in Philadelphia.
Taught by: Muller
Course not offered every year
Also Offered As: AFST 705, ANTH 705, COML 715, GSWS 705, MUSC 705
Activity: Seminar
1 Course Unit
Notes: Open to graduate students from all departments

FOLK 725 Bodylore
Bodylore, a term coined in the late 1980s by folklorist Katharine Young, names an emerging subfield focused on the body's role in the making of social meanings. In this seminar, we'll consider the body as it is theorized by Bakhtin, Bourdieu, Douglas, Harvey, Stewart, Young, and others, and we'll turn to selected ethnographic case studies to explore problems of embodiment. How does the body enact the discourses that constitute it? How do our ways of imagining and interpreting the body bear on our ways of ordering the social and natural world? How is the body's dual status as both mode and object of knowing (Stewart) negotiated in ethnographic and scientific practice? How might a more humanistic ethnography undo and displace the dualisms of mind and body, body and self, and perhaps even return us to the body as a measure of all things (Harvey)? Work for the course will include in-class presentations, participation in electronic and face-to-face discussion about the readings, and a final paper.
Taught by: Hufford, M.
Course not offered every year
Also Offered As: ANTH 725
Activity: Seminar
1 Course Unit

FOLK 770 Seminar in Afro-American Music
This seminar treats selected aspects of the history, aesthetics, criticism and historiography of African-American music. Topics will vary each time this course is offered.
Taught by: Ramsey
Course not offered every year
Also Offered As: AFRC 771, MUSC 770
Activity: Seminar
1 Course Unit

FOLK 999 Independent Study and Research
One-term course offered either term
Activity: Independent Study
1 Course Unit
French (FREN)

**FREN 110 Elementary French I**
French 110 is the first semester of the elementary-level sequence designed to develop functional proficiency in the four skills and gain familiarity with French and Francophone culture. The primary emphasis is on the development of the oral-aural skills, speaking and listening. Readings on topics in French culture as well as frequent writing practice are also included in the course. As in other French courses, class will be conducted entirely in French. You will be guided through a variety of communicative activities in class which will expose you to a rich input of spoken French and lead you from structured practice to free expression. You will be given frequent opportunity to practice your newly acquired vocabulary and grammatical structures in small group and pair work which simulate real-life situations. The course will introduce you to French and Francophone culture through authentic materials including written documents, simple articles, songs, films, videos, and taped conversations between native speakers. Out-of-class homework will require practice with the online component of the textbook (MyFrenchLab) as well as regular writing practice. The course will also invite you to explore the Francophone world on the Internet.

For BA Students: Language Course
One-term course offered either term
Activity: Seminar
1 Course Unit

**FREN 112 Accelerated Elementary French**
French 112 is an intensive elementary language course covering the equivalent of French 110 and 120 in one semester. Students must have a departmental permit to register. The course is normally open only to students who have no previous knowledge of French, and who have already fulfilled the language requirement in another language.

For BA Students: Language Course
Course usually offered in fall term
Activity: Seminar
2 Course Units

**FREN 120 Elementary French II**
French 120 is the second semester continuation of the elementary-level sequence designed to develop functional proficiency in the four skills and gain familiarity with French and Francophone culture. The primary emphasis is on the development of the oral-aural skills, speaking and listening. Readings on topics in French culture as well as frequent writing practice are also included in the course. As in other French courses, class will be conducted entirely in French. You will be guided through a variety of communicative activities in class which will expose you to a rich input of spoken French and lead you from structured practice to free expression. You will be given frequent opportunity to practice your newly acquired vocabulary and grammatical structures in small group and pair work which simulate real-life situations. The course will introduce you to French and Francophone culture through authentic materials including written documents, simple articles, songs, films, videos, and taped conversations between native speakers. Out-of-class homework will require practice with the online component of the textbook (MyFrenchLab) as well as regular writing practice. The course will also invite you to explore the Francophone world on the Internet.

For BA Students: Language Course
One-term course offered either term
Prerequisite: FREN 110
Activity: Seminar
1 Course Unit

**FREN 121 Elementary French for "False Beginners"**
French 121 is an intensive one-semester language course for students who have had some French before but who can benefit from a complete review of elementary French. Students with an SATII score between 380-440 or a placement score between 18-29 should enroll in French 121. This course will provide a re-introduction of the basic structures of French with intensive work on speaking and listening designed to prepare students to take Intermediate French. Due to the nature of the course, the first half will progress rapidly with much more difficult material being presented after the midterm period. As in other French courses, class will be conducted entirely in French. You will be guided through a variety of communicative activities in class that will expose you to a rich input of spoken French and lead you from structured practice to free expression. You will be given frequent opportunity to practice your newly acquired vocabulary and grammatical structures in small group and pair work activities which simulate real-life situations. The course will introduce you to French and Francophone culture through authentic materials including written documents, simple articles, songs, films, videos, and taped conversations between native speakers. Out-of-class homework will require frequent practice with audio and video material, and will include daily written assignments. The course will also invite you to explore the Francophone world on the Internet.

For BA Students: Language Course
Course usually offered in fall term
Activity: Seminar
1 Course Unit

**FREN 130 Intermediate French I**
French 130 is the first half of a two-semester intermediate sequence designed to help you attain a level of proficiency that should allow you to function comfortably in a French-speaking environment. You are expected to have already learned the most basic grammatical structures in elementary French and you will review these on your own in the course workbook. This course will build on your existing skills in French, increase your confidence and ability to read, write, speak and understand French, and introduce you to more refined lexical items, more complex grammatical structures, and more challenging cultural material. As in other French courses at Penn, class will be conducted entirely in French. In addition to structured oral practice, work in class will include frequent communicative activities such as role-plays, problem-solving tasks, discussions, and debates, often carried out in pairs or small groups. Through the study of authentic materials such as articles, poems, songs, films, videos, you will deepen your knowledge of the French-speaking world. Daily homework will require listening practice with audio and video material, in addition to regular written exercises in the workbook and frequent composition practice.

For BA Students: Language Course
One-term course offered either term
Prerequisites: Completion of FREN 120 or 121, or placement into third-semester French.
Activity: Seminar
1 Course Unit

**FREN 134 Accelerated Intermediate French**
An intensive two-credit course covering the first and second semester of the intermediate year. See descriptions of French 130 and 140. Students must have a departmental permit to register. Also offered in the summer Penn-in-Tours program in France.

For BA Students: Last Language Course
Course usually offered in spring term
Activity: Seminar
2 Course Units
FREN 140 Intermediate French II
French 140 is the second half of a two-semester intermediate sequence designed to help you attain a level of proficiency that should allow you to function comfortably in a French-speaking environment. You are expected to have already learned the most basic grammatical structures in elementary French and you will review these on your own in the course workbook. This course will build on your existing skills in French, increase your confidence and ability to read, write, speak and understand French, and introduce you to more refined lexical items, more complex grammatical structures, and more challenging cultural material. This course focuses on the culture of French-speaking countries beyond the borders of France. Along with your classmates, you will explore the cities of Dakar, Fort-de-France and Marrakesh, investigating the diversity of the Francophone world through film, literature and music. As in other French courses at Penn, class is conducted entirely in French. In addition to structured oral practice, work in class will include frequent communicative activities such as problem-solving tasks, discussions, and debates, often carried out in pairs or small groups. Daily homework will require researching in the library and on the Internet, listening practice with video clips, in addition to regular written exercises in the workbook.

For BA Students: Last Language Course
One-term course offered either term
Prerequisites: Completion of French 130 or placement into fourth-semester French.
Activity: Seminar
1 Course Unit

FREN 180 Advanced French in Residence
Open only to residents in La Maison Francaise. Participants earn 1/2 c.u. per semester.
Two terms. student must enter first term.
Corequisite: Residence in Modern Language House
Activity: Seminar
0.5 Course Units

FREN 202 Advanced French
French 202 is a one-semester third-year level French course. It is designed to prepare students for subsequent study in upper-level courses in French and Francophone literature, linguistics, civilization, cinema, etc. It is required for students who have completed 140 and recommended for those with an equivalent level, wishing to continue in more advanced French courses or preparing for study abroad. Exceptions can be made with permission of the undergraduate chair. It is also the appropriate course for those students who have time for only one more French course and wish to solidify their knowledge of the language by continuing to work on all four skills—speaking, listening, reading and writing. Students' work will be evaluated both in terms of progress in language skills and of ability to handle and engage in the content areas.

For BA Students: Advanced Language Course
One-term course offered either term
Prerequisites: Open to students who have completed the language requirement. Students who are continuing from French 134 or 140 should take French 202 before moving on to more advanced French courses.
Activity: Seminar
1 Course Unit

FREN 201 French for the Professions I
This content-based language course, taught in French, introduces economic, business and professional terminology through the study of the following topics: financial institutions (banking, stock market and insurance); business practices (business letters and resumes); trade and advertising; the internal structure and legal forms of French companies. The course also emphasizes verbal communication through three components: 1) In-class activities such as problem-solving tasks, discussions and debates. 2) The study of authentic materials such as newspapers and magazines' articles, video clips, and radio shows. 3) A series of students' presentations. Finally, in order to use and practice the new economic and business terminology studied in this course, and to also further explore the structure, the management, and the operations of the French companies, students will work in pairs on a research project about a major French company of their choice.

For BA Students: Advanced Language Course
One-term course offered either term
Prerequisites: Intermediate-high/advanced level of French (French 202 highly recommended). No business background necessary.
Activity: Seminar
1 Course Unit

FREN 211 French for the Professions II
This content-based language course, taught in French, introduces economic, business and professional terminology through the study of the following topics: financial institutions (banking, stock market and insurance); business practices (business letters and resumes); trade and advertising; the internal structure and legal forms of French companies. The course also emphasizes verbal communication through three components: 1) In-class activities such as problem-solving tasks, discussions and debates. 2) The study of authentic materials such as newspapers and magazines' articles, video clips, and radio shows. 3) A series of students' presentations. Finally, in order to use and practice the new economic and business terminology studied in this course, and to also further explore the structure, the management, and the operations of the French companies, students will work in pairs on a research project about a major French company of their choice.

For BA Students: Advanced Language Course
One-term course offered either term
Prerequisites: French 201 and/or 202 recommended
Activity: Seminar
1 Course Unit

FREN 212 Advanced French Grammar and Composition
Intensive review of grammar integrated into writing practice. A good knowledge of basic French grammar is a prerequisite (French 202 or equivalent is recommended). Conducted entirely in French, the course will study selected grammatical difficulties of the French verbal and nominal systems including colloquial usage. Frequent oral and written assignments with opportunity for rewrites. Articles from French newspapers and magazines, literary excerpts, and a novel or short stories will be used as supplementary materials in order to prepare students to take content courses in French in disciplines other than French.

For BA Students: Advanced Language Course
One-term course offered either term
Activity: Seminar
1 Course Unit

FREN 214 Advanced French Composition and Conversation
Entitled "Contemporary French Society through its Media," this course is intended to improve speaking and writing skills by offering extensive practice in a variety of styles and forms. It will also help students better understand contemporary French culture, thought and modes of expression. The content is organized around current events and the themes of identity and art. Activities include the study, analysis and emulation of model texts as well as discussion and debates about events and social issues as covered by the French news media (television, print, Internet sources). Students will practice oral skills in a variety of ways, including video blogs and group presentations on selected current events. Written practice will comprise reflective journals, essays and collaborative work on Web projects. The goal of this course is to help students attain the Advanced level of proficiency in speaking and writing (by ACTFL standards). The specific language functions we will work on are narration, description, offering and soliciting advice and opinions, expressing feelings, critique and analysis, argumentation.

For BA Students: Advanced Language Course
One-term course offered either term
Prerequisite: French 202 and/or 212 recommended
Activity: Seminar
1 Course Unit
FREN 217 French Phonetics
This course is designed to provide students with a solid foundation in French phonetics and phonology. Part of the course will be devoted to learning how to produce discourse with native-like pronunciation and intonation. The course will also focus on improving aural comprehension by examining stylistic and regional differences in spoken French.
For BA Students: Advanced Language Course
One-term course offered either term
Activity: Seminar
1 Course Unit

FREN 224 Contemporary France through the Media
Course usually offered summer term only
Also Offered As: FREN 312
Activity: Seminar
1 Course Unit

FREN 226 French History and Culture until 1789
An introduction to the social, political and historical institutions of France from the earliest times until the Revolution of 1789. Required for majors in French and also of particular interest to majors in history, international relations, Wharton students, etc. This course will be taught in French.
For BA Students: History and Tradition Sector
Course usually offered in fall term
Prerequisites: Two advanced courses taken at Penn or equivalent.
Activity: Seminar
1 Course Unit

FREN 227 French History and Culture 1789-1945
French cultural and social history from the Revolution of 1789 to the liberation of Paris in 1944. Readings in primary and secondary sources, including political documents, literary excerpts and contemporary articles. Required for majors, also of particular interest to majors in History, International Relations, Wharton students, etc. The course is taught in French.
For BA Students: Humanities and Social Science S
Course usually offered in spring term
Prerequisites: Two advanced courses taken at Penn or equivalent.
Activity: Seminar
1 Course Unit

FREN 228 Contemporary France
This course focuses on the major cultural and political events that have transformed French society from 1945 to the first decades of the new millennium. Using a wide range of print, visual, and online media, this class allows students to examine and research contemporary France by way of the main issues, movements and debates that have marked the last decades. Among these are: France's postwar International relations; Memory and national identity; Migration, immigration and multiculturalism; Religion and/in the Republic; Civil society; Intellectual movements and cultural productions.
One-term course offered either term
Activity: Seminar
1 Course Unit

FREN 229 French in the World
Le Francais dans le monde/French in the World provides a survey of the sociolinguistics of the French language in the contemporary world in order to elucidate how societal changes influence the manner and the contexts in which the French language is spoken. Case studies focus on various parts of the Francophone world, including Africa, Southeast Asia, and the Americas. The course considers questions such as the following: What effect does contact with other languages have on the way French is spoken? Which variety (or varieties) of French represents "good" or standard language use? How do political forces and movements affect the evolution of French? What is the present and future role of the French language in the face of globalization? How are language attitudes similar and different among French-speaking and English-speaking regions of the world? In what ways does the language we speak and the way we speak it shape our identities? Readings and class discussions are in French.
One-term course offered either term
Also Offered As: LING 229
Activity: Seminar
1 Course Unit

FREN 230 Masterpieces of French Cinema
This course will introduce students to key films of the French film canon, selected over a period ranging from the origins of French cinema to the present. Students will also be introduced to the key critical concepts (such as the notion of the "auteur" film genre) informing the discussion of films in France. The films will be studied in both a historical and theoretical context, related to their period styles (e.g. "le realisme poetique," "la Nouvelle Vague," etc.), their "auteurs," the nature of the French star system, the role of the other arts, as well to the critical debates they have sparked among critics and historians. Students will acquire the analytical tools in French to discuss films as artistic and as cultural texts. Please note: This course follows a Lecture/Recitation format. The Lecture (FREN 230-401/CIMS 245-401) is taught in English. For French credit: please register for both FREN 230-401 (lecture) and FREN 230-402 (recitation); the FREN 230-402 recitation is conducted in French. For Cinema Studies credit: please register for CIMS 245-401 (lecture) and CIMS 245-403 (recitation); both are taught in English. Course usually offered in fall term
Also Offered As: CIMS 245
Activity: Lecture
1 Course Unit

FREN 231 Perspectives in French Literature
This basic course in literature provides an overview of French literature and acquaints students with major literary trends through the study of representative works from each period. Students are expected to take an active part in class discussion in French. French 231 has as its theme the presentation of love and passion in French literature. This course was previously offered as French 221.
For BA Students: Arts and Letters Sector
Course usually offered in fall term
Also Offered As: COML 218
Activity: Seminar
1 Course Unit
FREN 232 Perspectives in French Literature: The Individual and Society
This basic course in literature provides an overview of French literature and acquaints students with major literary trends through the study of representative works from each period. Special emphasis is placed on close reading of texts in order to familiarize students with major authors and their characteristics and with methods of interpretation. Students are expected to take an active part in class discussion in French. French 232 has as its theme the Individual and Society.
For BA Students: Arts and Letters Sector
Course usually offered in spring term
Also Offered As: COML 219
Activity: Seminar
1 Course Unit

FREN 233 Francophone Literature and Film
French 233 is designed to give students a basic historical and theoretical groundwork in Francophone and postcolonial studies, and to help them develop their skills in literary and filmic analysis. It will provide an introductory survey of the richly diverse literature and film of the French-speaking world, from the 1950s through to the 21st century. Beginning with the gradual breakup of the French colonial empire, we will investigate the construction of individual and collective Francophone identities in such regions as the Caribbean, Africa, and the Maghreb, while exploring an equally wide range of literary and cinematic genres. Other histories and regions such as Quebec and Lebanon will also be discussed. Throughout the course we will remain especially attentive to questions of space—public and private spheres, urban and rural topographies, borders and migrations, as well as the complex dynamics between the Francophone regions and France itself—and to the ways in which these tensions are mapped onto the textual and visual surfaces of the works studied.
For BA Students: Arts and Letters Sector
One-term course offered either term
Activity: Seminar
1 Course Unit

FREN 290 The French Short Story
Topics vary. Please see the French Department’s website for a description of the current offerings: https://www.sas.upenn.edu/french/pc
Course not offered every year
Activity: Seminar
1 Course Unit

FREN 300 The Making of Modern Paris
Paris, Ville-Lumiere, has long been renowned for its urbanity, architecture, and city design. This course will trace the people, ideas, and projects that contributed to this reputation, through an exploration of the city's built environment as expressed in literature and urban planning projects of the 19th and 20th centuries. The class will analyze literary readings, including texts by Hugo, Baudelaire, Zola, and Breton, in conjunction with historical and visual materials covering works from Viollet-le-Duc to Napoleon III and Haussmann to Mitterand and Sarkozy. This seminar has four goals: Taught by: Professors Andrea Goulet and Eugenie Birch
One-term course offered either term
Also Offered As: ARTH 302, CPLN 300
Activity: Seminar
1 Course Unit

FREN 301 French Identity in the Twentieth Century
Topics vary. Please see the French Department’s website for a description of the current offerings: https://www.sas.upenn.edu/french/pc
One-term course offered either term
Also Offered As: CIML 301, GSWS 301
Activity: Seminar
1 Course Unit

FREN 308 Topics in French Culture
Please see the French department’s website for the course description.
https://www.sas.upenn.edu/french/pc
One-term course offered either term
Activity: Seminar
1 Course Unit

FREN 310 Literary History
Please see the French department’s website for the course description.
https://www.sas.upenn.edu/french/pc
Course not offered every year
Activity: Seminar
1 Course Unit

FREN 311 French Thought After 1968
In American academia, French thought after May ’68 is often referred to as “French Theory,” a heterogeneous corpus of philosophical and critical texts compacted into a set of poststructuralist premises, first introduced by and grew within humanities departments, then identified as a luxury by-product of the “literary” people. This course proposes to unpack the notion of "French Theory" and re-anchor it into its original social/historical background. We will read some of the most influential texts of its key figures, study how a post May 68 revolutionary energy is transformed into various innovative but also destabilizing ways of rethinking power relations, gender, language and subjectivity, and finally, consider in what capacities and limits these diverse critical approaches go beyond the simple label of “post-structuralism” and relate to our own epoch and personal experiences. The readings and discussions will be divided into four axes: 1. Philosophy of Desire (Lacan, Deleuze/Guattari); 2. Sexual Revolt and Body Politics (Foucault, Hocquenghem, Barthes); 3. Deconstruction and Its Impact on Feminism (Derrida, Cixous, Irigaray); 4. Consumer Society and Society of the Spectacle (Lipovetsky, Baudrillard, Deborg). Several documentaries and feature films will be shown outside class time. Taught in English. Reading knowledge of French is welcome but not required.
One-term course offered either term
Also Offered As: COML 309
Activity: Seminar
1 Course Unit
FREN 313 French for the Professions II
The course, conducted entirely in French, emphasizes verbal communication in business professional situations through three components. First, a series of student's presentations, in-class activities (using newspapers' articles, technical readings, radio shows and films), and debates on the following topics (list not exhaustive) related to France's economy and society: The role of the State in France's economy; the French fiscal system; Labor (impact of the 35-hour work week, "conges," women in the workplace, etc.); Regions of France (production); major French industries/companies/brands; France's major imports/exports; "Green business"; Business of pop culture. Second, as effective communication is based not only on linguistic proficiency but also on cultural proficiency, cultural differences mostly between Americans and French will be explored.

For BA Students: Advanced Language Course
Course usually offered in spring term
Prerequisites: An intermediate high to advanced level of French. French for the Professions I (211) highly advisable. No business background necessary.
Activity: Seminar
1 Course Unit

FREN 322 France and the European Union
This course aims to provide an understanding of the European Union as a complex entity: its history, institutions, challenges and future.
After reviewing the history of European integration and describing the Community's institutions, common programs and market, we will consider a wide variety of themes important to Europe: economics, business, science, education, immigration, the environment, social issues, national and European identity, a Federal Europe vs. a Europe of nations, European social/cultural models vs. American liberalism, relations between the EU and the rest of the world. Students will be responsible for pursuing substantive research on these and other topics and participating actively in debates. We will also follow and discuss current events that are pertinent to the EU in general and to France in particular. This class will be conducted entirely in French and is designed to improve cross-cultural understanding and communicative skills in the presentational, interpretive and interpersonal modes.
Course usually offered in spring term
Activity: Seminar
1 Course Unit

FREN 325 Advanced French Translation
This course provides an introduction to the theory and practice of translation and is designed to help foster a critical understanding of differences between French and English syntactical and lexical patterns. It will introduce students to theoretical concepts and problems of translation, with the ultimate goal being to improve their ability to communicate in more authentic-sounding French. Students will have the opportunity to practice translation individually and to work with their peers on a variety of projects (advertising, journalistic and literary texts, movie and broadcast news subtitling) and to engage in critique and discussion of others' translations. This course will help students refine their language skills and navigate more proficiently between these cultures and language systems. (Designed for students who already have a solid foundation in French and English grammar)
For BA Students: Advanced Language Course
Course usually offered in spring term
Prerequisite: French 212 or equivalent recommended
Activity: Seminar
1 Course Unit

FREN 330 Medieval Literature
An introductory course to the literature of the French Middle Ages. French literature began in the 11th and 12th centuries. This course examines the extraordinary period during which the French literary tradition was first established by looking at a number of key generative themes: Identity, Heroism, Love, Gender. All readings and discussions in French.
Course not offered every year
Also Offered As: GSWS 330
Activity: Seminar
1 Course Unit

FREN 340 French Renaissance Literature
This course introduces a diverse and fascinating era, which marks the beginning of the early modern period. It examines the political, historical, and social context of France and investigates how contemporary writers and poets translated the discoveries of Humanism into their works. Authors to be studied include the poets Clement Marot, Maurice Sceve, Louise Labé, Pernette Du Guillet, Ronsard and Du Bellay. In addition, a number of stories from Marguerite de Navarre's rewriting of the "Decameron" (L'Heptameron), as well as Rabelais's comic work "Pantagruel" and some essays of Montaigne will be analyzed.
One-term course offered either term
Activity: Seminar
1 Course Unit

FREN 341 BOYS WILL BE BOYS: MASCULINITY IN FRENCH LITERATURE
Why was a portrait depicting the Renaissance king Francois I as half-man, half-woman made with royal approval, and moreover intended to represent the king as the perfect embodiment of the ideal qualities of a male sovereign? And why, in what is now regarded as the official portrait of Louis XIV, does the king prominently display his silk stockings and high heels with diamond-encrusted buckles? These are just two examples of the questions that lead us to the point of departure for this course: the idea that masculinity is not a fixed essence that has existed since time immemorial, but rather a flexible concept that changes across and even within historical periods. We will examine how masculinity has evolved from the Middle Ages and the chivalric ideal to the present day, how it has been defined, and its implications for gender relations, politics, and religion in different eras. In addition to literary works, we will study how masculinity is represented across a range of media, including visual arts, music, and film. Discussions will be in English, and assignments will be available in translation, but students who wish to receive credit in French will be able to do coursework in French.
One-term course offered either term
Also Offered As: COML 341, GSWS 343
Activity: Seminar
1 Course Unit

FREN 350 17th Century French Literature
We will read a number of the masterpieces of the Golden Age of French literature, including works by Moliere, Racine, Lafayette, and La Fontaine. We will place special emphasis on the social and political context of their creation (the court of Versailles and the most brilliant years of Louis XIV's reign).
One-term course offered either term
Activity: Seminar
1 Course Unit
FREN 360 French Literature of the 18th Century
Topics vary. For current course description, please see French Department’s webpage: https://www.sas.upenn.edu/french/pc
Course not offered every year
Also Offered As: HIST 211
Activity: Seminar
1 Course Unit

FREN 370 French Literature of the 19th Century
Topics vary. For current course description, please see French Department’s webpage: https://www.sas.upenn.edu/french/pc
Course not offered every year
Activity: Seminar
1 Course Unit

FREN 371 Poe’s French Legacies
Edgar Allan Poe was considered a vulgar hack by many of his fellow Americans, but in 19th-century France, he was touted as a misunderstood poetic genius, the original poete maudit. Through the translations of Charles Baudelaire, who found in Poe a kindred spirit in the "gout de l'infini," French intellectuals came to know the American writer as a fount of aesthetic wisdom, diabolical sensibility, and mystic mastery. In this course, we will study Baudelaire's poetry as well as the many literary and artistic movements in France that were directly inspired by Poe's uncanny mix of the macabre and the methodical: Symbolist poetry (Valery, Mallarme), the Scientific Fantastic (Maupassant, Villiers de l'Isle-Adam), fin-de-siecle Decadence (Huysmanns, Odilon Redon), Science Fiction (Verne), the detective novel (Gaboriau), and 20th-century Surrealism (Breton, Max Ernst).
Course not offered every year
Activity: Seminar
1 Course Unit

FREN 379 Short Narratives in Fantastic Literature
This course will explore fantasy and the fantastic in short tales of 19th and 20th century French literature. A variety of approaches - thematic, psychoanalytic, cultural, narratological - will be used in an attempt to define the subversive force of a literary mode that contributes to shedding light on the dark side of the human psyche by interrogating the "real," making visible the unseen and articulating the unsaid. Such broad categories as distortions of space and time, reason and madness, order and disorder, sexual transgressions, self and other, will be considered. Readings usually include "recits fantastiques" by Merimee, Gautier, Nerval, Villiers de l'Isle-Adam, Maupassant, Breton, Jean Ray, Mandiargues and others.
Course not offered every year
Activity: Seminar
1 Course Unit

FREN 380 Literature of the Twentieth Century
This course, the theme of which changes from semester to semester, provides an introduction to important trends in twentieth-century literature. Please check the French Department's website for the course description. https://www.sas.upenn.edu/french/pc
Course not offered every year
Activity: Seminar
1 Course Unit

FREN 382 Horror Cinema
The purpose of this course is to provide an introduction to the history and main themes of the supernatural/horror film from a comparative perspective. Films considered will include: the German expressionist masterworks of the silent era, the Universal classics of the 30's and the low-budget horror films produced by Val Lewton in the 40's for RKO in the US, the 1950's color films of sex and violence by Hammer studios in England, Italian Gothic horror or giallo (Mario Brava) and French lyrical macabre (Georges Franju) in the 60's, and on to contemporary gore. In an effort to better understand how the horror film makes us confront our worst fears and our most secret desires alike, we will look at the genre's main iconic figures (Frankenstein, Dracula, Dr. Jekyll and Mr. Hyde, etc.) as well as issues of ethics, gender, sexuality, violence, spectatorship through a variety of critical lenses (psychoanalysis, socio-historial and cultural context, aesthetics...).
Taught by: Met
One-term course offered either term
Also Offered As: CIMS 382, COML 372
Activity: Lecture
1 Course Unit
Notes: The course will be taught in English. French credit by arrangement with Instructor.

FREN 384 The French Novel of the Twentieth Century
Please check the French department's website for the course description: https://www.sas.upenn.edu/french/pc
Course not offered every year
Activity: Seminar
1 Course Unit

FREN 385 Modern French Theater
A study of major movements and major dramatists from Giraudoux and Sartre to the theater of the absurd and its aftermath.
Course not offered every year
Activity: Seminar
1 Course Unit
FREN 386 Paris in Film
Latter-day examples like Christophe Honore’s Dans Paris, Cedric Klapisch’s Paris or the international omnibus Paris, je t’aime (with each director paying homage to a distinctive “arrondissement” of the capital), not to mention American blockbusters like The Da Vinci Code and Inception or Woody Allen’s Midnight in Paris, are there to remind us that there is something special — indeed, a special kind of magic — about Paris in and on film. Despite the extreme polarization between Paris and provincial France in both cultural and socio-economic terms, cultural historians have argued that Paris is a symbol of France (as a centralized nation), more than Rome is of Italy and much more than Madrid is of Spain or Berlin of Germany, for example. The prevalence of the City of Lights on our screens, Gallic and otherwise, should therefore come as no surprise, be it as a mere backdrop or as a character in its own right. But how exactly are the French capital and its variegated people captured on celluloid? Can we find significant differences between French and non-French approaches, or between films shot on location that have the ring of “authenticity” and studio-bound productions using reconstructed sets? Do these representations vary through time and perhaps reflect specific historical periods or zeitgeists? Do they conform to genre-based formulas and perpetuate age-old stereotypes, or do they provide new, original insights while revisiting cinematic conventions? Do some (sub)urban areas and/or segments of the Parisian population (in terms of gender, race, or class, for example) receive special attention or treatment? These are some of the many questions that we will seek to address...with a view to offering the next best thing to catching the next non-stop flight to Paris!
Taught by: Professor Philippe Met
Course not offered every year
Also Offered As: CIMS 386
Activity: Lecture
1 Course Unit

FREN 389 France and Its Others
A historical appreciation of the impact of the exploration, colonization, and immigration of other peoples on French national consciousness, from the 16th century to the present. Emphasis is on the role of the Other in fostering critiques of French culture and society. Readings include travel literature, anthropological treatises, novels, and historical documents. Oral presentations and several short papers are included in the course.
Course not offered every year
Activity: Seminar
1 Course Unit

FREN 390 Survey Francophone Literature
A brief introduction about the stages of French colonialism and its continuing political and cultural consequences, and then reading in various major works – novels, plays, poems – in French by authors from Quebec, the Caribbean, Africa (including the Maghreb), etc. Of interest to majors in International Relations, Anthropology and African Studies, as well as majors in French. Taught in French.
Course not offered every year
Also Offered As: AFRC 391, AFST 390
Activity: Seminar
1 Course Unit

FREN 391 Litterature Quebecoise
Course not offered every year
Activity: Seminar
1 Course Unit

FREN 394 Topics in Caribbean Literature
This course will introduce students to the literature of the French-speaking Caribbean (West Indian Literature) in the context of literary history and modern culture. Select works will be examined individually and in relation to each other. We will explore the themes that link these works, comparisons and contrasts in literary techniques, and approaches to language.
Course not offered every year
Also Offered As: AFRC 293
Activity: Seminar
1 Course Unit

FREN 398 Honors Thesis
One-term course offered either term
Activity: Independent Study
1 Course Unit

FREN 399 Independent Study
See instructor for permission.
One-term course offered either term
Activity: Independent Study
1 Course Unit

FREN 490 Black France: Hist/Repre
Please check the French department’s website for the course description. https://www.sas.upenn.edu/french/pc
One-term course offered either term
Also Offered As: AFRC 450
Activity: Seminar
1 Course Unit

FREN 500 Proseminar
This course will provide a forum for collective preparation for the Master’s exam.
Course not offered every year
Activity: Seminar
1 Course Unit

FREN 512 History of Literary Theory
An exploration of literary theory centering on a few concepts (tradition, textuality, interpretation, ideology, authority) and problematizing the ways in which we read literature.
Course not offered every year
Activity: Seminar
1 Course Unit

FREN 537 The Novel and Marriage
Please check the French department’s website for the course description. https://www.sas.upenn.edu/french/pc
Also Offered As: COML 546, ENGL 546, GSWS 536
Activity: Seminar
1 Course Unit

FREN 550 Etudes sur le XVII siecle
The specific topics of the seminar vary from semester to semester, depending on the instructor and his/her choice. Among the topics previously covered, and likely to be offered again, are the following: The Theatre of Jean Racine, Fiction of Mme de Lafayette, The Moralists (La Bruyere, La Rochefoucauld, Perrault ), Realistic Novels (Sorel’s Francion, Scarron’s Le Roman Comique, Furetiere’s Le Roman Bourgeois). Students give oral and written reports, and write a term paper.
Course not offered every year
Also Offered As: COML 549, ENGL 537, GSWS 550
Activity: Seminar
1 Course Unit
FREN 560 Studies in the 18th C
Please check the French department's website for the course description.
https://www.sas.upenn.edu/french/pc
One-term course offered either term
Also Offered As: COML 561, ENGL 545
Activity: Seminar
1 Course Unit

FREN 573 Topics in Criticism and Theory
For current course description, please see French Department’s webpage:
https://www.sas.upenn.edu/french/pc
Course not offered every year
Also Offered As: ARTH 573, CIMS 515, COML 570, ENGL 573, GRMN 573
Activity: Seminar
1 Course Unit

FREN 580 Studies in 20th-Century French Literature
Topics vary. For current course description, please see French Department’s webpage:
https://www.sas.upenn.edu/french/pc
Course not offered every year
Activity: Seminar
1 Course Unit

FREN 582 Fantastic Literature 19th/20th Centuries
This course will explore fantasy and the fantastic in short tales of 19th-
and 20th-century French literature. A variety of approaches – thematic,
psychoanalytic, cultural, narratological – will be used in an attempt to
test their viability and define the subversive force of a literary mode that
contributes to shedding light on the dark side of the human psyche by
interrogating the “real,” making visible the unseen and articulating the
unsaid. Such broad categories as distortions of space and time, reason
and madness, order and disorder, sexual transgressions, self and other
will be considered. Readings will include “recits fantastiques” by Merimee,
Gautier, Nerval, Maupassant, Breton, Pieyre de Mandiargues, Jean Ray
and others.
Course not offered every year
Also Offered As: COML 589
Activity: Seminar
1 Course Unit

FREN 590 Introduction to Francophone Studies
An introduction to major literary movements and authors from five areas
of Francophonie: the Maghreb, West Africa, Central Africa, the Caribbean
and Quebec.
Course not offered every year
Also Offered As: AFRC 591, AFST 560, COML 596
Activity: Seminar
1 Course Unit

FREN 591 Francophone Postcolonial Studies
Course not offered every year
Also Offered As: AFRC 591
Activity: Seminar
1 Course Unit

FREN 595 Travel Literature
Within the context of the ill-defined, heterogeneous genre of the
tavelogue and of today’s age of globalization, CNN and the Internet, this
seminar will examine the poetics of travel writing based largely albeit not
exclusively on travel notebooks, or journaux/carnets de voyage, spanning
the XXth century from beginning to end. One of the principal specificities
of the texts studied is that they all evince to a lesser or greater degree a
paradoxical resistance both to the very idea of travel(ing) as such and
to the mimetic rhetoric of traditional travel narratives. We will therefore
look at how modern or postmodern texts question, revisit, subvert or
reject such key notions of travel literature as exoticism, nostalgia,
exile, nomadism, otherness or foreignness vs. selfhood, ethnology and
autobiography, etc. Authors considered will include Segalen, Morand,
Michaux, Leiris, Levi-Strauss, Butor, Le Clezio, Baudrillard, Bouvier,
Jouanard, Leuwers.
Course not offered every year
Activity: Seminar
1 Course Unit

FREN 600 Old French
A systematic study of the structure of Old French including phonology,
morphology, syntax, and lexicon as well as intensive practice in reading
Old French texts with an emphasis on 12th- and 13th-century texts.
By the end of the semester, students should be able to read works in
Old French with the aid of a dictionary. Attention will be paid to the
chronological differences between earlier and later Old French as well as
to the major dialectal differences. Students will also be familiarized with
the major research tools, dictionaries and grammars for working on Old
French.
Course usually offered in spring term
Activity: Seminar
1 Course Unit

FREN 601 Language Teaching and Learning
Please check the French department’s website for the course description.
https://www.sas.upenn.edu/french/pc
Course not offered every year
Also Offered As: ITAL 690, ROML 690
Activity: Seminar
1 Course Unit

FREN 602 Theory and Criticism
Please see the department’s website for current course description:
https://www.sas.upenn.edu/french/pc
Course not offered every year
Activity: Seminar
1 Course Unit

FREN 603 Poetique Du Recit
Activity: Seminar
1 Course Unit

FREN 606 Postcolonial Theory
Course not offered every year
Activity: Seminar
1 Course Unit
FREN 609 France and Its Others
The purpose of this course is to examine the various modalities of interaction between anthropology and literature in modern French culture. Our guiding thesis is that the turn toward other cultures has functioned as a revitalizing element in the production of cultural artifacts while providing an alternative vantage point from which to examine the development of French culture and society in the contemporary period. The extraordinary innovations of "ethnosurrealism" in the twenties and thirties by such key figures of the avant-garde as Breton, Artaud, Bataille, Caillois, and Leiris, have become acknowledged models for the postwar critical thought of Barthes, Derrida, and Foucault, as well as inspiring a renewal of "anthropology as cultural critique in the United States." Besides the authors just indicated, key texts by Durkheim, Mauss and Levi-Strauss will be considered both on their own terms and in relation to their obvious influence. The institutional fate of these intellectual crossovers and their correlative disciplinary conflicts will provide the overarching historical frame for the course, from the turn of the century to the most recent debates.
Course not offered every year
Also Offered As: COML 608
Activity: Seminar
1 Course Unit

FREN 610 Intro to French Cinema
Course not offered every year
Activity: Seminar
1 Course Unit

FREN 611 Topics in Cinema Studies
Course not offered every year
Also Offered As: CIMS 611
Activity: Seminar
1 Course Unit

FREN 612 Film Noir
Topics vary. Please see the French department’s website for the current course description: https://www.sas.upenn.edu/french/pc
Course not offered every year
Activity: Seminar
1 Course Unit

FREN 619 Poétique du Recit
Course not offered every year
Also Offered As: COML 619
Activity: Seminar
1 Course Unit

FREN 620 Paris and Philadelphia: Landscapes and Literature of the 19th Century
This course explores the literal and literary landscapes of 19th-century Paris and Philadelphia, paying particular attention to the ways in which the built environment is shaped by and shapes shifting ideologies in the modern age. Although today the luxury and excesses of the "City of Light" may seem worlds apart from the Quaker simplicity of the "City of Brotherly Love," Paris and Philadelphia saw themselves as partners and mutual referents during the 1800s in many areas, from urban planning to politics, prisons to paleontology. This interdisciplinary seminar will include readings from the realms of literature, historical geography, architectural history, and cultural studies as well as site visits to Philadelphia landmarks, with a view to uncovering overlaps and resonances among different ways of reading the City. We will facilitate in-depth research by students on topics relating to both French and American architectural history, literature, and cultural thought.
Taught by: Professors Andrea Goulet and Aaron Wunsch (Design)
Course usually offered in fall term
Also Offered As: COML 625, HSPV 620
Activity: Seminar
1 Course Unit

FREN 630 Introduction to Medieval French Literature
Topics vary. Previous topics include The Grail and the Rose, Literary Genres and Transformations, and Readings in Old French Texts. Please see French department’s website for current course description: https://www.sas.upenn.edu/french/pc
Course not offered every year
Also Offered As: COML 630, ITAL 630
Activity: Seminar
1 Course Unit

FREN 631 Epic and Romance
Topics will vary. Please see French department's website for current course description: https://www.sas.upenn.edu/french/pc
Course not offered every year
Activity: Seminar
1 Course Unit

FREN 634 Le Roman de la Rose
Course not offered every year
Activity: Seminar
1 Course Unit

FREN 635 Late Medieval Literature
One possible topic is "History and Allegory. Problems of Representation." Considers several privileged cases of the relationship between the contemporary historical subject (dangerous, unstable) and the allegorical mode of representation (literary-philosophical, distancing, cerebrally interpretive). Texts to be studied include the "Roman de Fauvel" (and the spectacular corruption of Philippe le Bel’s court in early 13th-century Paris); Christine de Pizan's "Epistre d'Othea" and "Jehanne d'Arc" (and mythographic-allegorical treatments of the "crisis of the Hundred Years War" in the late 14th and early 15th centuries); as well as Froissart and de la Sale. Please see French department’s website for current course description: https://www.sas.upenn.edu/french/pc
Course not offered every year
Also Offered As: COML 714
Activity: Seminar
1 Course Unit
FREN 638 Topics: Medieval Culture
Topics will vary. Please see department's website for current course description: https://www.sas.upenn.edu/french/pc
Course not offered every year
Also Offered As: COML 638, MUSC 710
Activity: Seminar
1 Course Unit

FREN 640 Studies in the Renaissance
Topics vary. Previous topics have included Rabelais and M. de Navarre, Montaigne, and Renaissance and Counter-Renaissance. Please see French department's website for current course description: https://www.sas.upenn.edu/french/pc
Course not offered every year
Also Offered As: COML 651, GRMN 651
Activity: Seminar
1 Course Unit

FREN 641 French Poetry of the 16th Century
Course not offered every year
Activity: Seminar
1 Course Unit

FREN 642 Early Modern French Poetry
Topics of discussion will vary from semester to semester. One possible topic is "The Royal Machine: Louis XIV and the Versailles Era." We will examine certain key texts of what is known as the Golden Age of French literature in tandem with a number of recent theoretical texts that could be described as historical. Our goal will be to explore the basis of "the new historicism," a term that is designed to cover a variety of critical systems that try to account for the historical specificity and referentiality of literary texts. Please see department's website for current course description: https://www.sas.upenn.edu/french/pc
Course not offered every year
Also Offered As: COML 651, GRMN 651
Activity: Seminar
1 Course Unit

FREN 643 French Poetry of the 17th Century
Topics of discussion will vary from semester to semester. One possible topic is "The Revolution in Poetic Language, the Textual Body, the (En)gendering of the Subject." Students will be required to read critical and theoretical writings on these questions, and discuss them in class presentations. Course not offered every year
Also Offered As: COML 669
Activity: Seminar
1 Course Unit

FREN 644 The Epistolary Novel
From the Regency to the Revolution, the French 18th century was obsessed with the present moment. In literature, this obsession manifests itself most clearly in the epistolary novel, which became the privileged form of expression chosen by all the major authors of the age. Because of the rise of epistolarity, the art of "writing to the moment," in Richardson's memorable formulation, must be seen as one of the Enlightenment's principal voices. And, for the first time, the letter became a highly valued means of communication, in both the private and the public domains. We will read most of the major epistolary novels beginning with the genre's first classic, "Lettres portugaises," and ending with its masterpiece, "Liaisons dangereuses." We will consider some real correspondences—for example, Sevigne's and Diderot's—to see how the urge to turn them into novels proved irresistible, to editors and authors alike. Finally, we will read several examples of what was known as the "public" letter, philosophical texts that used the epistolary form (for example, Diderot's "Lettre sur les aveugles"), to see how the techniques of epistolarity survived the transition into the realm of the polemical. Course not offered every year
Also Offered As: COML 661
Activity: Seminar
1 Course Unit

FREN 650 Studies in the 17th Century
Topics of discussion will vary. Please see department's website for current course description: https://www.sas.upenn.edu/french/pc
Course not offered every year
Activity: Seminar
1 Course Unit

FREN 651 Early Modern French Women Writers
Topics of will vary. Please see department's website for current course description: https://www.sas.upenn.edu/french/pc
Course not offered every year
Activity: Seminar
1 Course Unit

FREN 652 Early Modern Seminar
Topics will vary. Please see department's website for current course description: https://www.sas.upenn.edu/french/pc
Course not offered every year
Also Offered As: COML 658, ENGL 730, GRMN 665
Activity: Seminar
1 Course Unit

FREN 653 Early Modern French Prose
Topics of discussion will vary from semester to semester. One possible topic is "Masterpieces of the Enlightenment." We will read the most influential texts of the Enlightenment, texts that shaped the social and political consciousness characteristic of the Enlightenment—for example, the meditations on freedom of religious expression that Voltaire contributed to "affaires" such as the "affaire Calas." We will also discuss different monuments of the spirit of the age--its corruption (Les Liaisons dangereuses), its libertine excesses and philosophy (La Philosophie dans le boudoir). We will define the specificity of 18th-century prose (fiction), guided by a central question: What was the Enlightenment? Please see department's website for current course description: https://www.sas.upenn.edu/french/pc
Course not offered every year
Also Offered As: COML 620, ENGL 748
Activity: Seminar
1 Course Unit

FREN 660 Studies in the Eighteenth Century
Topics of discussion will vary from semester to semester. One possible topic is "Masterpieces of the Enlightenment." We will read the most influential texts of the Enlightenment, texts that shaped the social and political consciousness characteristic of the Enlightenment—for example, the meditations on freedom of religious expression that Voltaire contributed to "affaires" such as the "affaire Calas." We will also discuss different monuments of the spirit of the age--its corruption (Les Liaisons dangereuses), its libertine excesses and philosophy (La Philosophie dans le boudoir). We will define the specificity of 18th-century prose (fiction), guided by a central question: What was the Enlightenment? Please see department's website for current course description: https://www.sas.upenn.edu/french/pc
Course not offered every year
Also Offered As: COML 661
Activity: Seminar
1 Course Unit

FREN 661 18th-Century Studies
Topics will vary. Please see department's website for current course description: https://www.sas.upenn.edu/french/pc
Course not offered every year
Also Offered As: COML 669
Activity: Seminar
1 Course Unit

FREN 662 The Epistolary Novel
From the Regency to the Revolution, the French 18th century was obsessed with the present moment. In literature, this obsession manifests itself most clearly in the epistolary novel, which became the privileged form of expression chosen by all the major authors of the age. Because of the rise of epistolarity, the art of "writing to the moment," in Richardson's memorable formulation, must be seen as one of the Enlightenment's principal voices. And, for the first time, the letter became a highly valued means of communication, in both the private and the public domains. We will read most of the major epistolary novels beginning with the genre's first classic, "Lettres portugaises," and ending with its masterpiece, "Liaisons dangereuses." We will consider some real correspondences—for example, Sevigne's and Diderot's—to see how the urge to turn them into novels proved irresistible, to editors and authors alike. Finally, we will read several examples of what was known as the "public" letter, philosophical texts that used the epistolary form (for example, Diderot's "Lettre sur les aveugles"), to see how the techniques of epistolarity survived the transition into the realm of the polemical. Course not offered every year
Also Offered As: COML 661
Activity: Seminar
1 Course Unit

FREN 663 19th-Century Studies
Topics will vary. Please see department's website for current course description: https://www.sas.upenn.edu/french/pc
Course not offered every year
Also Offered As: COML 669
Activity: Seminar
1 Course Unit

FREN 664 19th-Century French Poetry
Topics of discussion will vary from semester to semester. A representative description follows: Rimbaud, Lautreamont, Mallarme. One half of the course will be devoted to Rimbaud and Lautreamont, the second half to Mallarme. We will attempt to focus on such points as the revolution in poetic language, the textual body, the (en)gendering of the subject. Students will be required to read critical and theoretical writings on these questions, and discuss them in class presentations. Please see department's website for current course description: https://www.sas.upenn.edu/french/pc
Course not offered every year
Activity: Seminar
1 Course Unit
FREN 672 Major Authors 19th Century  
Course not offered every year  
Activity: Seminar  
1 Course Unit

FREN 673 19th Century Literature and the Arts  
Topics will vary. Please see department's website for current course description: https://www.sas.upenn.edu/french/pc  
Course not offered every year  
Activity: Seminar  
1 Course Unit

FREN 674 The 19th-Century French Novel  
The development of the French novel in the 19th-century: structure and theory, ideological and historical questions. Focus may vary.  
Course not offered every year  
Activity: Seminar  
1 Course Unit

FREN 675 Topics in 19th Century Literature  
Topics will vary. Please see department's website for current course description: https://www.sas.upenn.edu/french/pc  
Course not offered every year  
Activity: Seminar  
1 Course Unit

FREN 676 Science and Literature  
Course not offered every year  
Activity: Seminar  
1 Course Unit

FREN 680 Studies in the 20th Century  
Topics will vary. Please see the French department's website for current course description: https://www.sas.upenn.edu/french/pc  
Course not offered every year  
Also Offered As: CIMS 680  
Activity: Seminar  
1 Course Unit

FREN 681 Studies in Modern French Poetry  
How does one approach the modern poetic text which ever since the Mallarmean "crise de vers" appears to have cut loose from all referential anchoring and traditional markers (prosody, versification, etc.)? This course will present an array of possible methodological answers to this question, focusing on poetic forms and manifestations of brevity and fragmentation. In addition to being submitted to precise formal and textual inquiries, each text or work will be the point of departure for the analysis of a specific theoretical issue and/or an original practice - e.g., genetic criticism, translation theory, the poetic "diary", aphoristic modes of writing, quoting and rewriting practices, etc. Texts by key modern poets (Ponge, Chazal, Du Bouchet, Jourdan, Jabes, Michaux).  
Course not offered every year  
Activity: Seminar  
1 Course Unit

FREN 684 The French Novel of the 20th Century  
Topics vary. Please check the French department's website for the course description: https://www.sas.upenn.edu/french/pc  
Course not offered every year  
Also Offered As: ENGL 760  
Activity: Seminar  
1 Course Unit

FREN 685 Studies in 20th Century French Theater  
Course not offered every year  
Activity: Seminar  
1 Course Unit

FREN 686 Major Authors 20th/21st Century  
Topics vary. For current course description, please see French Department's webpage: https://www.sas.upenn.edu/french/pc  
Course not offered every year  
Activity: Seminar  
1 Course Unit

FREN 687 Studies in 21st Century  
Topics vary. For current course description, please see French Department's webpage: https://www.sas.upenn.edu/french/pc  
Course not offered every year  
Activity: Seminar  
1 Course Unit

FREN 688 Contemporary French Culture  
Topics will vary. Please see department's website for current course description: https://www.sas.upenn.edu/french/pc  
Course not offered every year  
Activity: Seminar  
1 Course Unit

FREN 689 Francophone Studies  
Topics will vary. Please see department's website for current course description: https://www.sas.upenn.edu/french/pc  
Course not offered every year  
Activity: Seminar  
1 Course Unit

FREN 690 Francophone Africa  
Topics vary. For current course description, please see French Department's webpage: https://www.sas.upenn.edu/french/pc  
Course not offered every year  
Activity: Seminar  
1 Course Unit

FREN 692 Caribbean Studies  
Topics vary. For current course description, please see French Department's webpage: https://www.sas.upenn.edu/french/pc  
Course not offered every year  
Activity: Seminar  
1 Course Unit

FREN 693 Topics in Postcolonial Studies  
Topics will vary. Please see French department's website for current course description: https://www.sas.upenn.edu/french/pc  
Course not offered every year  
Also Offered As: AFRC 693, AFST 693  
Activity: Seminar  
1 Course Unit

FREN 694 Francophone Africa  
Topics vary. For current course description, please see French Department's webpage: https://www.sas.upenn.edu/french/pc  
Course not offered every year  
Activity: Seminar  
1 Course Unit

FREN 695 Postcolonial France  
Topics vary. For current course description, please see French Department's webpage: https://www.sas.upenn.edu/french/pc  
Course not offered every year  
Activity: Seminar  
1 Course Unit
FREN 696 Postco Theory Francophon
Topics vary. For current course description, please see French Department's website: https://www.sas.upenn.edu/french/pc
One-term course offered either term
Also Offered As: AFST 696, COML 696
Activity: Seminar
1 Course Unit

FREN 700 Topics in Interdisciplinary Studies
Topics will vary. Please see French department's website for current course description: https://www.sas.upenn.edu/french/pc
Also Offered As: AFRC 708, COML 708
Activity: Seminar
1 Course Unit

FREN 701 Topics in Cultural Studies
Topics will vary. Please see French department's website for current course description: https://www.sas.upenn.edu/french/pc
Course not offered every year
Activity: Seminar
1 Course Unit

FREN 702 Topics in Popular Culture
Topics will vary. Please see French department's website for current course description: https://www.sas.upenn.edu/french/pc
Course not offered every year
Activity: Seminar
1 Course Unit

FREN 703 Representing Paris
Topics will vary. Please see department's website for current course description: https://www.sas.upenn.edu/french/pc
Course not offered every year
Activity: Seminar
1 Course Unit

FREN 704 The French Atlantic
Topics will vary. Please see department's website for current course description: https://www.sas.upenn.edu/french/pc
Course not offered every year
Activity: Seminar
1 Course Unit

FREN 851 Dissertation Proposal
Course not offered every year
Activity: Independent Study
1 Course Unit

FREN 999 Independent Study
Designed to allow students to pursue a particular research topic under the close supervision of an instructor.
One-term course offered either term
Activity: Independent Study
1 Course Unit

Gender, Sexuality & Women's Studies (GSWS)

GSWS 002 Gender and Society
This course will introduce students to the ways in which sex, gender, and sexuality mark our bodies, influence our perceptions of self and others, organize families and work, limit opportunities for individuals and groups of people, as well as impact the terms of local and transnational economic exchange. We will explore the ways in which sex, gender, and sexuality work with other markers of difference and social status such as race, age, nationality, and ability to further demarcate possibilities, freedoms, choices, and opportunities available to people.
For BA Students: Society Sector
One-term course offered either term
Activity: Lecture
1 Course Unit
Notes: Requirement for Gender, Sexuality and Women's Studies major

GSWS 003 Introduction to Sexuality Studies and Queer Theory
This course will examine major ideas in the field of queer studies. Relying upon theoretical, historical, and cultural studies texts, we will consider the representation and constructions of sexuality-based identities as they have been formed within the contemporary United States. We will explore the idea of sexuality as a category of social identity, probing the identities of lesbian, gay, bisexual and transgender to try and understand what they really mean in various cultural, social, and political milieus. In doing so, we will ask: What does it mean to study queerness? What do we mean by "queer studies"? How do institutions - religious, legal, scientific - shape our understandings of queer identities? In what ways do sexuality and gender interact, and how does this interaction inform the meanings of each of these identity categories? How do other social categories of identification - race, ethnicity, class, etc. - affect the ways in which we understand expressions of queerness? What does studying queerness tell us about the workings of contemporary political, cultural, and social life? What is normal and who/what is it that defines and controls normalcy?
Course usually offered in fall term
Activity: Lecture
1 Course Unit

GSWS 004 The Family
Historical and cultural development of the family, analysis of sexual codes; discussion of role difference between men and women; factors involved in mate selection and marital adjustment; analysis of family disorganization with both individual and societal implications.
For BA Students: Society Sector
Taught by: Harknett
One-term course offered either term
Also Offered As: SOCI 004
Activity: Lecture
1 Course Unit
**GSWS 007 Population and Society**
The course serves as an introduction to the study of population and demography, including issues pertaining to fertility, mortality, migration, and family formation and structure. Within these broad areas we consider the social, economic, and political implications of current trends, including: population explosion, baby bust, the impact of international migration on receiving societies, population aging, racial classification, growing diversity in household composition and family structure, population and environmental degradation, and the link between population and development/poverty.
For BA Students: Society Sector
Taught by: Flippen, Harknett, Kohler, Zuberi
One-term course offered either term
Also Offered As: SOCI 007
Activity: Lecture
1 Course Unit

**GSWS 008 Critical Speaking Seminar**
American political discourse, especially since September 11th, has often depicted Islam as an oppressive force from which both Muslims and non-Muslims, particularly women and gender/sexual minorities, must be saved. In this CWIC critical speaking seminar, we will investigate how oral and written narratives—such as political rhetoric, apologetics and historical sources—claim to establish unassailable “facts” about Islam, Muslims, and the Middle East. We will also investigate how the notion of empire—both in its traditionally understood form in Islamic and European history, as well as in its iterations as US Military and soft power—privileges certain voices over others, and how we can reclaim the voices of the marginalized in both contemporary discourse as well as historical oral traditions.
Taught by: Rafii
One-term course offered either term
Also Offered As: COML 014, NELC 008
Activity: Seminar
1 Course Unit

**GSWS 009 Critical Writing Seminar In Women's Studies**
This is a critical writing seminar. It fulfills the writing requirement for all undergraduates. As a discipline-based writing seminar, the course introduces students to a topic within its discipline but throughout emphasizes the development of critical thinking, analytical, and writing skills. For current listings and descriptions, visit the Critical Writing Program’s website at www.writing.upenn.edu/critical.
For BA Students: Writing Requirement Course
One-term course offered either term
Activity: Seminar
1 Course Unit

**GSWS 010 Freshman Seminars**
Freshman seminars are small, substantive courses taught by members of the faculty and open only to freshmen. These seminars offer an excellent opportunity to explore areas not represented in high school curricula and to establish relationships with faculty members around areas of mutual interest. See www.college.upenn.edu/admissions/freshmen.php
Also Offered As: LALS 107, PSCI 010
Activity: Seminar
1 Course Unit

**GSWS 028 Introduction to Feminist Philosophy**
This course is an introduction to feminist thought, both in theory and in practice. We will consider how feminist thought emerged and evolved, as well as how feminist theories respond to various intellectual, social and political challenges. Questions we will address include: What exactly is feminism? How does one’s gender identity impact one’s lived experiences? How should we revise, reformulate, or rethink traditional answers to political and ethical issues in light of feminist theories? How can feminist analyses contribute to the development of better science, and our conceptions of knowledge?
Taught by: M. Meyer
Course not offered every year
Also Offered As: PHIL 028
Activity: Seminar
1 Course Unit
Notes: Offered through the College of Liberal and Professional Studies

**GSWS 040 Womanism and Identity Politics in the Realm of Hip-Hop**
This course centers on the intersections of womanism, woman of color identity development, and agency within hip-hop culture. We will touch on several topics that uncover the condition of minoritized women in hip-hop media, including creating/owning space, lyrical assault, defining womanhood, sexuality, and fetishes. In exploring music, literature, advertisements, film, and television, we will discuss the ways women of color construct understandings of self, while navigating and reimagining reality within hip-hop contexts.
Taught by: Patterson
Also Offered As: URBS 050
Activity: Seminar
1 Course Unit

**GSWS 041 Topics in Sociology**
Freshman Seminars. Topics vary from semester to semester. Past offerings include Society and History; The 1960's: Preludes and Postludes; Mistakes, Errors, Accidents & Disasters; Urban Analysis with Computers; Race and Public Policy; Perspectives on Inequality; Homelessness and the Urban Crisis.
One-term course offered either term
Also Offered As: SOCI 041
Activity: Seminar
1 Course Unit

**GSWS 045 18th-Century Novel**
This survey of the novel addresses key questions about the novel's "rise" in the eighteenth century on both sides of the Atlantic, as well as attending to the cultural conditions that attended this new literary from. How did the concurrent "rise" of the middle classes and the emergence of an increasingly female reading public affect the form and preoccupations of early novels? What role did the institutions like literary reviews, libraries, and the church play in the novel's early reception? While reading will vary from course to course, students should expect to read such authors as Austen, Behn, Brockden Brown, Burney, Defoe, Fielding, Richardson, Rowlandson, Rowson, Scott, and Smollett. This course will be cross-listed with GSWS when the course content includes women, gender and sexuality. See the English Department’s website at www.english.upenn.edu for a complete description of the current offerings.
Course not offered every year
Also Offered As: ENGL 045
Activity Lecture
1 Course Unit
GSWS 048 Voicing Politics/Politicizing Voices
What does it mean to have a voice? To raise your voice? To have your voice heard? What do our voices say about us and what do they fail to communicate? How we speak and how our voices are perceived impact our interactions in daily life, our participation in the political sphere, and our capacity to effect change through activism. This CWiC course explores the parameters by which voice is defined in the context of music and sound studies, social justice, philosophy, and media and communication studies. We will consider how voice embodies our political constitution through an examination of the vocal practices of artists such as Tanya Tagaq, Anohni, Juliana Huxtable, Laurie Anderson, Sikh Knowledge, and Lucas Silveira; the phenomena of voice-activated devices such as Apple’s Siri and Amazon’s Echo; and the collective voices of movements such as Black Lives Matter and the Standing Rock water protectors. Through individual and group presentations, discussions, and creative projects, this critical speaking seminar encourages students to develop their oral communication skills while examining what informs their individual and collective voices. No previous musical training required. Enrollment limited to 16.
Taught by: Murphy
Course not offered every year
Also Offered As: MUSC 048
Activity: Lecture
1 Course Unit

GSWS 050 The Romantic Period
This course offers an introduction to the literature of the Romantic period (ca. 1770-1830). Some versions of this course will incorporate European romantic writers, while others will focus exclusively on Anglo-American romanticism, and survey authors such as Austen, Blake, Brockden Brown, Byron, Coleridge, Emerson, Irving, Keats, Radcliffe, Scott, Shelley, and Wordsworth. The primary for this course is ENGL-050. See the English Department’s website at www.english.upenn.edu for a description of the current offerings.
Also Offered As: ENGL 050
Activity: Lecture
1 Course Unit

GSWS 055 Nineteenth-Century Novel
During the nineteenth century the novel became the dominant literary form of its day, supplanting poetry and drama on both sides of the Atlantic. In this introduction to the novelists of the period, we will read the writers who secured the novel’s cultural respectability and economic prominence. Likely authors will include Austen, the Brontes, Collins, Dickens, Eliot, Hardy, Hawthorne, Melville, Poe, Thackeray, Scott, and Stowe. The course will explore the themes, techniques, and styles of the nineteenth-century novel. It will focus not only on the large structural and thematic patterns and problems within each novel but also on the act of reading as a historically specific cultural ritual in itself. See the English Department’s website at www.english.upenn.edu for a complete description of the current offerings.
Course not offered every year
Also Offered As: COML 055, ENGL 055
Activity: Lecture
1 Course Unit
Notes: Fulfills Arts Letters Distribution

GSWS 060 Intro to Latina/o Literature: Beginnings to 1898
A survey of cultural productions by Latinas/os (i.e. people of Latin American descent who have been raised in the U.S.) that usually will focus on the twentieth century, but might at times examine earlier periods instead. The course will take a culturally and historically informed approach to a wide range of novels, poems, plays, and films, and will sometimes include visual art and music. Writers and artists might include Américo Paredes, Piri Thomas, Cherrie Moraga, Sandra Cisneros, Julia Alvarez, Junot Diaz, Cristina Garcia, El Teatro Campesino, John Leguizamo, Carmen Lomas Garza, the Hernandez Brothers, and Los Tigres del Norte. See the English Department’s website at www.english.upenn.edu for a complete description of the current offerings.
Course not offered every year
Also Offered As: ARTH 070, COML 070, ENGL 070, LALS 060
Activity: Lecture
1 Course Unit

GSWS 081 African-American Literature
An introduction to African-American literature, typically ranging across a wide spectrum of moments, methodologies, and ideological postures, from Reconstruction and the Harlem Renaissance to the Civil Rights Movement. Most versions of this course will begin in the 19th century; some versions of the course will concentrate only on the modern period. ENGL-081 is the primary for this course. See the English Department’s website for a description of the current offerings.
Course not offered every year
Also Offered As: AFRC 081, ENGL 081, MUSC 082
Activity: Lecture
1 Course Unit

GSWS 090 Gender, Sexuality, and Literature
This course will focus on questions of gender difference and of sexual desire in a range of literary works, paying special attention to works by women and treatments of same-sex desire. More fundamentally, the course will introduce students to questions about the relation between identity and representation. We will attend in particular to intersections between gender, sexuality, race, class, and nation, and will choose from a rich vein of authors: Mary Wollstonecraft, Jane Austen, Mary Shelley, Lord Byron, the Brontes, Christina Rossetti, George Eliot, Oscar Wilde, Henry James, Gertrude Stein, Zora Neale Hurston, E. M. Forster, Virginia Woolf, Nella Larsen, Radclyffe Hall, Willa Cather, Elizabeth Bishop, Jean Rhys, James Baldwin, Sylvia Plath, Bessie Head, Audre Lorde, Adrienne Rich, Cherrie Moraga, Toni Morrison, Michael Cunningham, Dorothy Allison, Jeanette Winterson, and Leslie Feinberg. See the English Department’s website at www.english.upenn.edu for a complete description of the current offerings.
One-term course offered either term
Also Offered As: COML 090, ENGL 090
Activity: Lecture
1 Course Unit
GSWS 096 Theories of Gender and Sexuality
What makes men and women different? What is the nature of desire? This course introduces students to a long history of speculation about the meaning and nature of gender and sexuality – a history fundamental to literary representation and the business of making meaning. We will consider theories from Aristophanes speech in Platos Symposium to recent feminist and queer theory. Authors treated might include: Plato, Shakespeare, J. S. Mill, Mary Wollstonecraft, Sigmund Freud, Virginia Woolf, Simone de Beauvoir, Adrienne Rich, Audre Lorde, Michel Foucault, Gayle Rubin, Catherine MacKinnon, Eve Kosofsky Sedgwick, Judith Butler, bell hooks, Leo Bersani, Gloria Anzaldua, David Halperin, Cherré Moraga, Donna Haraway, Gayatri Spivak, Diana Fuss, Rosemary Hennesy, Chandra Tadpole Mohanty, and Susan Stryker. See the English Department’s website at www.english.upenn.edu for a complete description of the current offerings.
For BA Students: Humanities and Social Science S
Taught by: Love
Course not offered every year
Also Offered As: ENGL 096
Activity: Lecture
1 Course Unit

GSWS 109 Women and Religion
This course looks at the contrast between the model of the virtuous woman, and the instructive power of the uncontrollable woman, from 1800 to the present in Hinduism, Christianity, and Islam. Drawing examples from a variety of historical contexts and traditions, this course will touch on issues of religious empowerment, piety, leadership, and theoretical questions involving gender, spirituality, the body, and the intersection of class status and religious performance.
For BA Students: Humanities and Social Science S
Taught by: Robb
One-term course offered either term
Also Offered As: FOLK 029, RELS 005
Activity: Lecture
1 Course Unit

GSWS 113 Major Western Religious Thinkers
Introduction to the writings of one or two significant western religious thinkers, designed for those who have no background in religious thought. Possible thinkers to be studied: Augustine, Maimonides, Spinoza, Luther, Teresa of Avila, Edwards, Mendelssohn, Kierkegaard, DuBois, Bonhoeffer, King.
Course not offered every year
Also Offered As: JWST 113, RELS 113
Activity: Seminar
1 Course Unit
Notes: This course is crosslisted with RELS 113, a topics course when the subject matter is appropriate to Women’s Studies. See current timetable.

GSWS 114 Discrimination: Sexual and Racial Conflict
This course is concerned with the structure, the causes and correlates, and the government policies to alleviate discrimination by race and gender in the United States. The central focus of the course is on employment differences by race and gender and the extent to which they arise from labor market discrimination versus other causes, although racial discrimination in housing is also considered. After a comprehensive overview of the structures of labor and housing markets and of nondiscriminatory reasons (that is, the cumulative effects of past discrimination and/or experiences) for the existence of group differentials in employment, wages and residential locations, various theories of the sources of current discrimination are reviewed and evaluated. Actual government policies and alternatives policies are evaluated in light of both the empirical evidence on group differences and the alternative theories of discrimination.
For BA Students: Society Sector
Taught by: Madden
Course not offered every year
Also Offered As: AFRC 112, SOCI 112
Activity: Lecture
1 Course Unit
GSWS 115 Before Transgender: Hermaphrodites in 19th Century Literature
This course provides a literary and cultural prehistory to contemporary discourses on transgender identity by focusing on the figure of the hermaphrodite in 19th Russia and the West. Far from a marginal subject, the hermaphrodite and intersex characters played central roles in the novels of Balzac, Tolstoy, Dostoevsky, and many others whose work we will read in this course. Interdisciplinary in nature, this course draws on 19th century discourses in medicine, psychology, opera, religious philosophy, and political theory to understand why characters who exist outside of the male/female gender binary feature so prominently in 19th century literature and cultural texts across a wide range of traditions (Anglophone, French, and Russian, and others).
Also Offered As: RUSS 115
Activity: Lecture
1 Course Unit

GSWS 118 Iranian Cinema: Gender, Politics and Religion
This seminar explores Iranian culture, society, history and politics through the medium of film. We will examine a variety of cinematic works that represent the social, political, economic and cultural circumstances of contemporary Iran, as well as the diaspora. Along the way, we will discuss issues pertaining to gender, religion, nationalism, ethnicity, and the role of cinema in Iranian society and beyond. Discussions topics will also include the place of the Iranian diaspora in cinema, as well as the transnational production, distribution, and consumption of Iranian cinema. Films will include those by internationally acclaimed filmmakers, such as Rakhshani Bani-Etemad, Asghar Farhadhi, Bahman Ghobadi, Abbas Kiarostami, Mohsen Makhmalbaf, Dariush Mehrjui, Tahmineh Milani, Jafar Panahi, Marjane Satrapi and others. All films will be subtitled in English. No prior knowledge is required.
Taught by: Entezari
Course not offered every year
Also Offered As: CIMS 118, COML 118, GSWS 418, NELC 118
Activity: Seminar
1 Course Unit

GSWS 122 The Sociology of Gender
Gender is an organizing principle of society, shaping social structures, cultural understandings, processes of interaction, and identities in ways that have profound consequences. It affects every aspect of people's lives, from their intimate relationships to their participation in work, family, government, and other social institutions and their place in the stratification system, Yet gender is such a taken for granted basis for differences among people that it can be hard to see the underlying social structures and cultural forces that reinforce or weaken the social boundaries that define gender. Differences in behavior, power, and experience are often seen as the result of biological imperatives or of individual choice. A sociological view of gender, in contrast, emphasizes how gender is socially constructed and how structural constraints limit choice. This course examines how differences based on gender are created and sustained, with particular attention to how other important bases of personal identity and social inequality—race and class—interact with patterns of gender relations. We will also seek to understand how social change happens and how gender inequality might be reduced.
For BA Students: Society Sector
Taught by: Leidner
One-term course offered either term
Also Offered As: SOCI 122
Activity: Lecture
1 Course Unit

GSWS 125 The Adultery Novel
The object of this course is to analyze narratives of adultery from Shakespeare to the present and to develop a vocabulary for thinking critically about the literary conventions and social values that inform them. Many of the themes (of desire, transgression, suspicion, discovery) at the heart of these stories also lie at the core of many modern narratives. Is there anything special, we will ask, about the case of adultery—once called "a crime which contains within itself all others"? What might these stories teach us about the way we read in general? By supplementing classic literary accounts by Shakespeare, Pushkin, Flaubert, Chekhov, and Proust with films and with critical analyses, we will analyze the possibilities and limitations of the different genres and forms under discussion, including novels, films, short stories, and theatre. What can these forms show us (or not show us) about desire, gender, family and social obligation? Through supplementary readings and class discussions, we will apply a range of critical approaches to place these narratives of adultery in a social and literary context, including formal analyses of narrative and style, feminist criticism, Marxist and sociological analyses of the family, and psychoanalytic understandings of desire and family.
For BA Students: Arts and Letters Sector
One-term course offered either term
Also Offered As: CIMS 125, COML 127, RUSS 125
Activity: Seminar
1 Course Unit
Notes: All readings and lectures in English.

GSWS 128 The Diary
Diary writing is an intimate mode of expression in which individuals seek to find meaning in their personal lives and relations, responding to the external realities in which they live. Their coping is subjected to their historical, educational and social contexts, and to the generic conventions of diary writing. This course examines the diary as a genre, exploring its functions, meanings, forms and conventions, comparing it with fictive and non-fictive autobiographical writings such as the diary novel, autobiography and the memoir, as well as comparative gender diary-writing.
Taught by: Ben-Amos
Course usually offered in fall term
Also Offered As: COML 128, ENGL 076
Activity: Lecture
1 Course Unit
GSWS 145 Advanced Non-Fiction Writing
Writing with a view to publication in the freelance sections of newspapers such as THE PHILADELPHIA INQUIRER and THE NEW YORK TIMES, in magazines such as THE ATLANTIC and THE NEW YORKER, and in the literary quarterlies and the journals of opinion. Among the areas likely to be considered are writing as a public act, issues of taste and of privacy, questions of ethics and of policy, methods of research and of checking, excerpting, marketing, and the realistic understanding of assignments and of the publishing world. Student papers will be the basis of weekly editorial sessions, with concentration on the language: how to render material literate, how to recognize and dispose of padding and self-indulgence, how to tighten structure and amplify substance. See the English Department’s website at www.english.upenn.edu for a description of the current offerings
One-term course offered either term
Also Offered As: ENGL 145
Activity: Seminar
1 Course Unit
Notes: This course is not open to freshmen. Students wishing to take this course must submit a writing sample as part of the selection process. May be repeated for credit with a different instructor.

GSWS 149 Law and Social Policy on Sexuality and Reproduction
This course will examine how statutory law, court decisions and other forms of social policy encourage or discourage various forms of sexuality, reproduction and parenting. Such issues as contraception, abortion, gay and lesbian rights, reproductive technology, family violence, and welfare and family policies will be covered.
Taught by: Tracy
One-term course offered either term
Activity: Seminar
1 Course Unit

GSWS 160 Sex and Socialism
This seminar examines classic and current scholarship and literature on gender and sexuality in contemporary Eastern Europe, and examines the dialogue and interchange of ideas between East and West. Although the scholarly and creative works will primarily investigate the changing status of women during the last three decades, the course will also look at changing constructions of masculinity and LGBT movements and communities in the former communist bloc. Topics will include: the woman question before 1989; gender and emerging nationalisms; visual representations in television and film; social movements; work; romance and intimacy; spirituality; and investigations into the constructed concepts of freedom and human rights.
Course not offered every year
Also Offered As: EEUR 160, RUSS 160
Activity: Lecture
1 Course Unit

GSWS 162 Women in Jewish Literature
This course introduces students of literature, women’s studies, and Jewish studies to the long tradition of women as readers, writers, and subjects in Jewish literature. All texts will be in translation from Yiddish and Hebrew, or in English. Through a variety of genres—devotional literature, memoir, fiction, and poetry—we will study women’s roles and selves, the relation of women and men, and the interaction between Jewish texts and women’s lives. The legacy of women in Yiddish devotional literature will serve as background for our reading of modern Jewish fiction & poetry from the past century. The course is divided into five segments. The first presents a case study of the Matriarchs Rachel and Leah, as they are portrayed in the Hebrew Bible, in rabbinic commentary, in pre-modern prayers, and in modern poems. We then examine a modern novel that recasts the story of Dinah, Leah’s daughter. Next we turn to the seventeenth century Glikl of Hamel, the first Jewish woman memoirist. The third segment focuses on devotional literature for and by women. In the fourth segment, we read modern women poets in Yiddish, Hebrew, and English. The course concludes with a fifth segment on fiction and a memoir written by women in Yiddish, Hebrew, and English.
For BA Students: Arts and Letters Sector
Taught by: Hellerstein
One-term course offered either term
Also Offered As: GRMN 262, JWST 102, NELC 154
Activity: Lecture
1 Course Unit

GSWS 166 Gender and Sexuality in Japan
This course introduces students of literature, women’s studies, and Japanese studies to the long tradition of women as readers, writers, and subjects in Japanese literature. All texts will be in translation from Japanese, and in English. The course is divided into five segments. The first presents a case study of the Matriarchs Rachel and Leah, as they are portrayed in the Hebrew Bible, in rabbinic commentary, in pre-modern prayers, and in modern poems. We then examine a modern novel that recasts the story of Dinah, Leah’s daughter. Next we turn to the seventeenth century Glikl of Hamel, the first Jewish woman memoirist. The third segment focuses on devotional literature for and by women. In the fourth segment, we read modern women poets in Yiddish, Hebrew, and English. The course concludes with a fifth segment on fiction and a memoir written by women in Yiddish, Hebrew, and English.
For BA Students: Arts and Letters Sector
Taught by: Tracy
One-term course offered either term
Activity: Seminar
1 Course Unit

GSWS 199 Independent Study
One-term course offered either term
Activity: Independent Study
1 Course Unit

GSWS 203 Major Seminar in History: America Before 1800
This course is for history majors. This course will be cross-listed with GSWS when the course topic includes women, gender, and sexuality.
Course not offered every year
Also Offered As: HIST 203
Activity: Seminar
1 Course Unit

GSWS 204 Major Seminar in History: America After 1800
This is a topics course in history. When the course content covers topics on women, gender and sexuality it will be cross-listed with GSWS.
One-term course offered every term
Also Offered As: HIST 204
Activity: Seminar
1 Course Unit
GSWS 205 Identity
The content of the course may include the following, and related, themes: what makes a human the same human over time? What constitutes our identities? Are gender, race, sexual orientation, and the like essential features of our identities, and if so, how do they become so? How do ethics, politics and identity interact? After learning this philosophical content, Penn students will develop lesson plans for introducing this content to Philadelphia public high school students. Mid way through the semester, Penn students will start to prepare the high school students to present their own original work on the philosophy of identity at a conference to be held at Penn in May 2017. Penn students will be assessed on their own written and other work for the course, and in no way on the written or oral work of the high school students. Enrollment by permit only. Please contact Professor Detlefsen detlefse@sas.upenn.edu to schedule an interview for admission to the course.
Taught by: Detlefsen
Also Offered As: PHIL 295
Activity: Seminar
1 Course Unit

GSWS 212 Women in Imperial Rome
Livia, the first empress of Rome, is a critical figure for our understanding of Roman women at the transitional moment between Republic and Empire. As the most publicly celebrated woman of Augustus’ household, Livia is an opportune figure through which to examine a variety of Augustan and early imperial texts and monuments. This course will survey Livia’s different literary and material representations and attempt to come to terms with the various perspectives on the first empress presented by these texts and contexts. Livia provides a key figure through whom students will be exposed to various issues surrounding the portrayal of Roman women in the early empire. Through lecture and discussion, we will relate Livia to her contemporary world, and then examine the role of imperial women through the rest of the Julio-Claudian era and beyond. We will discover Livia’s influence in creating the role of the empress, and analyze the differences between her representation as an ideal and that of later imperial women. Students will write brief response papers to primary texts and present on select secondary readings that add to our understanding of the portrayal of Livia and imperial women more generally.
Taught by: Gillespie
One-term course offered either term
Also Offered As: ANCH 212, CLST 213
Activity: Seminar
1 Course Unit

GSWS 216 Gender and Health
Women’s health is a constant refrain of modern life, prompting impassioned debates that speak to the fundamental nature of our society. Women’s bodies are the tableaux across which politicians, physicians, healthcare professional, activists, and women themselves dispute issues as wide-ranging as individual versus collective rights, the legitimacy of scientific and medical knowledge, the role of the government in healthcare, inequalities of care, and the value of experiential knowledge, among many others. Understanding the history of these questions is crucial for informed engagement with contemporary issues.
Taught by: Linker
Course not offered every year
Also Offered As: HSOC 216
Activity: Seminar
1 Course Unit

GSWS 217 CU In India - Topics Course
C.U. in India is a hybrid, domestic/overseas course series which provides students with the opportunity to have an applied learning and cultural experience in India. The 2-CU course requires: 1) 15 classroom hours at Penn in the Fall term 2) A 12-Day trip to India with the instructor during the winter break to visit key sites and conduct original research (sites vary) 3) 15 classroom hours at Penn in the Spring term and 4) A research paper, due at the end of the spring term. Course enrollment is restricted to students admitted to the program. For more information, and the program application, go to http://sites.sas.upenn.edu/cuinindia
Two terms. student must enter first term.
Also Offered As: SAST 217
Activity: Seminar
1 Course Unit

GSWS 221 Topics in Romance
This seminar explores an aspect of epic or romance intensively; specific course topics will vary from year to year. See the English Department’s website at www.english.upenn.edu for a complete description of the current offerings.
Course usually offered in fall term
Also Offered As: COML 222, ENGL 222
Activity: Seminar
1 Course Unit

GSWS 222 African Women’s Lives: Past and Present
Restoring women to African history is a worthy goal, but easier said than done. The course examines scholarship over the past forty years that brings to light previously overlooked contributions African women have made to political struggle, religious change, culture preservation, and economic development from pre-colonial times to present. The course addresses basic questions about changing women’s roles and human rights controversies associated with African women within the wider cultural and historical contexts in which their lives are lived. It also raises fundamental questions about sources, methodology, and representation, including the value of African women’s oral and written narrative and cinema production as avenues to insider perspectives on African women’s lives.
Taught by: Blakely
Course usually offered in fall term
Also Offered As: AFRC 222, AFST 221
Activity: Seminar
1 Course Unit

GSWS 232 World History: Africa or the Middle East
Topics vary.
Course usually offered in fall term
Also Offered As: AFRC 233, AFST 232, CIMS 233, HIST 232, NELC 282
Activity: Seminar
1 Course Unit
GSWS 234 Gender and Religion in China
This course examines gender in Chinese religious culture from ancient to contemporary times. We will explore topics including the Buddhist accommodation of Chinese family system, Chinese transformation of the bodhisattva Guanyin, female deities in Daoist and popular religious pantheons, writings about religious women, female ghosts and fox spirits in literary imagination and folk tales, and the significance of yin force in Chinese medicine and Daoist alchemy. Through the case of China, we will look at how gender plays critical and constitutive roles in religious traditions, and how religion can be used both to reinforce and to challenge gender norms.
Taught by: Cheng, H
Course not offered every year
Also Offered As: EALC 230, EALC 630, GSWS 630
Activity: Seminar
1 Course Unit

GSWS 235: Psychology of Women
Critical analyses of the psychological theories of female development, and introduction to feminist scholarship on gender development and sexuality.
One-term course offered either term
Also Offered As: EDUC 235
Activity: Lecture
1 Course Unit

GSWS 236 Gender, Violence, and WWII: Europe, 1933-1950
This seminar explores World War II-era Europe through the lens of evolving gender norms and relations. This turbulent period in European history magnified the so-called "gender troubles" that emerged in the wake of the First World War. From the question of equality between the sexes to the liberalization of sexual mores and divergence from the proscribed roles of men and women, gender had a profound impact on the prewar, wartime, and immediate postwar European landscape. Drawing on primary and secondary sources, we will consider the following questions: How did gender and violence shape the course of World War II and the immediate postwar from Britain to the Soviet Union? How can gender and sexuality help us to understand militarization, violence, and war? How did war and occupation impact relations between and among men and women on the home- and war fronts? We will complicate these questions by probing topics such as women's support for war, masculinity in combat, everyday racial discrimination, eugenics, sexual violence and genocide and the ways in which they infiltrated the every aspect of Europeans' public and private lives. Finally, we will discuss scholarly debates and historiographies on gender during World War II that have emerged since the early 1970s.
Also Offered As: HIST 236
Activity: Seminar
1 Course Unit

GSWS 241 Topics In 18th-Century Literature
This is a topics course. If the topic is appropriate, the course is cross-listed with ENGL 241. This course explores an aspect of 18th-century literature intensively; specific course topics will vary from year to year. See the English Department's website at www.english.upenn.edu for a complete description of the current offerings.
Course not offered every year
Also Offered As: COML 239, ENGL 241
Activity: Seminar
1 Course Unit
Notes: Space will be reserved for English majors.

GSWS 244 Critical Methods in Sexuality Studies
This seminar examines the links between queer theory and research methods, with an emphasis on approaches that cross the division between the social sciences and the humanities. How do scholars who contribute to critical sexuality studies navigate questions related to knowledge, ethics, and practice? How do critical, transnational, and post-colonial theories inform methods in sexuality studies? Over the course of the term, students will become acquainted with a variety of methods for conducting qualitative research in the interdisciplinary field of critical sexuality studies. Introducing students to the process of doing research, we will consider such topics as: how to frame a research question, how to conduct a literature review, and how to choose appropriate tools to answer research questions. A range of methods including archival research, oral history, qualitative interviews, ethnography, cyber-ethnography, media and cultural studies will be explored. Issues of power, narration, interpretation, representation, and writing will be central to our discussion as we work through the relationships of theory and method.
Taught by: White
One-term course offered either term
Also Offered As: ANTH 243
Activity: Seminar
1 Course Unit

GSWS 245 Topics In The 18th-Century Novel
The primary for this course is the English Department. When the course content includes gender, sexuality and women's studies it will be cross-listed with GSWS. See additional information and description on the English Department's website: https://www.english.upenn.edu See the English Department's website at www.english.upenn.edu for a complete description of the current offerings.
Course not offered every year
Also Offered As: ENGL 245
Activity: Seminar
1 Course Unit
Notes: Spaces will be reserved for English Major

GSWS 249 Philosophy of Education
The philosophy of education asks questions about the foundational assumptions of our formal institutions for the reproduction of culture. It ranges therefore, from epistemology and philosophy of mind to ethics and political philosophy. For instance: What is the nature of learning and teaching? How is it possible to come to know something we did not know already--and how can we aid others in doing that? How, if at all, should formal institutions of education be concerned with shaping students' moral and civic character? What is the proper relation between educational institutions and the state? We also ask questions more specific to our own time and context. For example: how, in a multicultural state, should we educate students of varied social identities, like race, gender, and religion? What is the relationship between education and justice.
Taught by: Detlefsen
Course not offered every year
Also Offered As: EDUC 576, PHIL 249
Activity: Seminar
1 Course Unit
GSWS 250 Topics in 19th Century Literature
This course explores an aspect of 19th-century literature intensively; specific course topics will vary from year to year. See the English Department’s website at www.english.upenn.edu for a description of the current offerings.
Course not offered every year
Also Offered As: COML 249, ENGL 251
Activity: Seminar
1 Course Unit

GSWS 252 Freud: The Invention of Psychoanalysis
No other person of the twentieth century has probably influenced scientific thought, humanistic scholarship, medical therapy, and popular culture as much as Sigmund Freud. This course will study his work, its cultural background, and its impact on us today. In the first part of the course, we will learn about Freud’s life and the Viennese culture of his time. We will then move to a discussion of seminal texts, such as excerpts from his Interpretation of Dreams, case studies, as well as essays on psychoanalytic practice, human development, definitions of gender and sex, neuroses, and culture in general. In the final part of the course, we will discuss the impact of Freud’s work. Guest lecturers from the medical field, history of science, psychology, and the humanities will offer insights into the reception of Freud’s work, and its consequences for various fields of study and therapy.
For BA Students: Humanities and Social Science S
Taught by: Weissberg
Course not offered every year
Also Offered As: COML 253, ENGL 105, GRMN 253
Activity: Lecture
1 Course Unit
Notes: All readings and lectures in English.

GSWS 254 Japanese Theater
Japan has one of the richest and most varied theatrical traditions in the world. In this course, we will examine Japanese theater in historical and comparative contexts. The readings and discussions will cover all areas of the theatrical experience (script, acting, stage design, costumes, music, audience). Audio-visual material will be used whenever appropriate and possible. The class will be conducted in English, with all English materials.
Taught by: Kano
One-term course offered either term
Also Offered As: EALC 255, EALC 655, GSWS 654, THAR 485
Activity: Seminar
1 Course Unit

GSWS 255 Topics in the 19th-Century Novel
This course explores an aspect of the 19th-century novel intensively; specific course topics will vary from year to year. See the English Department’s website at www.english.upenn.edu for a complete description of the current offerings.
Course not offered every year
Also Offered As: COML 261, ENGL 255, GSWS 654
Activity: Seminar
1 Course Unit
Notes: Spaces will be reserved for English Majors

GSWS 257 Contemporary Fiction & Film in Japan
This course will explore fiction and film in contemporary Japan, from 1945 to the present. Topics will include literary and cinematic representation of Japan’s war experience and post-war reconstruction, negotiation with Japanese classics, confrontation with the state, and changing ideas of gender and sexuality. We will explore these and other questions by analyzing texts of various genres, including film and film scripts, novels, short stories, magazines, and academic essays. Class sessions will combine lectures, discussion, audio-visual materials, and creative as well as analytical writing exercises. The course is taught in English, although Japanese materials will be made available upon request. No prior coursework in Japanese literature, culture, or film is required or expected; additional secondary materials will be available for students taking the course at the 600 level. Writers and film directors examined may include: Kawabata Yasunari, Hayashi Fumiko, Abe Kobo, Mishima Yukio, Oe Kenzaburo, Yoshimoto Banana, Ozu Yasujiro, Naruse Mikio, Kurosawa Akira, Iimura Shohei, Koreeda Hirokazu, and Beat Takeshi.
Taught by: Kano
Course not offered every year
Also Offered As: COML 256, EALC 151, EALC 551
Activity: Lecture
1 Course Unit
Notes: Fulfills Cross-Cultural Analysis

GSWS 260 Topics in The Novel
This course explores an aspect of the novel intensively, asking how novels work and what they do to us and for us. Specific course topics will vary from year to year. See the English Department’s website at www.english.upenn.edu for a complete description of the current offerings.
Course not offered every year
Also Offered As: AFRC 262, COML 262, ENGL 260, LALS 260
Activity: Seminar
1 Course Unit

GSWS 266 Topics in 20th C. Literature
The course explores an aspect of 20th-century literature intensively; specific course topics will vary from year to year. See the English Department’s website at www.english.upenn.edu for a complete description of the current offerings.
One-term course offered either term
Also Offered As: COML 263, ENGL 261
Activity: Seminar
1 Course Unit
Notes: Spaces will be reserved for English Majors

GSWS 267 Topics In Poetry and Poetics
This course explores an aspect of poetry and poetics intensively; specific course topics will vary from year to year. See the English Department’s website at www.english.upenn.edu for a description of the current offerings.
Also Offered As: ENGL 269, PSYS 269
Activity: Seminar
1 Course Unit
Notes: Spaces will be reserved for English Majors
GSWS 269 Topics In Modernism
This course explores an aspect of literary modernism intensively; specific
course topics will vary from year to year. Past offerings have included
seminars on the avant-garde, on the politics of modernism, and on
its role in shaping poetry, music, and the visual arts. See the English
Department's website at www.english.upenn.edu for a description of the
current offerings.
Course not offered every year
Also Offered As: ENGL 259
Activity: Seminar
1 Course Unit
Notes: Spaces will be reserved for English Majors

GSWS 270 Folklore and Sexuality
Sexuality is not only a biological act or fact, it also has a creative and
aesthetic element. This course examines the folklore elements of
sexuality and includes historical readings such as the Bible and the
Decameron as well as a contemporary look at topics such as body art
and clothing choice. A field-based paper will be required and a final
examination will be given on class discussions and readings.
Taught by: Azzolina
Course not offered every year
Also Offered As: FOLK 270
Activity: Lecture
1 Course Unit

GSWS 279 Women in Theatre and Performance
Theatre began as a form that excluded women entirely. The plays of
ancient Greece and Elizabethan England were written and performed only
by men, beginning a long tradition of theatre that represented women
only from male perspectives. Has that tradition been so dominant for
so long that women's voices on stage are still a novelty? This course
focuses on a wide range of plays and performances by and about women;
the work we read (and view) will evidence artistic attempts to represent
women's lives, experiences and perspectives on the stage. Among the
issues encountered and examined in these works are the roles of love,
sexuality, friendship, career, community, marriage, motherhood, family,
and feminism in women's lives - as well as the economic and political
position(s) of women in society. The course will also offer contextual
background on feminist theatre history, theory, and literature, the diverse
(and divergent) creative efforts of female artists to use live performance
as a means of creating social and political change.
Taught by: Malague
Course not offered every year
Also Offered As: ENGL 356, THAR 279
Activity: Seminar
1 Course Unit

GSWS 280 Feminist Political Thought
This course is designed to provide an overview of the variety of ideas,
approaches, and subfields within feminist political thought. Readings
and divided into three sections: contemporary theorizing about the
meaning of "feminism"; women in the history of Western political thought;
and feminist theoretical approaches to practical political problems and
issues, such as abortion and sexual assault.
For BA Students: Society Sector
Taught by: Hirschmann
Course not offered every year
Also Offered As: PSCI 280
Activity: Lecture
1 Course Unit

GSWS 282 Gender & Development in India
Course not offered every year
Also Offered As: SAST 282
Activity: Seminar
1 Course Unit

GSWS 284 Topics In 19th-Century American Literature
This course explores an aspect of 19th-century American literature
intensively; specific course topics will vary from year to year. When the
course content includes gender, sexuality and/or women's studies the
course will be cross-listed with GSWS. See the English Department's
website at www.english.upenn.edu for a complete description of the
current offerings.
Course not offered every year
Also Offered As: AFRC 263, ENGL 253
Activity: Seminar
1 Course Unit

GSWS 287 Topics in Africana Studies
Topics Vary See the Africana Studies Program's website at
www.sas.upenn.edu/africana for a description of the current offerings.
One-term course offered either term
Activity: Seminar
1 Course Unit
Notes: This course will be cross-listed with GSWS when the content
includes gender, sexuality, and women's studies.

GSWS 290 Topics In Gender, Sexuality, and Literature
The primary for this course is the English Department. When the
course content includes gender, sexuality and women's studies it will
be cross-listed with GSWS. See the English Department's website
at www.english.upenn.edu for a complete description of the current
offerings.
One-term course offered either term
Also Offered As: AFRC 290, COML 290, ENGL 290
Activity: Seminar
1 Course Unit
Notes: This course is not open to freshman.

GSWS 292 Topics in Film Studies
This topic course explores aspects of Film Practice intensively. Specific
course topics vary from year to year. See the Cinema Studies website at
<http://cinemastudies.sas.upenn.edu/> for a description of the current
offerings.
Course not offered every year
Also Offered As: CIMS 202, COML 292, ENGL 292
Activity: Seminar
1 Course Unit
GSWS 294 Art Now
One of the most striking features of today's art world is the conspicuous place occupied in it by the photographic image. Large-scale color photographs and time-based installations in projections are everywhere. Looking back, we can see that much of the art making of the past 60 years has also been defined by this medium, regardless of the form it takes. Photographic images have inspired countless paintings, appeared in combines and installations, morphed into sculptures, drawings and performances, and served both as the object and the vehicle of institutional critique. They are also an increasingly important exhibition site: where most of us go to see earthworks, happenings and body-art. This course is a three-part exploration of our photographic present. Taught by: Silverman
Course usually offered in spring term
Also Offered As: ARTH 294, ARTH 694, COML 291, ENGL 059, VLST 236
Activity: Lecture
1 Course Unit

GSWS 296 Topics In Literary Theory
This course explores an aspect of literary theory intensively; specific course topics vary from year to year. It is an English course that is cross-listed with GSWS when the topic includes gender, sexuality and women's studies. Please check out the English Department's website for the current semester's description.
Course not offered every year
Also Offered As: COML 291, ENGL 294
Activity: Seminar
1 Course Unit

GSWS 301 French Identity in the Twentieth Century
Topics vary. Please see the French Department's website for a description of the current offerings: https://www.sas.upenn.edu/french/pc
One-term course offered either term
Also Offered As: ARTH 301, CIMS 301, FREN 301
Activity: Seminar
1 Course Unit

GSWS 302 Queer Cinema
Queerness has often been understood as a threat to society whether social institutions like marriage or monogamy or familial practices have been characterized by increasing acceptance of gays and lesbians into mainstream society, this process has no doubt reproduced new inequalities and asymmetries - in terms of race, class and access to institutional spaces. Does "queer" still pose a threat to the mainstream or is it now part of the "normal"? Should one welcome the progressive acceptance of queer lives within the mainstream or should one reject it in the name of an indissoluble difference? In this course we will range across movies and theories that engage with these questions, particularly focusing on negative reactions to processes of assimilation. Topics will include sex and death, queerness and neoliberalism, intersections of race and sexuality. Some of the films we will watch and discuss are Paolini's Pigsty, Fassbiner's In a Year of 13 Moons, Jennie Livingstone's Paris is Burning, Cheryl Dunye's Watermelon Woman, Kimberly Peirce's Boys Don't Cry.
Also Offered As: CIMS 303, COML 303
Activity: Seminar
1 Course Unit

GSWS 307 Love, Lust and Violence in the Middle Ages
Medieval Europe was undoubtedly gruff and violent but it also gave birth to courtly culture - raw worries transformed into knights who performed heroic deeds, troubadours wrote epic in their honor and love songs about their ladies, women of the elite carved out a place in public discourse as patrons of the arts, and princely courts were increasingly defined by pageantry from jousting tournaments to royal coronations. This course will trace the development of this courtly culture from the eleventh to the sixteenth century, from its roots in Southern France to its spread to Northern France and then to various kingdoms in Europe. Central themes will include the transformation of the warrior into the knight, the relationship between violence and courtliness, courtly love, cultural production and the patronage of art, and the development of court pageantry and ceremonial. This is a class in cultural history and, as such, will rely on the interpretation of objects of art and material culture, literature as well as historical accounts.
Taught by: KUSKOWSKI
Also Offered As: COML 307, HIST 307
Activity: Lecture
1 Course Unit

GSWS 310 The Medieval Reader
Through a range of authors including Augustine, Dante, Petrarch, Galileo, and Umberto Eco, this course will explore the world of the book in the manuscript era. We will consider 1)readers in fiction-male and female, good and bad; 2)books as material objects produced in monasteries and their subsequent role in the rise of the universities; 3)medieval women readers and writers; 4)medieval ideas of the book as a symbol (e.g., the notion of the world as God's book; 5)changes in book culture brought about by printing and electronic media. Lectures with discussion in English, to be supplemented by slide presentations and a field trip to the Rare Book Room in Van Pelt Library. No prerequisites. Readings available either in Italian or English. Satisfies General Requirement in Arts and Letters.
Course not offered every year
Also Offered As: COML 310, ITAL 310
Activity: Seminar
1 Course Unit
Notes: All Readings and Lecture in English.

GSWS 313 Topics in East Asian Art
Topic varies.
Taught by: Davis
Course not offered every year
Also Offered As: ARTH 313, EALC 353
Activity: Seminar
1 Course Unit
GSWS 318 Race, Gender, Class and the History of American Health Care
This multidisciplinary course surveys the history of American health care through the multiple perspectives of race, gender, and class, and grounds the discussions in contemporary health issues. It emphasizes the links between the past and present, using not only primary documents but materials from disciplines such as literature, art, sociology, and feminist studies that relate both closely and tangentially to the health professions and health care issues. Discussions will surround gender, class-based, ethnic, and racial ideas about the construction of disease, health and illness; the development of health care institutions; the interplay between religion and science; the experiences of patients and providers; and the response to disasters and epidemics.
Taught by: Fairman
One-term course offered either term
Also Offered As: NURS 318
Activity: Seminar
1 Course Unit

GSWS 320 Contemporary Feminist Thought
This course covers a broad range of feminist writers, from the pioneer thinkers of the 18th century to current feminists who focus on globalization. After examining how and why feminist thought developed, we will explore how different feminists perspectives explain gender inequality both in the US and in contemporary global contexts. Readings will also focus on how gender issues interact with race, ethnicity, sexuality, and social class. We will also focus on how feminist theory informs current social movements for gender equality.
Taught by: Kurz
Course usually offered in fall term
Prerequisites: One prior gender, sexuality and women’s studies course
Activity: Seminar
1 Course Unit

GSWS 321 Scene Study
Scene Study is the third level acting class, open by permission to those students who have successfully completed Introduction to Acting and Advanced Acting. Building on the work of those courses, Scene Study proceeds with an increased emphasis on the analysis and performance of the playscript. Students are given the opportunity to identify individual goals and to work on material which challenges them; they will also be encouraged to work from the circumstances of the text, to make strong character choices, and to interact in-the-moment with scene partner(s).
Taught by: Malague
Course usually offered in fall term
Activity: Seminar
1 Course Unit

GSWS 322 Advanced Topics in Global Gender and Sexuality Studies
This is an advanced topics course, and the course description will vary from semester to semester.
Course usually offered in fall term
Also Offered As: CIMS 322, COML 322, SOCI 322
Activity: Seminar
1 Course Unit

GSWS 324 Children's Health in the United States, 1800-2000
This course explores the impact of historical ideas, events, and actors pertaining to the history of children’s health care in the United States. Emphasis is placed on tracing the origins and evolution of issues that have salience for twenty-first century children’s health care policy and the delivery of care.
Taught by: Connolly
One-term course offered either term
Also Offered As: NURS 324
Activity: Seminar
1 Course Unit
Notes: For Benjamin Franklin Scholars Nursing Honors Students

GSWS 326 Theories in Gender and Sexuality Studies
What are queer cultural experiences and values? Many academics and social movements have noted that the radical aspirations of queer theory and activism not only disrupt but also shore up neoliberal ideologies. In this course students will explore the historical and co-emergence of queer cultures and neoliberalism by examining the promises and pitfalls of queer politics over the past quarter century. The coining of “queer theory” by Theresa de Lauretis in 1990 was intended as a disruptive joke. Its invocation resided in joining “queer,” an appropriation of street slang bandied about among New York City activists and artists in the 1980s, to “theory,” the passport of privilege in academic life. The irreverence of her joke exemplifies a central ethic of queer experience that renders palpable the tensions between margins and centers. The course will traverse scholarship from economic and queer anthropology, history, sociology & science studies, philosophy, political theory and literary studies. This wide survey of literature will allow students to develop an understanding of the political and economic processes that have conditioned the emergence of queerness as a diverse range of ethical commitments in particular sociocultural contexts globally. Students will investigate the affective dimensions of the emergence of queer theory, studies and activism within the United States and elsewhere in the context of global neoliberal social reforms. The course is split into four units: 1) In the Place of Queer Origins; 2) Queer Values; 3) Queer Circulations and Subjectivities; and 4) Queer Temporalities.
Taught by: Keirbeck
Course usually offered in fall term
Also Offered As: AFRC 326, GSWS 526
Prerequisites: A prior course in gender, sexuality and women's studies.
Activity: Seminar
1 Course Unit

GSWS 330 Medieval Literature
An introductory course to the literature of the French Middle Ages. French literature began in the 11th and 12th centuries. This course examines the extraordinary period during which the French literary tradition was first established by looking at a number of key generative themes: Identity, Heroism, Love, Gender. All readings and discussions in French.
Course not offered every year
Also Offered As: FREN 330
Activity: Seminar
1 Course Unit
GSWS 336 "Where My Girls At?: African American Women Performers in the 20th Century
African American women performers from blues woman Bessie Smith to Paris revue star Josephine Baker, from jazz darling Billie Holiday to rock legend Tina Turner, and from hip hop giant Lauryn Hill to millennial star Beyoncé, have constantly redefined and expanded American popular music. Using the long 20th century as our historical marker, this course will explore how African American women performers, across genres and time, have consciously and sometimes contradictorily navigated the racial and sexual limits of American popular culture in order to assert their own particular narratives of artistic and political freedom. Taught by: Tillet
Course usually offered in spring term
Also Offered As: AFRC 335
Activity: Seminar
1 Course Unit

GSWS 338 "Sweet Little Old Ladies and Sandwiched Daughters": Social Images and Issues in our Aging Society
This course is an intensive and focused introduction to social gerontology as a trans-disciplinary lens through which to examine aspects of social structure, actions, and consequences in an aging society. A variety of sources are employed to introduce students from any field focused on human behavior and interaction to classical notions of social gerontology and current scholarly inquiry in gerontology. Field work in the tradition of thick description creates a mechanism to engage students in newly gerontological understandings of their life worlds and daily interactions. Weekly field work, observing aspects of age and representations of aging and being old in every day experiences forms, is juxtaposed against close critical readings of classical works in social gerontology and current research literature as well as viewings of film and readings of popular literature as the basis for student analysis. Student participation in the seminar demands careful scrutiny and critical synthesis of disparate intellectual, cultural, and social perspectives using readings and field work and creation of oral and written arguments that extend understandings of the issues at hand in new and substantive ways. Emphasis is placed on analysis of field work and literature through a series of media reports and a final term paper. Taught by: Kagan
Course usually offered in spring term
Also Offered As: NURS 338
Activity: Seminar
1 Course Unit

GSWS 341 Topics in 18th Century Literature
This course explores an aspect of 18th-century British literature intensively; specific course topics will vary from year to year. This is an English course when the course topic includes gender, sexuality and women's studies it will be cross-listed with GSWS. See the English Department's website at www.english.upenn.edu for a complete description of the current offerings.
Course not offered every year
Also Offered As: ENGL 341
Activity: Seminar
1 Course Unit
Notes: Benjamin Franklin Seminar

GSWS 343 Boys will be Boys: Masculinity in French Literature
Why was a portrait depicting the Renaissance king Francois I as half-man, half-woman made with royal approval, and moreover intended to represent the king as the perfect embodiment of the ideal qualities of a male sovereign? And why, in what is now regarded as the official portrait of Louis XIV, does the king prominently display his silk stockings and high heels with diamond-encrusted buckles? These are just two examples of the questions that lead us to the point of departure for this course: the idea that masculinity is not a fixed essence that has existed since time immemorial, but rather a flexible concept that changes across and even within historical periods. We will examine how masculinity has evolved from the Middle Ages and the chivalric ideal to the present day, how it has been defined, and its implications for gender relations, politics, and religion in different eras. In addition to literary works, we will study how masculinity is represented across a range of media, including visual arts, music, and film. Discussions will be in English, and assignments will be available in translation, but students who wish to receive credit in French will be able to do coursework in French.
Also Offered As: COML 341, FREN 341
Activity: Seminar
1 Course Unit

GSWS 344 Psychology of Personal Growth
Intellectual, emotional and behavioral development in the college years. Illustrative topics: developing intellectual and social competence; developing personal and career goals; managing interpersonal relationships; values and behavior. Recommended for submatriculation in Psychological Services Master’s Degree program.
One-term course offered either term
Also Offered As: EDUC 345
Activity: Lecture
1 Course Unit

GSWS 349 History of Sexuality in the U.S
This course introduces students to a relatively new field of inquiry, the history of sexuality in the U.S. It explores the past to consider why sexuality has been so central to American identities, culture, and politics. Primary documents and other readings focus on the history of sexual ideology and regulation; popular culture and changing sexual practices; the emergence of distinct sexual identity and communities; the politics of sexuality; and the relationship between sexual and other forms of social difference, such as gender, race, ethnicity, age, and class. Topics include many themes with continuing relevance to contemporary public debate: among them, sexual representation and censorship, sexual violence, adolescent sexuality, the politics of reproduction, gay and lesbian sexualities and sexually transmitted diseases.
Taught by: Peiss
One-term course offered either term
Also Offered As: HIST 349
Activity: Recitation
1 Course Unit
GSWS 350 Introduction to Criticism
This course includes both a general survey of classic writings in Western aesthetics as well as readings on the major trends in literary criticism in the twentieth century. A recurring theme will be the literary canon and how it reflects or influences values and interpretative strategies. Among the topics covered are feminist literary criticism, structuralism and poststructuralism, Marxist criticism, and psychological criticism. Authors include Plato, Aristotle, Hume, Kant, Hegel, T.S. Eliot, Bakhtin, Sontag, Barthes, Foucault, Derrida, Virginia Woolf, de Beauvoir, Showalter, Cixous, Gilbert and Guber, Kolodny, Marx, Benjamin, and Freud.
Course not offered every year
Also Offered As: COML 350
Activity: Seminar
1 Course Unit

GSWS 353 Topics In 19th-Century American Literature
This course explores an aspect of 19th-Century American literature use intensively; specific course topics will vary from year to year. See the English Department’s website at www.english.upenn.edu for a description of the current offerings.
Course not offered every year
Also Offered As: ENGL 353
Activity: Seminar
1 Course Unit

GSWS 369 Topics In Poetry and Poetics
This course explores an aspect of poetry and poetics intensively; specific course topics will vary from year to year. See the English Department’s website at www.english.upenn.edu for a description of the current offerings.
Course not offered every year
Also Offered As: ENGL 369, PSYS 369
Activity: Seminar
1 Course Unit

GSWS 390 Topics in Gender, Sexuality and Literature
The advanced women’s studies course in the English department, focusing on a particular aspect of literature by and about women. Topics might include: "Victorian Literary Women"; "Women, Politics, and Literature"; "Feminist Literary Theory"; and similar foci. See the English Department’s website at www.english.upenn.edu for a description of the current offerings.
Course not offered every year
Also Offered As: ENGL 390
Activity: Seminar
1 Course Unit
Notes: Benjamin Franklin Seminar

GSWS 391 Introduction to Spanish American Literature
Topics vary. Please see the Spanish Department’s website for the current course description: https://www.sas.upenn.edu/hispanic-portuguese-studies/pc
Course not offered every year
Also Offered As: SPAN 390
Activity: Seminar
1 Course Unit

GSWS 397 History of Spanish American Culture
Topics vary. Please see the Spanish Department's website descriptions for a description of the current offerings. http://ccat.sas.upenn.edu/roml/spanish/undergraduate/courses.html
Course not offered every year
Also Offered As: LALS 398, SPAN 397
Prerequisite: Spanish 219
Activity: Seminar
1 Course Unit

GSWS 400 Senior Seminar
This course is for senior undergraduate Women's Studies majors who will be completing their thesis. The seminar helps students decide on the most appropriate methodologies to use and topics to include in their thesis. Other topics include thesis organization and drawing conclusions from primary and secondary sources of data.
Taught by: Kurz
Two terms. student must enter first term.
Activity: Seminar
1 Course Unit

GSWS 414 Family Ties: Function and Ideology
Families serve as the basic building blocks of societies. Besides helping to distribute economic resources within a society, families reflect societies’ values, norms, tensions and power dynamics through their structure. Furthermore, changes in the family’s values, functions and structures mirror changes in women's roles and experiences, both inside and outside the home. Finally, families also serve as the repository for memories from generation to generation. In this course, we will explore some central debates and issues in the history of the family by focusing on case studies from England, France, Germany, and the United States from the medieval through the modern periods. How are families created and dissolved over time, and how did changes in these practices come about? How did people make the decision to get married, and how important were affective ties and material considerations in this process? How did past societies treat their children, and did love for children increase over time? Which people, inside and outside families, exerted power over family members? How did political and economic developments influence families’ structure, function, and ideology? What do the changing structure and purpose of families in the West tell us about changes in the role of the individual and the relationship between public and private in the West? What do recent family histories tell us about the relationship between the past and the present, between individuals and ancestors, at the end of the twentieth century?
Taught by: Rabberman
Course not offered every year
Activity: Seminar
1 Course Unit
GSWS 420 Witchcraft and Gender in the Early Modern World
From the 15th century through the 18th century, social tensions erupted in Europe and the colonies in the witch craze, a period when intense cultural concern over witchcraft was expressed through religious treatises and sermons, popular literature like pamphlets and broadsides, legal accusations, trials, and, in some cases, executions. Although scholars argue vehemently about the total number of people executed during the witch-hunts, their importance in understanding early modern beliefs and responses to social tensions is clear. In this class, we will explore historians' understandings of the causes underlying this cultural phenomenon. With special attention to gender, social position, and religious belief, we will join academic debates about the causes of these persecutions. We will also read some primary sources from the medieval through the early modern periods, including trial transcripts, sermons, and pamphlets. Were women the main target of witchcraft accusations and executions, and if so, was misogyny their most important cause? What role did sexual norms and beliefs have in the way that accusations were framed? Were there different patterns of accusation and executions across time and region, and if so, what social and cultural factors might explain them?
Taught by: Rabberman
Course not offered every year
Activity: Lecture
1 Course Unit
Notes: Master in Liberal Arts course

GSWS 422 History of Sexuality
In this course, rather than simply debating changes in sexual practices over time, we will discuss the ways in which different societies in the past and present constructed sexual norms and understood normality and deviance in sexual terms. We will focus special attention on the following questions: To what extent are sexual identities constructed by different cultures, rather than simply being determined biologically? What influence do social, economic, and political conditions have on social constructions of sexuality? How have different societies used sexual norms to mark "natural" practices from "deviant" ones, and how are these norms connected to societies' power structures? We will explore case studies from Classical Greece through the contemporary United States. Our readings will explore topics such as medieval and modern views of the body, gender, sexuality, and science; prostitutes in medieval and Victorian England; same-sex relationships from classical Greece to medieval Europe to the contemporary United States; expectations for sexuality within and outside marriage; hermaphrodites; and sexual deviants, among others. Students will be expected to participate actively in class discussions, and to complete short response papers and a longer research paper.
Taught by: Rabberman
Course usually offered in spring term
Activity: Lecture
1 Course Unit
Notes: Master in Liberal Arts course

GSWS 423 Gendered Constructions of Other Cultures in Western Travel Literature
Descriptions of peoples from foreign lands and faraway places have captured the imaginations of Europeans for centuries. Pilgrims and merchants, explorers and conquistadores, Victorians taking their Grand Tour and 21st century travelers have preserved their observations, both in written form, in ethnographies and diaries, novels and travel narratives, and in visual form, in maps, illuminated manuscripts, engravings, and photographs. Through these media, these travelers have not simply captured their memories, but have also helped to shape Western representations of the people they encountered. In the process, these travelers often have justified Western political, economic, cultural, and social dominance, although instead some travelers have critiqued the West. And in all these depictions, gender and sexuality have played central roles in the creation of these identities and relationship.
Taught by: Rabberman
Activity: Online Course
1 Course Unit

GSWS 432 Family Dramas, Family Players
Though families have been the subject of literary scrutiny at least since Oedipus Rex and Eugene O'Neill's magisterial Long Day's Journey Into Night was arguably the first American work to look unflinchingly at the darker side of family life. In this course, we will read twentieth century novels, plays stories and poems (as well as some nonliterary theoretical works on gender) that show the family as a whole, albeit a fragmented whole. We will read stories by the Irish writers William Trevor and Edna O'Brien who show marriage in various stages of decay, as well as two short novels by the American Jane Smiley whose family survives their crises. We'll look at the relationship of neighborhood and family through stories by the African-American writers John Edgar Wideman and Toni Cade Bambara. Arthur Miller's "Death of a Salesman" and poems from Life Studies by Robert Lowell will let us examine family through the lens of America's obsession with success. Finally, we'll look at families with traditional homes, through Barbara Kingsolver's "The Bean Trees" and Marilynne Robinson's "Housekeeping." Several of the works on the list have been made into excellent films, and we will watch at least two. Brief weekly response papers will encourage all to participate in discussion. There will be a final comparative paper, and no exam.
Taught by: Burnham
Course not offered every year
Activity: Seminar
1 Course Unit
GSWS 434 The Politics of Ugly
Venus was the God of Beauty and Love yet she was married to Hephaestus, the mangled, grumpy and for all intents and purposes, ugly god. Why juxtapose such distinct figures? Are they doing the same job? The course discusses the interplay between ugliness and politics with focus on a number of central concepts such as race, social conflict, nationalism, ideology, dictatorship, propaganda and autonomy. Emphasis is put on the double role of the deployment of ugliness, as reinforcement of ideological and political ideas and as a force of social criticism. How does the state justify its own existence by the use of aesthetic narratives? How does the State identify undesirables? This class highlights how groups who feel somatically alike behave, and how their boundaries form and change over time. The focus will be interdisciplinary and multi-national, with case studies from past and present. The class will have a digital media focus as we will delve into issues of representation particularly with respect to race. For example, we will delve into the aesthetic discussion of northern and southern Sudanese as well and Hitler’s Germany.
Taught by: Carelock
Course not offered every year
Also Offered As: ANTH 434
Activity: Seminar
1 Course Unit

GSWS 485 Topics in Gender Theory
This course seeks to assemble some of the philosophical evidence for feminist claims that traditional political theories are fundamentally inadequate because they have not, and presumably cannot, deal with basic facts of gender and the oppression of Women. We will begin by examining the nature of the distinction between sex and gender. This will take us through discussions of: the meaning and significance of categories being socially constructed, the possibility that sexual differences (and inequalities) are in some sense natural and what normative force this has. We will then consider varous attempts to describe the nature of women's oppression. What is it? How does it manifest itself in the lives of women? This will take us through discussions of freedom, constrained choice, ideology, "consciousness raising", androcentrism and the relation between, and methodological importance of, ideal and non-ideal theory. Along the way we will be constructing a version of the feminist framework known as the dominance approach and seeing how it analyzes three presumed sites of oppression: sexuality, reproduction and work/family. Among the authors we will be reading are: Elizabeth Anderson, Marily Frye, Sally Haslanger, Rae Langton, Anthony Laden, Catherine MacKinnon, and Susan Okin. The prerequisite for UNDERGRADUATES taking this course is: two philosophy courses (ONE of which is in moral or political philosophy) OR ONE of the following Gender Studies courses: GSWS/PHIL 028, GSWS/PoliSci 280, GSWS 320. There will be one short paper (6-8 pages) with revision, a longer final paper (15 pages) and weekly one-page reflections on a topic from the previous week's discussion.
Course not offered every year
Also Offered As: PHIL 485
Activity: Seminar
1 Course Unit

GSWS 488 Topics: Culture, Sexuality and Global Health
What does it mean to claim that "Homosexuality is un-African"? This course explores the linked histories of race, nation, gender and sexuality in Africa that such an ideological claim invokes, yet effaces. The polemics that produce statements like this play out through the disciplinary tensions that exist between African and sexuality/queer studies. These tensions have as much to do with the role played by the relation between sexuality and race within cultures of European colonization, as they have with the role of gender and sexuality within postcolonial power relations in Africa. Such antagonisms are sustained through the marginalization of gender and sexuality perspectives within postcolonial scholarship on Africa, as well as the bracketing of African perspectives in queer and feminist studies. This course will deconstruct these impasses by exploring scholarship at the margins of each area of study. Students will be encouraged to ask questions about how issues of race, ethnicity, nation, gender and sexuality are produced as suppressed presences in a range of texts, films and other materials. The course will include readings from postcolonial, gender, sexuality and African studies, anthropology, history, literary studies and Marxism, giving students a grounding in historical and contemporary perspectives at the intersection of African, queer and feminist studies.
Course usually offered in fall term
Also Offered As: AFRC 488, ANTH 488, SOCI 488
Activity: Seminar
1 Course Unit

GSWS 499 Independent Study
One-term course offered either term
Activity: Independent Study
1 Course Unit

GSWS 503 Hyst/Patho of the Fem
This seminar traces hysteria as a uniquely female malady from Hippocrates, to nineteenth century France and Jean-Martin Charcot, from Sigmund Freud in Vienna 1900, to French feminist reflections on hysteria in the 1970s, such as Luce Irigaray’s "La Mysterique," up until more recent reimaginations of the figure, ending with a consideration of what today’s hysteria looks like and the women who are "afflicted.” Through hysteria, we will consider the ways in which illness has been feminized and women have been pathologized not only in the past, but in the 21st century. Furthermore, we will consider the sick feminine beyond gender binaries and consider how that which is sick is feminine – weak, inferior, passive – even when not biologically female. The course will draw from a variety of texts (literary, historical, scientific, and psychological), film, and recent media (from newspapers and magazines to blogs, twitter, Facebook, etc.).
Taught by: Adley
Course not offered every year
Activity: Seminar
1 Course Unit
Notes: Master in Liberal Arts course
**GSWS 508 Gender, Sexuality and International Development**
In recent decades, girls’ education and empowerment has emerged as a key site for investment and advocacy. Girls are often represented as having the potential to solve wide-ranging societal issues, from poverty to terrorism, especially in the context of the global South. It is argued that if girls can obtain schooling, they will marry at a later age, delay childbearing, participate in the wage-based economy, and ultimately bring their nations out of abject poverty and violence. This course interrogates this current focus on girls in international development regime by examining its cultural politics. We ask: What kinds of knowledge about people in the global South are produced in/through girl-focused campaigns? What is highlighted and what is erased? What are the consequences of such representations for international development policy and practice? Our examination takes us into an exploration of the different theories of ‘girl’, ‘culture’, ‘empowerment’, ‘rights’, and ‘citizenship’ that are operative in this discourse. We situate girl-focused development campaigns within the broader politics of humanitarianism, and ask critical questions about conceptualizations of ‘freedom’ and the constitution of the ‘human’ subject. Our course concludes with an engagement with qualitative studies conducted with girls in the global South. These cases enable us to sharpen our analytics and illuminate the radical specificity of the lives of girls in the global South, calling for similarly nuanced approaches to development.

Taught by: Khoja-Moolji
Course not offered every year
Corequisite: Undergraduates need permission
Activity: Seminar
1 Course Unit

**GSWS 509 Jewish Women Writers**
"Jewish Women Writers" is a graduate seminar also open to advanced undergraduates. Based in the Department of Germanic Languages and Literatures, this course will be cross-listed with Comparative Literature, English, and Jewish Studies.

Course not offered every year
Also Offered As: COML 509, GRMN 509, JWST 509, YDSH 509
Activity: Seminar
1 Course Unit

**GSWS 516 Public Interest Workshop**
This is a Public Interest Ethnography workshop (originally created by Peggy Reeves Sanyad - Department of Anthropology) that incorporates an interdisciplinary approach to exploring social issues. Open to graduate and advanced undergraduate students, the workshop is a response to Amy Gutmann's call for interdisciplinary cooperation across the University and the Department of Anthropology's commitment to developing public interest research and practice as a disciplinary theme. Rooted in the rubric of public interest social science, the course focuses on: 1) merging problem solving with theory and analysis in the interest of change motivated by a commitment to social justice, racial harmony, equality, and human rights; and 2) engaging in public debate on human issues to make research results accessible to a broader audience. The workshop brings in guest speakers and will incorporate original ethnographic research to merge theory with action. Students are encouraged to apply the framing model to a public interest research and action topic of their choice. This is an academically-based-community-service (ABCS) course that partners directly with Penn's Netter Center Community Partnerships.

Taught by: Suess
Course not offered every year
Also Offered As: AFST 516, ANTH 516, URBS 516
Activity: Seminar
1 Course Unit

**GSWS 517 Sociology of Work**
The thinkers whose work formed the foundations of sociological theory considered the nature of the relationship between work and identity key to understanding social solidarity, power, and historical change. In recent years, the division of labor, structures of work, and employment relations have all been undergoing rapid change, necessarily affecting the possibilities for constructing identity through work. This seminar examines how changes in the nature and organization of work have reshaped the relationship between work and identity.

Taught by: Jacobs, Leidner
Course not offered every year
Also Offered As: SOCI 517
Activity: Seminar
1 Course Unit

**GSWS 518 Nursing and the Gendering of Health Care in the United States and Internationally, 1860-2000**
This course examines changing ideas about the nature of health and illness; changing forms of health care delivery; changing experiences of women as providers and patients; changing role expectations and realities for nurses; changing midwifery practice; and changing segmentation of the health care labor market by gender, class and race.

It takes a gender perspective on all topics considered in the course. A comparative approach is used as national and international literature is considered. This focus is presented as one way of understanding the complex interrelationships among gender, class, and race in health care systems of the United States and countries abroad.

Taught by: Wall
Course usually offered in spring term
Also Offered As: NURS 518
Activity: Lecture
1 Course Unit

**GSWS 524 Chaucer**
An advanced introduction to Chaucer's poetry and Chaucer criticism. Reading and discussion of the dream visions, Troilus and Criseyde, and selections from Canterbury Tales, from the viewpoint of Chaucer's development as a narrative artist.

Course not offered every year
Also Offered As: COML 522, ENGL 525
Activity: Seminar
1 Course Unit

**GSWS 525 The Trouble with Freud: Psychoanalysis, Literature, Culture**
For professionals in the field of mental care, Freud's work is often regarded as outmoded, if not problematic psychologists view his work as non-scientific, dependent on theses that cannot be confirmed by experiments. In the realm of literary and cultural theory, however, Freud's work seems to have relevance still, and is cited often. How do we understand the gap between a medical/scientific reading of Freud's work, and a humanist one? Where do we locate Freud's relevance today? The graduate course will concentrate on Freud's descriptions of psychoanalytic theory and practice, as well as his writings on literature and culture.

Taught by: Weissberg
One-term course offered either term
Also Offered As: GRMN 526
Activity: Seminar
1 Course Unit
GSWS 526 Theories: Gender, and Sexuality Studies
Theories in Gender and Sexuality: Objects, Ideas, Institutions foregrounds new works in feminist thinking which circumvent and resist stale modes of teaching, in learning and knowing difference and "the woman question." Our aim is to interrogate the normative directionality of feminist "waves" and additiveand intersectional models of suturing gender and sexuality to minoritarian politics. We will conceptualize feminism as relational to studies of affect, object oriented ontology animality, feminist science, and aesthetics.
Course not offered every year
Also Offered As: COML 525, ENGL 590
Prerequisites: A prior course in gender, sexuality and women's studies
Activity: Seminar
1 Course Unit

GSWS 527 Race, Gender and Auto/Biography
PRING 2017: Market Women, Madames, Mistresses & Mother Superior studies under, labor, sexuality, and race in the Caribbean. In our historical xamination of primary source documents alongside literature, and popular edia, we will question some of the iconic representations of Caribbean and atin American women in order to understand the meaning, purpose and usages these women s bodies as objects of praise, possession, obsession and/or idicule by communities, governments and religions within and outside of th egion. Beginning in the late-18th century and ending with contemporary igration narratives, this course considers the relationship between slave ociety and colonial pasts on gender performance in the modern Caribbean, atin America, and their diasporas. In our interrogation of gender meanings, we will consider the ways Caribbean women and men define themselves as well as each other, while considering the intersections of color, class, religion and culture on the political and social realities of the Caribbean and the region.
The geographic scope of the course will extend to Haiti, the Dominican Republic, Jamaica, Cuba, Puerto Rico, Costa Rica and Trinidad & Tobago. The following interrelated questions will anchor our exploration of each text: How have representations of Caribbean and Latin American women informed historical constructions and rhetoric of the region and national identity? What political and social strategies have Caribbean women and men used to define themselves in their countries and throughout the region? How do the history and contemporary conditions of a post-colonial nation impact the gender construction of Caribbean identities? What is the relationship between modern Caribbean gender identities and the regional racial and economic politics?
Taught by: Sanders
One-term course offered either term
Also Offered As: AFRC 527, LALS 527
Activity: Seminar
1 Course Unit

GSWS 528 Gender and Science
With a special focus on methods, this course explores the rich literature on gender and technical knowledge.
Taught by: Lindee
Course not offered every year
Also Offered As: HSSC 528
Activity: Seminar
1 Course Unit

GSWS 532 Gender, the Labor Force and Labor Markets
Drawing from sociology, economics and demography, this course examines the causes and effects of gender differences in labor force participation, earnings and occupation in the United States and in the rest of the developed and developed world. Differences by race and ethnicity are considered. Theories of labor supply, marriage, human capital and discrimination are explored as explanations for the observed trends. We will review current labor market policies and use their data, theories of labor supply, marriage, human capital and discrimination to men. Evaluate their effects on women and men.
Taught by: Madden
Course not offered every year
Also Offered As: DEMG 541, SOCI 541
Activity: Seminar
1 Course Unit
GSWS 539 Medieval and Early Modern Women Visionaries
This graduate seminar will examine the works of women visionaries of the Christian tradition in the medieval and early modern periods, including Hildegard of Bingen, Catherine of Siena, Teresa of Avila, and others. All readings will be available in English. A research paper will be required from each student.
Taught by: Matter
One-term course offered either term
Also Offered As: RELS 539
Activity: Seminar
1 Course Unit

GSWS 544 Science of Sex & Sexuality
The author of a New York Times article entitled “On Being Male, Female, Neither or Both” concluded her comments with the following statement: “The definition of sex was (and is) still up for grabs.” In our post-modern world, we have become accustomed to the malleability of gender identity and sexuality. We are also aware that individuals undergo sex reassignment surgeries but by and large we assume that transgender people are transitioning from one discrete category to another. Queer activists certainly challenge this assumption, preferring to envision sex, gender, and sexuality on a continuum, but these days even scientists don’t concur about a definitive definition of sex. Should sex be defined chiefly by anatomy? Chromosomes? The body’s ability to produce and respond to hormones? If the boundaries of biological categories can be contested, what are the implications for culturally constructed ideas about gender identity and sexuality.
Prerequisite: This is an advanced seminar for MLA students
Activity: Seminar
1 Course Unit

GSWS 546 Feminist Theory
Feminist activists and academics have posed fundamental challenges to existing approaches to social theory. This seminar explores the development of feminist theory since the 1960s, focusing on approaches that have the most relevance for social science. The relations among feminist theorizing, research, and activism will be emphasized.
Taught by: Leidner
Course not offered every year
Also Offered As: SOCI 546
Activity: Seminar
1 Course Unit

GSWS 542 Work and Gender
This seminar examines the relevance of gender to the organization and experience of paid and unpaid work. Combining materialist and social constructionist approaches, we will consider occupational segregation, the relation of work and family, gender and class solidarity, the construction of gender through work, race and class variation in work experiences, and related topics.
Taught by: Leidner
Course not offered every year
Also Offered As: SOCI 542
Activity: Seminar
1 Course Unit

GSWS 550 Topics 17th Century
The specific topics of the seminar vary from semester to semester, depending on the instructor and his/her choice. When the topic includes gender, sexuality or women’s studies it will be cross-listed with GSWS. Please see the French Department website for a description: https://www.sas.upenn.edu/french/pc
Course not offered every year
Also Offered As: COML 549, ENGL 537, FREN 550
Activity: Seminar
1 Course Unit

GSWS 553 British Women Writers
A study of British women writers, often focusing on the women authors who came into prominence between 1775 and 1825. See the English Department’s website at www.english.upenn.edu for a complete description of the current offerings.
Taught by: Bowers
Course not offered every year
Also Offered As: COML 554, ENGL 553
Activity: Seminar
1 Course Unit

GSWS 555 Women and Incarceration
This elective course will afford students the opportunity to develop and implement health education workshops for incarcerated women in the Philadelphia jail system. Students will explore the social and historical framework and trends in the incarceration of women, as well as the needs of this population, and will identify specific areas that need to be addressed by particular disciplines or professions. Students will have direct contact with the jail system, its staff, and female inmates.
Taught by: Brown, K.; Guidera; Durain
Course usually offered in fall term
Also Offered As: NURS 555
Activity: Lecture
1 Course Unit

GSWS 556 Topics in Nineteenth Century Literature
This course covers topics in nineteenth-century British Literature, its specific emphasis varying with the instructor. See the English Department’s website at www.english.upenn.edu for a complete description of the current offerings.
Course not offered every year
Also Offered As: ENGL 556
Activity: Seminar
1 Course Unit

GSWS 559 Topics in American Literature
This is a topics course where the primary is English. When the topic is Gay/Lesbian/Queer Studies and 19th Century American Literature or African American and Chicana Feminism, this course will be cross listed with women's studies. See the English Department's website at www.english.upenn.edu for a complete description of the current offerings.
Course not offered every year
Also Offered As: AFRC 569, ENGL 569
Activity: Seminar
1 Course Unit
GSWS 570 African-American Literature
This course treats some important aspect of African-American literature and culture. Some recent versions of the course have focused on the emergence of African-American women writers, on the relation between African-American literature and cultural studies, and on the Harlem Renaissance. This course is cross-listed with the English Department. See the English Department’s website at www.english.upenn.edu for a complete description of the current offerings.
Course not offered every year
Also Offered As: AFRC 570, ENGL 570
Activity: Seminar
1 Course Unit

GSWS 572 Language and Gender
This course traces the development of research on language and gender, introducing key theoretical issues and methodological concerns in this area. Participants will consider how gender ideologies shape and are shaped by language use, with particular attention to how research findings can be applied to educational and other professional settings.
Taught by: Pomerantz
Course usually offered in spring term
Also Offered As: EDUC 572
Activity: Lecture
1 Course Unit

GSWS 574 Masters in Liberal Arts Proseminar
Topic varies.
Course not offered every year
Also Offered As: ARTH 505
Activity: Lecture
1 Course Unit

GSWS 576 Language and Gender
This course will examine a wide array of performance pieces by and about women, designed to provoke social, political, and personal change. Ranging from the serious to the hilarious (and sometimes outrageous), our readings will center on plays and performance art; we will also study live and filmed pieces, attend course-related productions in the city and on campus, and incorporate contextual material on feminist theatre theory and history.
Taught by: Malague
Course not offered every year
Also Offered As: ENGL 456, THAR 579
Activity: Seminar
1 Course Unit

GSWS 581 Advanced Psychology of Women
A critical analysis of psychological theories about women and sex differences, a thorough examination of "psychology of women" research articles, and class-initiated research. Among the issues to be covered are: sex role socialization; class, race and gender connections; women and work; employment discrimination, assertiveness training; women's responses to injustice: domestic violence, rape, discrimination; the family and the "new right"; perceptions of women; sexuality, disability and objectification; reproductive rights, sex roles, androgyne and new role prescriptions; mental health and aging.
Taught by: Stanley
Course usually offered summer term only
Also Offered As: EDUC 581
Prerequisite: A course in general psychology
Activity: Lecture
1 Course Unit

GSWS 582 Political Philosophy
An examination of basic theoretical problems of political science divided into three parts. First, specific features of social sciences will be examined and three most important general orientations of social sciences (analytical, interpretative and critical) will be compared and analyzed. Second, basic concepts of social and political sciences will be studied: social determination, rationality, social change, politics, power, state, democracy. Third, the problem of value judgments will be considered: Is there a rational, objective method for the resolution of conflicts in value judgments? Is morality compatible with politics?
Taught by: Hirschmann
Course not offered every year
Also Offered As: PSCI 584
Activity: Seminar
1 Course Unit

GSWS 585 The Politics of Women's Health Care
This course will utilize a multidisciplinary approach to address the field of women's health care. The constructs of women's health care will be examined from a clinical, as well as sociological, anthropological and political point of view. Topics will reflect the historical movement of women's health care from an obstetrical/gynecological view to one that encompasses the entire life span and life needs of women. The emphasis of the course will be to undertake a critical exploration of the diversity of women's health care needs and the past and current approaches to this care. Issues will be addressed from both a national and global perspective, with a particular focus on the relationship between women's equality/inequality status and state of health.
Taught by: Durain, McCool
Course usually offered in spring term
Also Offered As: NURS 588
Activity: Lecture
1 Course Unit

GSWS 588 Recent issues in Critical Theory
This course is a critical exploration of recent literary and cultural theory, usually focusing on one particular movement or school, such as phenomenology, psychoanalysis, the Frankfurt School, or deconstruction.
Course not offered every year
Also Offered As: COML 590, ENGL 590, LALS 590
Activity: Seminar
1 Course Unit

GSWS 590 Gender and Education (ELD)
This course is designed to provide an overview of the major discussions and debates in the area of gender and education. While the intersections of gender, race, class, ethnicity, and sexuality are emphasized throughout this course, the focus of the research we will read is on gender and education in English-speaking countries. We will examine theoretical frameworks of gender and use these to read popular literature, examine teaching practices and teachers with respect to gender, using case studies to investigate the topics.
Taught by: Schultz; Kuriloff
Course usually offered in spring term
Also Offered As: EDUC 590
Activity: Lecture
1 Course Unit
GSWS 594 Topics in Contemporary Art
Topics vary. The primary for this course is the Art History Department. For a course description please see their website: http://www.sas.upenn.edu/arthistory/courses
Course not offered every year
Also Offered As: ARTH 593, CIMS 590, COML 599
Activity: Seminar
1 Course Unit

GSWS 599 Independent Study
One-term course offered either term
Activity: Independent Study
1 Course Unit

GSWS 608 Gender and Sexuality in Hinduism
Issues related to gender and sexuality occupy a complex, often contradictory place in Hinduism. Sexual desire, sexual activity, and the body are simultaneously celebrated, manipulated, controlled, and restricted. This fundamental ambiguity is at the core of this course, which concerns itself with religious perspectives on the body, gender and sexual activity in Hinduism. Topics include: dharma, morality, and sexual practice; menstruation; pregnancy and childbirth; Bhakti and Tantra; same-sex relations; masculinities; hijras and the notion of the "third sex"; eroticism in the literary, visual, and performing arts; colonialism; and somatic nationalism.
Taught by: Soneji, D.
Also Offered As: SAST 607
Activity: Seminar
1 Course Unit

GSWS 610 Topics in American History
Reading and discussion course on selected topics in American history.
Course usually offered in fall term
Also Offered As: HIST 610
Activity: Seminar
1 Course Unit

GSWS 612 Interactional Processes with LGBT Individuals
In the past quarter century, the awareness of the unique issues facing lesbian, gay, bisexual and transgender (LGBT) individuals has expanded and become essential knowledge in our work as educators, providers of psychological services, and other service provision fields. This course provides a contextual and applied understanding the interactional processes facing LGBT individuals.
Course usually offered summer term only
Also Offered As: EDUC 612
Activity: Lecture
1 Course Unit

GSWS 630 Gender and Religion in China
This course examines gender in Chinese religious culture from ancient to contemporary times. We will explore topics including the Buddhist accommodation of Chinese family system, Chinese transformation of the bodhisattva Guanyin, female deities in Daoist and popular religious pantheons, writings about religious women, female ghosts and fox spirits in literary imagination and folk tales, and the significance of yin force in Chinese medicine and Daoist alchemy. Through the case of China, we will look at how gender plays critical and constitutive roles in religious traditions, and how religion can be used both to reinforce and to challenge gender norms.
Taught by: Cheng
Course usually offered in fall term
Also Offered As: EALC 230, EALC 630, GSWS 234, RELS 237
Activity: Seminar
1 Course Unit

GSWS 640 Studies in the Renaissance
Topics vary. This course will be cross-listed with GSWS when the topic includes, Gender, Sexuality and Women's Studies. Please see French department's website for current course description: https://www.sas.upenn.edu/french/pc
Course not offered every year
Also Offered As: COML 643, FREN 640
Activity: Seminar
1 Course Unit

GSWS 654 Japanese Theater
Japan has one of the richest and most varied theatrical traditions in the world. In this course, we will examine Japanese theater in historical and comparative contexts. The readings and discussions will cover all areas of the theatrical experience (script, acting, stage design, costumes, music, audience). Audio-visual material will be used whenever appropriate and possible. The class will be conducted in English, with all English materials.
Taught by: Kano
One-term course offered either term
Also Offered As: EALC 255, EALC 655, GSWS 254
Prerequisites: Reading knowledge of Japanese and/or previous coursework in literature/theater will be helpful, but not required.
Activity: Seminar
1 Course Unit

GSWS 670 Topics in Trans Regional History
What do historians gain by approaching the past with an awareness of the body as a material and historically contingent entity? In this course we consider several different ways of imagining historical bodies and the body in history. Our readings will explore how events and new social, racial, economic and political formations influence how contemporaries imagined and described bodies and their capacities. We will also explore whether the body itself might be a dynamic source of historical change. Among the topics we will discuss are: medical theories about bodies, epidemics and their impact; sensory capacities; capacities for physical labor; cultures of violence; reproductive capacities and politics; coerced immigration; fashion, beauty, and grace; and the state's interest in mobilizing bodies to serve imperial, economic, and military agendas.
Taught by: Brown
One-term course offered either term
Also Offered As: AFRC 670, HIST 670
Activity: Seminar
1 Course Unit

GSWS 682 Topics: Literature and Film
Course not offered every year
Also Offered As: CIMS 682, COML 680, ITAL 682
Activity: Seminar
1 Course Unit

GSWS 705 Seminar in Ethnomusicology
This seminar in Ethnomusicology is cross-listed with GSWS when the topic includes gender, sexuality and women's studies.
Course usually offered in fall term
Also Offered As: AFST 705, ANTH 705, COML 715, FOLK 715, MUSC 705
Activity: Seminar
1 Course Unit
Notes: Open to graduate students from all departments
GSWS 735 Shakespeare
An advanced seminar, usually focused on Shakespeare, treating the literature and culture of the late 16th- and early 17th-centuries. See the English Department’s website at www.english.upenn.edu for a complete description of the current offerings.
Course not offered every year
Also Offered As: COML 637, ENGL 735
Activity: Seminar
1 Course Unit

GSWS 740 Research Seminar in Middle Eastern History
Research seminar on selected topics in Middle Eastern history. See the History’s Department website for course description.
Course not offered every year
Also Offered As: AFRC 740, HIST 740
Activity: Seminar
1 Course Unit

GSWS 751 British Women Poets
An advanced seminar in British poetry by women. This course has generally focused on the period from 1770-1830 when more than 300 women published at least one volume of poetry. See the English Department’s website at www.english.upenn.edu for a complete description of the current offerings.
Course not offered every year
Also Offered As: ENGL 751
Activity: Seminar
1 Course Unit

GSWS 762 Topics in: Women in South Asia
This course on women in South Asian history has several objectives. To comprehend the genres of narratives in which South Asian women between the sixteenth and twentieth centuries have spoken and have been spoken about. To gain an understanding of evolving institutions and practices shaping women’ s lives, such as the family, law and religious traditions. To understand the impact of historical processes -- the formation and and breakdown of empire, colonialism, nationalism and decolonization -- upon South Asian women between the sixteenth and twentieth centuries. We will read primary sources in addition to familiarizing ourselves with the historiography of women in South Asia.
Taught by: Sreenivasan
One-term course offered either term
Also Offered As: SAST 762
Activity: Seminar
1 Course Unit

GSWS 769 Feminist Theory
See the English Department’s website at www.english.upenn.edu for a complete description of the current offerings.
Taught by: Loomba
Course not offered every year
Also Offered As: COML 769, ENGL 769, NELC 783, SAST 769
Activity: Seminar
1 Course Unit

GSWS 771 Current Japanology
Major trends in scholarship as reflected in important recent publications, especially formative books and periodical literatures. The trajectory within certain disciplines as well as the interaction among them will be critically evaluated in terms of gains and losses. Implications of these theses in the planning of graduate and postgraduate research.
Course not offered every year
Also Offered As: EALC 771
Activity: Lecture
1 Course Unit

GSWS 773 Modernism
An interdisciplinary and international examination of modernism, usually to treating European as well as British and American modernists. See the English Department’s website at www.english.upenn.edu for a complete description of the current offerings.
Taught by: Mahaffey
Course not offered every year
Also Offered As: AFRC 773, ENGL 773
Activity: Seminar
1 Course Unit

GSWS 778 Twentieth-Century Aesthetics
This course explores notions that have conditioned twentieth-century attitudes toward beauty: among them, ornament, form, fetish, and the artifact "women". The moves to twentieth-century fiction, art, manifestos, theory, and such phenomena as beauty contests and art adjudications.
See the English Department’s website at www.english.upenn.edu for a complete description of the current offerings.
Taught by: Steiner
Course not offered every year
Also Offered As: COML 778
Activity: Seminar
1 Course Unit

GSWS 790 Recent Issues in Critical Theory
The primary for this course is the English Department. When the course content includes gender, sexuality and women's studies it will be cross-listed with GSWS. See additional information and description on the English Department's website: https://www.english.upenn.edu See the English Department’s website at www.english.upenn.edu for a complete description of the current offerings.
Course not offered every year
Also Offered As: COML 790, ENGL 790
Activity: Seminar
1 Course Unit

GSWS 793 Topics in Cinema and Media
Topics vary. Please refer to the History of Art Department’s website for the course description: http://www.sas.upenn.edu/arthistory.
Course not offered every year
Also Offered As: ARTH 793, CIMS 793, ENGL 797
Activity: Seminar
1 Course Unit
GSWS 806 Gender, Globalization and Media
This seminar creates a forum for debate over the ways in which the cultural politics of gender structure the historical, economic and social landscapes of media globalization. Media culture, as the course readings seek to show, provides a fertile site to examine how globalized media practices articulate gendered imaginations. Adopting a transnational feminist perspective, the seminar specifically address between and among media technologies, representations, and institutions and the complex scripting of gendered meanings and subject positions in multiple locations in the global public sphere. Course topics include globalization and transnational and postcolonial feminist theories; gender, sexuality, and media; gender and labor in globalized media industries; femininity, consumerism, and global advertising; gender, global media, and morality; tourism, gender, and media economies; and gender, religion, and popular culture. For the major assignment, students will be expected to produce a research paper that focuses on one of the following: a critical review of a set of theories or a body of empirical work in a specific region; textual analysis of media with special attention to influences of globalization; political-economic analysis of media institutions and corporate practices.
Course not offered every year
Also Offered As: COMM 806
Activity: Seminar
1 Course Unit

GSWS 830 Conducting Research in Global Women’s Health
The course focuses on critical examination of theoretical and methodological issues pertaining to research on women and girls conducted around the world across disciplines. A focused and intensive exploration of place as it pertains to women and girls in formal and informal structures of health care delivery as those needing and/or seeking health care, and as those providing health care to others. We will examine multiple dimensions and qualities of these endeavors (e.g. activity, power, control, visibility, value, and remuneration) and the intersection of gender and health - locally, globally and across borders. We will focus our examination on the implications of seeking and providing health care for women’s and girls’ health and well-being. By examining issues in local and global contexts and across geographical boundaries, we will have the opportunity to challenge gendered, class, political, and cultural assumptions related to women’s health. Invited guest speakers will highlight examples of research in global women’s health representing multiple disciplinary perspectives.
Taught by: Teitelman
Course usually offered in fall term
Also Offered As: NURS 830
Activity: Seminar
1 Course Unit

Genomics and Computational Biology (GCB)

GCB 493 Epigen of Health&Disease
Also Offered As: BIOL 493
Activity: Seminar
1 Course Unit

GCB 534 Experimental Genome Science
This course will survey methods and questions in experimental genomics, including next generation sequencing methods, genomic sequencing in humans and model organisms, functional genomics, proteomics, and applications of genomics methods. Students will be expected to review and discuss current literature and to propose new experiments based on material learned in the course.
Taught by: C Brown, J Murray
Also Offered As: PHRM 534
Prerequisites: Undergraduates and Masters students need BIOL431 or equivalent
Activity: Lecture
1 Course Unit

GCB 535 Introduction to Bioinformatics
This course provides overview of bioinformatics and computational biology as applied to biomedical research. A primary objective of the course is to enable students to integrate modern bioinformatics tools into their research activities. Course material is aimed to address biological questions using computational approaches and the analysis of data. A basic primer in programming and operating in a UNIX environment will be presented, and students will also be introduced to Python, R, and tools for reproducible research. This course emphasizes direct, hands-on experience with applications to current biological research problems. Areas include DNA sequence alignment, genetic variation and analysis, motif discovery, study design for high-throughput sequencing, RNA, and gene expression, single gene and whole-genome analysis, machine learning, and topics in systems biology. The relevant principles underlying methods used for analysis in these areas will be introduced and discussed at a level appropriate for biologists without a background in computer science. The course is not intended for computer science students who want to learn about biologically motivated algorithmic problems; BIOL 437/GCB 536 and GCB/CIS/BIOL537 are more appropriate.
Taught by: B Voight, C Greene
Course usually offered in spring term
Also Offered As: CIS 535, MTR 535, PHRM 535
Prerequisites: The course will assume a solid knowledge of modern biology. An advanced undergraduate course such as BIOL 421 or a graduate course in biology such as BIOL 526 (Experimental Principles in Cell and Molecular Biology), BIOL527 (Advanced Molecular Biology and Genetics), BIOL 528 (Advanced Molecular Genetics), BIOL 540 (Genetic Systems, or equivalent, is a prerequisite.
Activity: Lecture
1 Course Unit
Notes: All students are required to bring a laptop to the lab sessions (Fridays). TAs will provide help with the material, but students should be computer-capable with their own laptop, and should be willing/capable to download and install free software from the internet.
GCB 536 Computational Biology
An introductory computational biology course designed for computational scientists. The course will cover fundamentals of algorithms, statistics, and mathematics as applied to biological problems. In particular, emphasis will be given to biological problem modeling. Students will be expected to learn the basic algorithms underlying computational biology, mathematical/statistical proofs and molecular biology. Topics to be covered are genome annotation, pattern search and statistical learning, molecular evolution and phylogenetics and small molecule folding.
Course not offered every year
Also Offered As: BIOL 437
Activity: Lecture
1 Course Unit

GCB 537 Advanced Computational Biology
1. Learn important concepts/methods from statistical data analysis and machine learning as they are applied to computational biology. 2. Learn about current topics in genomics and computational biology through in-depth discussion of both classic and recent papers. 3. Gain hands-on experience in data analysis, coding and evaluating tools/algorithms as they apply to topics covered in class. 4. Learn to evaluate, criticize, summarize, and present research papers in genomics and computational biology.
Taught by: Y Barash, R Faryabi
Course usually offered in spring term
Also Offered As: BIOL 537, CIS 635
Prerequisite: GCB 536 or equivalent
Activity: Seminar
1 Course Unit
Notes: This is not a bioinformatics lab. Non-GCB students need to be approved by instructors

GCB 567 Modeling Biol Systems
Also Offered As: BE 567
Activity: Lecture
1 Course Unit

GCB 585 Wistar Inst Cancer Biol
Also Offered As: BMB 585
Activity: Lecture
1 Course Unit

GCB 752 Genomics
Taught by: S Diskin
Course usually offered in spring term
Also Offered As: CAMB 752
Prerequisites: GCB 534 or equivalent, or permission from instructor
Activity: Seminar
1 Course Unit

Geology (GEOL)

GEOL 100 Introduction to Geology
An introduction to processes and forces that form the surface and the interior of the Earth. Topics include, changes in climate, the history of life, as well as earth resources and their uses.
For BA Students: Physical World Sector
Taught by: Omar
Course usually offered in fall term
Activity: Lecture
1 Course Unit
Notes: Field trips required.

GEOL 103 Natural Disturbances and Human Disasters
Natural disturbances play a fundamental role in sculpturing landscapes and structuring natural and human-based ecosystems. This course explores the natural and social science of disturbances by analyzing their geologic causes, their ecological and social consequences, and the role of human behavior in disaster reduction and mitigation. Volcanoes, earthquakes, floods, droughts, fires, and extraterrestrial impacts are analyzed and compared.
For BA Students: Physical World Sector
Taught by: Phipps
Course usually offered in fall term
Activity: Lecture
1 Course Unit

GEOL 109 Introduction to Geotechnical Science
Open to architectural and engineering majors as well as Ben Franklin Scholars. Field trips. Relations of rocks, rock structures, soils, ground water, and geologic agents to architectural, engineering, and land-use problems.
For BA Students: Physical World Sector
Taught by: Omar
Course usually offered in fall term
Activity: Lecture
1.5 Course Unit

GEOL 111 Geology Laboratory
Taught by: Omar
One-term course offered either term
Prerequisite: GEOL 100 preferably taken concurrently
Activity: Laboratory
1 Course Unit
Notes: Field trips required.

GEOL 125 Earth and Life Through Time
Origin of Earth, continents, and life. Continental movements, changing climates, and evolving life.
For BA Students: Physical World Sector
Taught by: Sallan
One-term course offered either term
Activity: Lecture
1 Course Unit

GEOL 130 Oceanography
The oceans cover over 2/3 of the Earth's surface. This course introduces basic oceanographic concepts such as plate tectonics, marine sediments, physical and chemical properties of seawater, ocean circulation, air-sea interactions, waves, tides, nutrient cycles in the ocean, biology of the oceans, and environmental issues related to the marine environment.
For BA Students: Physical World Sector
Taught by: Dmochowski
Course usually offered in spring term
Activity: Lecture
1 Course Unit
GEOL 201 Mineralogy
Crystallography, representative minerals, their chemical and physical properties. Use of petrographic microscope in identifying common rock-forming minerals in thin section.
Taught by: Omar
Course usually offered in fall term
Also Offered As: GEOL 521, GEOL 531
Prerequisites: GEOL 100 and CHEM 001 or 101
Activity: Lecture
1 Course Unit

GEOL 205 Paleontology
Geologic history of invertebrates and their inferred life habits, paleoecology, and evolution. Introduction to paleobotany and vertebrate paleontology.
For BA Students: Living World Sector
Taught by: Sallan
Course usually offered in spring term
Also Offered As: GEOL 405
Activity: Lecture
1 Course Unit
Notes: Two field trips required.

GEOL 206 Stratigraphy
Introductory sedimentary concepts, stratigraphic principles, depositional environments, and interpretation of the rock record in a paleoecological setting.
Taught by: Jerolmack
Course usually offered in fall term
Also Offered As: GEOL 506
Prerequisite: GEOL 100 or permission of instructor
Activity: Lecture
1 Course Unit
Notes: Two field trips required

GEOL 208 Structural Geology
Introduction to deformation as a fundamental geologic process. Stress and strain; rock mechanics. Definition, measurement, geometrical and statistical analysis, and interpretation of structural features. Structural problems in the field. Maps, cross-sections, and three-dimensional visualization; regional structural geology.
Taught by: Phipps
Course usually offered in spring term
Also Offered As: GEOL 630
Prerequisites: GEOL 100 and 111; PHYS 150 strongly recommended
Activity: Lecture
1 Course Unit
Notes: Three field trips required

GEOL 299 Independent Study
Directed study for individuals or small groups under close supervision of a faculty member.
One-term course offered either term
Prerequisite: Permission of department
Activity: Independent Study
1 Course Unit
Notes: May be repeated for credit

GEOL 305 Earth Surface Processes
Patterns on the Earth's surface arise due to the transport of sediment by water and wind, with energy that is supplied by climate and tectonic deformation of the solid Earth. This course presents a treatment of the processes of erosion and deposition that shape landscapes. Emphasis will be placed on using simple physical principles as a tool for (a) understanding landscape patterns including drainage networks, river channels and deltas, desert dunes, and submarine channels, (b) reconstructing past environmental conditions using the sedimentary record, and (c) the management of rivers and landscapes under present and future climate scenarios. The course will conclude with a critical assessment of landscape evolution on other planets, including Mars.
For BA Students: Physical World Sector
Taught by: Jerolmack
Course usually offered in spring term
Also Offered As: GEOL 545
Prerequisites: ENVS 200, GEOL 100, or permission of the instructor.
Activity: Lecture
1 Course Unit
Notes: This course includes two required weekend field trips, and a hands-on laboratory.

GEOL 317 Petrology and Petrography
Occurrences and origins of igneous and metamorphic rocks; phase equilibria in heterogeneous systems. Laboratory study of rocks and thin sections as a tool in interpretation of petrogenesis.
Taught by: Omar
Course usually offered in spring term
Also Offered As: GEOL 417
Prerequisite: GEOL 201
Activity: Lecture
1 Course Unit
Notes: Two field trips

GEOL 318 Glaciers, Ice & Climate
All forms of frozen water at Earth's surface define the cryosphere. These icy environments are an integral part of the global climate system, with important linkages and feedbacks resulting from their influences on surface energy and moisture fluxes, clouds, precipitation, hydrology, and circulation in the atmosphere and oceans. This course will survey the various components of the cryosphere and their interactions with climate, with a strong emphasis on the dynamics of glaciers and ice sheets. Broad topics to be covered are 1) the rudimentary mechanics of glacier and ice sheet flow, 2) fast-moving ice streams and factors limiting their motion, 3) ice-quakes and their origins, 4) the nature of climate data recorded in natural ice bodies, 5) the influence of climate on the stability of ice sheets and glaciers, and 6) glacier-like flow on other planetary bodies. This will be a lecture-based course with written assignments and problems sets.
Taught by: Goldsby
Prerequisites: Students should have basic knowledge of Calculus. MATH 114 or equivalent.
Activity: Lecture
1 Course Unit
GEOL 405 Advanced Paleontology
Relationship of fossil assemblages to life assemblages; structure of ancient communities, and interaction of organisms with each other and with the physical environment; evolution of communities.
Taught by: Sallan
Course usually offered in fall term
Also Offered As: GEOL 205
Prerequisite: Permission of instructor
Activity: Lecture
1 Course Unit

GEOL 409 Intro to Remote Sensing
This course will introduce students to the principles of remote sensing, characteristics of remote sensors, and remote sensing applications. Image acquisition, data collection in the electromagnetic spectrum, and data set manipulations for earth and environmental science applications will be emphasized. We will cover fundamental knowledge of the physics of remote sensing; aerial photographic techniques; multispectral, hyperspectral, thermal, and other image analysis. Students will pursue an independent research project using remote sensing tools, and at the end of the semester should have a good understanding and the basic skills of remote sensing.
Taught by: Dmochowski
Also Offered As: GEOL 509
Prerequisites: PHYS151 and MATH114 or equivalent are preferable, but not required. See instructor.
Activity: Seminar
1 Course Unit

GEOL 411 Intro Soil Science
Soil is considered the "skin of the Earth", with interfaces between the lithosphere, hydrosphere, atmosphere, and biosphere. It is a mixture of minerals, organic matter, gases, liquids and a myriad of organisms that can support plant life. As such, soil is a natural body that exists as part of the environment. This course will examine the nature, properties, formation and environmental functions of soil.
Taught by: Plante
Prerequisite: GEOL 100 or equivalent
Activity: Lecture
1 Course Unit

GEOL 417 Advanced Petrology
Chemistry, physics, phase equilibria, microscope study in igneous and metamorphic petrology.
Taught by: Omar
Course usually offered in fall term
Also Offered As: GEOL 317
Prerequisite: GEOL 317
Activity: Lecture
1 Course Unit

GEOL 418 Geochemistry
This course provides a comprehensive introduction to theory and applications of chemistry in the earth and environmental sciences. Theory covered will include atomic structure, chemical bonding, cosmic abundances, nucleosynthesis, radioactive decay, dating of geological materials, stable isotopes, acid-base equilibria, salts and solutions, and oxidation-reduction reactions. Applications will emphasize oceanography, atmospheric sciences and environmental chemistry, as well as other topics depending on the interests of the class. Although we will review the basics, this course is intended to supplement, rather than to replace, courses offered in the Department of Chemistry. It is appropriate for advanced undergraduate as well as graduate students in Geology, Environmental Science, Chemistry and other sciences, who wish to have a better understanding of these important chemical processes.
Taught by: Giere
Course not offered every year
Activity: Lecture
1 Course Unit

GEOL 420 Introduction to Geophysics
This course will cover the application of geophysical investigation techniques to problems of the earth's planetary structure, local subsurface structure and mineral prospecting. The topics will include principles of geophysical measurements and interpretation with emphasis on gravity measurement, isostasy, geomagnetism, seismc refraction and reflection, electrical prospecting, electromagnetics and ground radar.
Taught by: Goldsby
Course not offered every year
Prerequisites: GEOL 100 or 109, two semesters Math and Physics, and/or instructor's permission
Activity: Lecture
1 Course Unit

GEOL 421 Biogeochemistry
Humans have an enormous impact on the global movement of chemical materials. Biogeochemistry has grown to be the principal scientific discipline to examine the flow of elements through the global earth systems and to examine human impacts on the global environment. This course will introduce and investigate processes and factor controlling the biogeochemical cycles of elements with and between the hydrosphere, lithosphere, atmosphere and biosphere. Students will apply principles learned in lectures by building simple computer-based biogeochemical models.
Taught by: Plante
Course usually offered in spring term
Also Offered As: GEOL 541
Prerequisites: ENVS 200, GEOL 100, or permission of the instructor
Activity: Lecture
1 Course Unit

GEOL 477 Introduction to Vertebrate Paleontology
Taught by: Dodson
Course not offered every year
Prerequisites: GEOL 100, BIOL101, GEOL205 or similar course.
Activity: Lecture
1 Course Unit
GEOL 479 Macroevolution

Macroevolution, or evolution above the population level and on long timescales, as a field addresses fundamental questions about the origins of life, past and present. These include but are not limited to: How are highly dissimilar species related? Why are animals on distant continents so similar? How and when did major groups, such as birds or mammals, originate? What drives evolutionary arms races? Why are there so many more species of beetle than crocodile? Why are there more species in the tropics than the Arctic? Did dinosaurs prevent the diversification of mammals? Why do some animals survive mass extinction? How can invasive species spread so rapidly? Students will learn important concepts underlying our understanding of modern biodiversity and the fossil record, as well as how to use different methods and lines of evidence, including evolutionary trees (phylogeny), fossil databases, past climate and global events, mathematical modeling, and even modern genomics, to answer fundamental questions about the evolution of life.

Taught by: Lauren Sallan
Activity: Seminar
1 Course Unit

GEOL 498 Senior Thesis

The culmination of the Earth Science major. Students, while working with an advisor in their concentration, conduct research and write a thesis.

Taught by: Dmochowski
Two terms. Student may enter either term.
Also Offered As: ENVS 498
Prerequisites: GEOL 400-level and declaration of the EASC major
Activity: Senior Thesis
0.5 Course Units
Notes: The Earth Science major, as of the fall of 2008, requires 1 semester of GEOL 399 and two semesters of GEOL 498.

GEOL 503 Earth Systems and Earth Hazards

This course will examine the hazards that arise from living on an active planet from a large-scale systems standpoint. We will briefly survey the Earth's major systems, emphasizing energy generation, storage, and flow within the Earth, and then proceed to an examination of the hazards that result. This will include earthquakes and tsunamis, volcanic eruptions, river and coastal flooding, and hurricanes, tornadoes, and other major storms. We will touch briefly on global warming and other current topics.

Taught by: Phipps
Course usually offered in spring term
Prerequisites: Geology 100 (introductory physical geology) or permission of the instructor.
Activity: Lecture
1 Course Unit
Notes: The course is intended for Masters' students in Environmental Studies and Applied Geology, as well as upperclass geology majors.

GEOL 508 The Geology and Geography of Energy Resources

This course will survey the way geology controls the formation and location of energy resources. Questions we'll address include, "How are oil and gas fields formed?", "Why does the Middle East have so much oil?", "What are the best locations in the US for wind and solar energy generation, and why?”. We will discuss hydrocarbon, nuclear, solar, wind, and tidal energy sources.

Taught by: Phipps
Course not offered every year
Prerequisite: Geol 100 or equivalent is preferred
Activity: Seminar
1 Course Unit
Notes: Possible field trips.

GEOL 509 Intro to Remote Sensing

This course will introduce graduate students to the principles of remote sensing, characteristics of remote sensors, and remote sensing applications. Image acquisition, data collection in the electromagnetic spectrum, and data set manipulations for earth and environmental science applications will be emphasized. We will cover fundamental knowledge of the physics of remote sensing; aerial photographic techniques; multispectral, hyperspectral, thermal, and other image analysis. Students will pursue an independent research project using remote sensing tools, and at the end of the semester should have a good understanding and the basic skills of remote sensing. Expectations for the graduate student independent research projects will be at the graduate level and can relate to their capstone or Ph.D. thesis research topics.

Taught by: Dmochowski
Also Offered As: GEOL 409
Prerequisites: PHYS 151 and MATH 114 or equivalent are preferable, but not required. See instructor.
Activity: Seminar
1 Course Unit

GEOL 510 Geophysical Fluid Dynamics

This class will discuss physical principles fundamental to the theoretical, observational, and experimental study of geophysical fluids, the equations of motion for rotating fluids; hydrostatic and Boussinesq approximations; circulation theorem; conservation of potential vorticity; scale analysis, geostrophic wind, quasigeostrophic system; wave theory and applications, flow instabilities, geophysical boundary layers. Depending on student interest, the class will be adapted to include applications from Oceanography, Meteorology, Geophysics or Engineering.

Taught by: Nathan Paldor
Prerequisites: Math 114 or equivalent or permission by the instructor.
Activity: Lecture
1 Course Unit

GEOL 511 Soil Science w Lab

Soil is considered the "skin of the earth", with interfaces between the lithosphere, hydrosphere, atmosphere, and biosphere. It is the mixture of minerals, organic matter, gases, liquids and a myriad of organisms that can support plant life. As such, soil is a natural body that exists as part of the environment. This course will examine the nature, properties, formation and environmental functions of soil. In addition to lectures, the course includes biweekly labs or field trips, and a multi-day field trip to held during Spring Break.

Taught by: Plante
Course usually offered in fall term
Prerequisite: GEOL 100 or equivalent
Activity: Lecture
1 Course Unit
Notes: Field trips

GEOL 515 Evolution/Revolution of Land Ecosystems

Origin and diversification of land ecosystems. Interaction between plants and animals. Effects of past climatic change and other external factors. The importance of past changes in land ecosystems to our understanding of current global change.

Taught by: Pfefferkorn
Course not offered every year
Activity: Seminar
1 Course Unit
GEOL 521 Mineralogy of Rock Preservation
Advanced crystallography, representative minerals, their chemical and physical properties, with emphasis on building stone preservation. Use of petrographic microscope in identifying common rock-forming minerals in thin section.
Taught by: Omar
Course usually offered in fall term
Also Offered As: GEOL 201, GEOL 531
Activity: Lecture
1 Course Unit
Notes: Graduate School of Fine Arts students only.

GEOL 528 Aqueous Geochemistry
This course is designed to provide the graduate student with an understanding of the fundamentals of aqueous geochemistry. The chemistry of water, air and soil will be studied from an environmental perspective. The nature, composition, structure, and properties of pollutants coupled with the major chemical mechanisms controlling the occurrence and mobility of chemicals in the environment will also be studied. Upon completion of this course, students should expect to have attained a broad understanding of and familiarity with aqueous geochemistry concepts applicable to the environmental field. Environmental issues that will be covered include acid deposition, toxic metal contamination, deforestation, and anthropogenic perturbed aspects of the Earth's hydrosphere.
Taught by: Andrews
Course not offered every year
Prerequisites: GEOL 100 Intro to Geology or permission of instructor.
Activity: Lecture
1 Course Unit

GEOL 531 Advanced Mineralogy
Advanced crystallography, representative minerals, their chemical and physical properties. Use of petrographic microscope in identifying common rock-forming minerals in thin section.
Taught by: Omar
Course usually offered in fall term
Also Offered As: GEOL 201, GEOL 521
Activity: Lecture
1 Course Unit

GEOL 540 Geotectonics
Bulk structure of the Earth. Plate tectonics and plate boundaries. Plumes, rifting, and intraplate tectonics. Geotectonics and seismicity.
Taught by: Phipps
Course not offered every year
Prerequisites: GEOL 205, 206, 208, 317 and 420, or permission of instructor
Activity: Lecture
1 Course Unit
Notes: Field trip

GEOL 541 Advanced Geochemistry
Taught by: Plante
Course usually offered in spring term
Also Offered As: GEOL 421
Activity: Lecture
1 Course Unit

GEOL 599 Independent Study
Directed study for individuals or small groups under supervision of a faculty member.
One-term course offered either term
Activity: Independent Study
1 Course Unit

GEOL 604 Geostatistical Analysis
Univariate and multivariate approaches to the analysis of spatial correlation and variability. Many disciplines, including geology, ecology and the environmental sciences regularly need to analyze and make predictions from data that is spatially autocorrelated. Mine reserve estimation, pollutant dispersal and the use of randomization tests in ecology are examples of where spatial statistics may be applied.
Taught by: Vann
Course usually offered in fall term
Prerequisites: STAT 101 or equivalent statistics course; BioL 556 suggested or other Inferential Statistics courses, covering uni- and multivariate techniques
Activity: Lecture
1 Course Unit

GEOL 611 Field Study of Soils
Processes of soil development in a variety of temperate environments. Effects of lithology and climate on soil properties.
Taught by: Plante
Course usually offered in spring term
Prerequisite: GEOL 511 or permission of instructor
Activity: Seminar
1 Course Unit
Notes: May be repeated for credit

GEOL 615 Advanced Vertebrate Paleontology Seminar
Topics in vertebrate paleontology and paleoecology.
Taught by: Dodson
One-term course offered either term
Activity: Seminar
1 Course Unit
Notes: All day field trips

GEOL 618 Fundamentals of Air Pollution
This course will cover various topics related to Air Quality. Initial lectures will cover the history of air pollution, discussions of the Clean Air Act and composition of the atmosphere. We will then progress to discussion of atmospheric pollutants and sources of those pollutants. Additional topics will include: fate of atmospheric pollutants (transport and dispersion mechanisms will include: fate of atmospheric pollutants (transport and mechanism), effects of air pollution (health and environmental effects), urban smog, acid rain, climate change, ozone depletion in the stratosphere, air quality criteria, and engineering controls.
Taught by: Andrews
One-term course offered either term
Activity: Seminar
1 Course Unit

GEOL 619 Instrumentation for the Geosciences
An introduction to the theory, operation and application of modern analytical instrumentation used in geo- and environmental sciences. Primarily focused on laboratory instrumentation such as mass spectrometry, elemental analyses and x-ray techniques. Some field instruments will be introduced as well. Students will be expected to develop projects utilizing the various instruments.
Taught by: Vann
Course usually offered in spring term
Activity: Lecture
1 Course Unit
GEOL 630 Advanced Structural Geology Seminar
Topics in tectonophysics and/or regional structural geology.
Taught by: Phipps
Course not offered every year
Also Offered As: GEOL 208
Activity: Seminar
1 Course Unit
Notes: May be repeated for credit. Four-day field trip.

GEOL 650 Environmental Due Diligence
Evaluation of environmental contamination and liability is an important tool during acquisition of real estate property, and a standard work product in the environmental consulting field. This course will cover the purpose and history of the Superfund law, the various classifications of Superfund liable parties, and protections against Superfund liability, specifically with regard to bona fide prospective purchasers (BFPP).
In the context of the BFPP liability defense the course will focus on the performance of "All Appropriate Inquiry" for the presence of environmental contamination (e.g. Phase I environmental site assessment). Our study of "All Appropriate Inquiry" will include evaluation of historical maps and other resources, aerial photography, chain-of-title documentation, and governmental database information pertaining to known contaminated sites in the area of select properties on or near campus. Site visits will be performed to gain experience and knowledge for the identification of recognized environmental conditions. Students will prepare environmental reports for select properties and will have an opportunity to hone technical writing skills.
Taught by: Cron
Course usually offered in spring term
Activity: Seminar
1 Course Unit

GEOL 651 Geocomputations
Review and applications of selected methods from differential equations, advanced engineering mathematics and geostatistics to problems encountered in geology, engineering geology, geophysics and hydrology.
Taught by: Mastropaolo
Course not offered every year
Activity: Lecture
1 Course Unit

GEOL 652 Physical Geology for Environmental Professionals
Study of the genesis and properties of earth materials (minerals, rocks, soil, water); consideration of volcanic, erosional, glacial, and earthquake processes along with the characterization of the earth's deep interior crustal and near-surface structure. Classroom study of minerals, crystals, fossils, and rocks as time permits.
Taught by: Freed
Course usually offered in fall term
Activity: Lecture
1 Course Unit

GEOL 654 Geomechanics: Solids
Mechanical properties of solid and fluid earth materials, stress and strain, earth pressures in soil and rock, tunnels, piles, and piers; flow through gates, wiers, spillways and culverts, hydraulics, seepage and Darcy's law as applied to the hydrologic sciences.
Taught by: Duda
Course usually offered in fall term
Activity: Seminar
1 Course Unit

GEOL 656 Fate and Transport of Pollutants
This course covers basic groundwater flow and solute transport modeling in one-, two- and three-dimensions. After first reviewing the principles of modeling, the student will gain hands-on experience by conducting simulations on the computer. The modeling programs used in the course are MODFLOW (USGS), MT3D, and the US Army Corps of Engineers GMS (Groundwater Modeling System).
Taught by: Mastropaolo
Course usually offered in fall term
Activity: Lecture
1 Course Unit

GEOL 658 Environmental Statistical Analysis
Statistical analysis of data from geological, geotechnical, and geohydrologic sources.
Taught by: Mastropaolo
One-term course offered either term
Activity: Seminar
1 Course Unit

GEOL 661 Environmental Groundwater Hydrology
This course is designed to introduce the major definitions and concepts regarding groundwater flow and contaminant transport. The theory and underlying concepts, including mathematical derivations of governing equations used to model groundwater flow and contaminant transport, will be discussed and applications to environmental problems addressed. Upon completion of this course, students should expect to have acquired the skills necessary to pursue course work in flow and transport numerical and analytical modeling.
Taught by: Mastropaolo
Course usually offered in spring term
Activity: Lecture
1 Course Unit
GEOL 663 Geochemical Modeling
This course is designed to introduce the major concepts regarding geochemistry and geochemical modeling. The course introduces two United States Geological Survey (USGS) computer models, PHREEQC, a geochemical speciation model, and PHAST, a transport module which is coupled with PHREEQC output. These are highly respected, world-renowned models that are free-ware via the USGS, complete with documentation. Once familiar with the models, the student can continue to work with them beyond the course experience. PHREEQC is designed to perform a wide variety of aqueous geochemical calculations and can be used to simulate chemical reactions and transport processes in natural or polluted waters. PHREEQC is capable of modeling both equilibrium and kinetic reactions. Some of the simulations pursued during the course include: Speciation of precipitation water; Iron speciation; Zinc sorption onto hydrous ferric oxide; Oxidation of organic carbon and the sequence of electron donors in natural waters; Benzene advective transport in groundwater; TCE transport and degradation.
Taught by: Mastropaolo
Course usually offered in spring term
Activity: Lecture
1 Course Unit

GEOL 665 Engineering Geology & Geotechnics
Based on numerous case histories, the theme of this course is characterization of the geologic environment for engineering and environmental investigations. Covered are the various exploration tools and methods, including interpretation of remotely sensed imagery; field and laboratory measurements of material properties; and instrumentation monitoring. Rock masses and the significance of discontinuities are discussed as are soil formations in terms of occurrence and mode of deposition, and their typical physical properties. The latter half of the course is dedicated to the geologic hazards; i.e. ground subsidence and collapse, landslides and earthquakes, with emphasis on prediction, prevention and damage control.
Taught by: Freed
Course usually offered in fall term
Activity: Lecture
1 Course Unit

GEOL 666 Geology Field Work
Taught by: Giegengack
One-term course offered either term
Activity: Independent Study
1 Course Unit
Notes: 4-8 weeks during the summer.

GEOL 668 Geomechanics: Fluids
Static and Dynamic mechanical properties of fluid in earth materials, as applied to the Hydrologic Sciences; Principles of Fluid Mechanics and Hydraulics applied to open channel flow in earth materials; flow through gates, weirs, spillways, and culverts; Applications of Darcy's Law to subsurface flow and seepage.
Taught by: Duda
Course usually offered in spring term
Activity: Lecture
1 Course Unit

GEOL 750 Topics in earth Science
This course will use the weekly EES seminar series to survey historic breakthrough papers or topics in the earth sciences, as well as modern papers - written by the seminar speakers - that often put the classics in perspective. Graduate students (Ph.D. only) in the Department of Earth and Environmental Science will engage in the material through reading, presentation, and discussion. The course has several goals. (1.) To engender an understanding and appreciation of major breakthroughs in our field. (2.) To develop skills in presenting and discussing scientific results. And (3.) to refine students' understanding of what constitutes great science.
Taught by: Sallan
Activity: Seminar
1 Course Unit
Notes: Open only to PhD students

GEOL 999 Independent Study and Research
Directed study for individuals or small groups under supervision of a faculty member.
One-term course offered either term
Prerequisite: Permission of departmental committee
Activity: Independent Study
1 Course Unit
Notes: Hours and credits to be arranged.

Germanic Languages (GRMN)

GRMN 002 Lords of the Ring
"One Ring to rule them all; One Ring to find them; One Ring to bring them all and in the darkness bind them; In the Land of Mordor where the Shadows lie." (J.R.R. Tolkien) So begins your journey into legends and traditional lore. You will read stories of unrequited love, betrayal, magical powers, and the deeds of dragon slayers. This course traces the power of the tales of the ring from J.R.R. Tolkien to Richard Wagner, from the Middle High German epic the Nibelungenlied to the Norse poetry of The Saga of the Volsungs, and back to the twentieth century with Thomas Mann's The Blood of the Walsungs.
Taught by: Frei
Course not offered every year
Activity: Seminar
1 Course Unit
Notes: Freshman Seminar. All readings and lectures in English. No knowledge of German is required.
GRMN 003 Censored! A History of Book Censorship
Although its pages may appear innocuous enough, bound innocently between non-descript covers, the book has frequently become the locus of intense suspicion, legal legislation, and various cultural struggles. But what causes a book to blow its cover? In this course we will consider a range of specific censorship cases in the west since the invention of the printed book to the present day. We will consider the role of various censorship authorities (both religious and secular) and grapple with the timely question about whether censorship is ever justified in building a better society. Case studies will focus on many well-known figures (such as Martin Luther, John Milton, Voltaire, Benjamin Franklin, Goethe, Karl Marx, and Salman Rushdie) as well as lesser-known authors, particularly Anonymous (who may have chosen to conceal her identity to avoid pursuit by the Censor).
Taught by: Wiggins
Course not offered every year
Also Offered As: COML 011
Activity: Seminar
1 Course Unit
Notes: Freshman Seminar. All readings and lectures in English. No knowledge of German is required.

GRMN 004 Germany and the Holocaust
We know much about the Holocaust. Countless document collections, memoirs, and testimonies have shed light on the worst chapter of 20th century history. Less is known about how Germans have dealt with this cataclysm since 1945. How have writers, politicians, and teachers, young and old people, perpetrators and bystanders, East and West Germans reacted to this event which is still haunting this country? This seminar will illuminate the developments since 1945 with special emphasis on literature, which has been a catalyst for inquiries into memory and guilt.
One-term course offered either term
Activity: Seminar
1 Course Unit
Notes: Freshman Seminar. All readings and lectures in English. No knowledge of German is required.

GRMN 005 Birth and Life of Words
Where do words come from? How can a word mean one thing today and something quite different tomorrow? Why do some words in foreign languages sound almost like English words but differ in meaning? By exploring these and similar questions, this seminar will introduce the students to topics such as word origins, semantic and phonological change, cognate words in related languages and the sources of our English vocabulary, while acquainting them with the use of historical and etymological dictionaries.
One-term course offered either term
Activity: Seminar
1 Course Unit
Notes: Freshman Seminar. All readings and lectures in English. No knowledge of German is required.

GRMN 010 Translating Cultures
"Languages are not strangers to one another," writes the great critic and translator Walter Benjamin. Yet two people who speak different languages have a difficult time talking to one another, unless they both know a third, common language or can find someone who knows both their languages to translate what they want to say. Without translation, most of us would not be able to read the Bible or Homer, the foundations of Western culture. Americans wouldn't know much about the cultures of Europe, China, Africa, South America, and the Middle East. And people who live in or come from these places would not know much about American culture. Without translation, Americans would not know much about the diversity of cultures within America. The very fabric of our world depends upon translation between people, between cultures, between texts. With a diverse group of readings, -- autobiography, fiction, poetry, anthropology, and literary theory -- this course will address some fundamental questions about translating language and culture. What does it mean to translate? How do we read a text in translation? What does it mean to live between two languages? Who is a translator? What are different kinds of literary and cultural translation? What are their principles and theories? Their assumptions and practices? Their effects on and implications for the individual and the society?
Taught by: Hellerstein
Course not offered every year
Activity: Seminar
1 Course Unit
Notes: Freshman seminar. All readings and lectures in English. No knowledge of German is required.

GRMN 011 Bad Taste
"Beauty is not a quality inherent to things: it only exists in the mind of the beholder." (David Hume) "Most of us can recognize bad taste as soon as we see it: Harlequin romances, Elvis on black velvet, lawn ornaments. But bad taste also has a history, and kitsch has been identified as a peculiarly modern invention related to capitalism and consumerism. Beginning with a discussion of taste in the eighteenth century, we will investigate under what conditions good taste can go bad, for example when it is the object of mass reproduction, and, on the other hand, why bad taste in recent times has increasingly been viewed in positive terms. Categories such as the cute, the sentimental, the popular, the miniature, kitsch, and camp will be explored. We will also ask what forms of ideological work have been done by this brand of aesthetics, for example in the connection between politics and kitsch, femininity and the low-brow, or camp and queer identity. Writers and film-makers to be discussed include: Hume, Kant, Goethe, Flaubert, Bourdieu, Sacher-Masoch, Thomas Mann, Nabokov, Benjamin, Greenberg, Sontag, John Waters.
Taught by: MacLeod
Course not offered every year
Activity: Seminar
1 Course Unit
Notes: Freshman seminar. All readings and lectures in English. No knowledge of German is required.
GRMN 023 In Praise of the Small in Literature and the Arts
We can memorize aphorisms and jokes, carry miniature portraits with us, and feel playful in handling small objects. This seminar will ask us to pay attention to smaller texts, art works, and objects that may easily be overlooked. In addition to reading brief texts and looking at images and objects, we will also read texts on the history and theory of short genres and the small.
Taught by: Weissberg
Course not offered every year
Also Offered As: COML 023
Activity: Seminar
1 Course Unit
Notes: Freshman seminar. All readings and lectures in English. No knowledge of German is required.

GRMN 027 Euro Zone Crisis - The EU in a Currency War for Survival?
"Let me put it simply...there may be a contradiction between the interests of the financial world and the interests of the political world...We cannot keep constantly explaining to our voters and our citizens why the taxpayer should bear the cost of certain risks and not those people who have earned a lot of money from taking those risks." Angela Merkel, Chancellor of Germany, at the G20 Summit, November 2010. In January 1999, a single monetary system united Germany, a core nation, with 10 other European states. Amidst the optimism of the euro’s first days, most observers forecast that Europe would progress toward an ever closer union. Indeed, in the ensuing decade, the European Union became the world’s largest trading area, the euro area expanded to include 17 member states, and the Lisbon Treaty enhanced the efficiency and democratic legitimacy of the Union. In 2009, Greece’s debt crisis exposed deep rifts within the European Union and developed into a euro zone crisis - arguably the most difficult test Europe has faced in the past 60 years. After two years of a more benign EURO debt situation, the risk of recession, EU sanctions against Russia, and a possible collision of a newly-elected Greek government with its creditors, the euro crisis returned with a vengeance in 2015. In addition, the pressure mounts for European leaders to find a solution to the refugee crisis which reached a peak in the fall of 2015. In 2016 the Brexit delivered the latest blow to the European Union, and the future of the European project without the UK looks bleak. The Economic and Monetary Union (EMU) is still fragile, and economic and political developments in 2017 could determine the future of the euro.
Taught by: Shields, Susanne (Lauder Institute)
Course not offered every year
Activity: Seminar
1 Course Unit
Notes: Freshman seminar. All readings and lectures in English. No knowledge of German is required.
GRMN 104 Intermediate German II
A continuation of GRMN 103. Expands students writing and speaking competence in German, increases vocabulary and helps students practice effective reading and listening strategies. Our in-class discussions are based on weekly readings of literary and non-literary texts to facilitate exchange of information, ideas, reactions, and opinions. In addition, the readings provide cultural and historical background information. The review of grammar will not be the primary focus of the course. Students will, however, expand and deepen their knowledge of grammar through specific grammar exercises. Students will conclude the basic-language program at PENN by reading an authentic literary text; offering the opportunity to practice and deepen reading knowledge and to sensitize cultural and historical awareness of German-speaking countries.
For BA Students: Last Language Course
One-term course offered either term
Also Offered As: GRMN 504
Prerequisites: GRMN 103 or equivalent.
Activity: Lecture
1 Course Unit

GRMN 106 Accelerated Elementary German
This course is intensive and is intended for dedicated, highly self-motivated students who will take responsibility for their learning and creation of meaning with their peers. An intensive two credit course in which two semesters of elementary German (GRMN 101 & 102) are completed in one. Introduction to the basic elements of spoken and written German, with emphasis placed on the acquisition of communication skills. Readings and discussions focus on cultural differences. Expression and comprehension are then expanded through the study of literature and social practices.
For BA Students: Language Course
Course usually offered in fall term
Also Offered As: GRMN 505
Activity: Lecture
2 Course Units

GRMN 107 Accelerated Intermediate German
This course is intensive and is intended for dedicated, highly self-motivated students who will take responsibility for their learning and creation of meaning with their peers. This accelerated course is designed to improve students writing and speaking competencies, to increase vocabulary, to deepen grammar usage, and to help develop effective reading and listening strategies in German across literary genres and media as students interpret and analyze cultural, political, and historical moments in German-speaking countries and compare them with their own cultural practices. This course is organized around content-based modules. Students conclude the basic-language program at PENN by reading an authentic literary text; offering the opportunity to practice and deepen reading knowledge and to sensitize cultural and historical awareness of German-speaking countries.
For BA Students: Last Language Course
Course usually offered in spring term
Also Offered As: GRMN 514
Prerequisite: 102 or 106 or equivalent
Activity: Lecture
2 Course Units

GRMN 150 Water Worlds: Cultural Responses to Sea Level Rise & Catastrophic Flooding
As a result of climate change, the world that will take shape in the course of this century will be decidedly more inundated with water than we're accustomed to. The polar ice caps are melting, glaciers are retreating, ocean levels are rising, polar bear habitat is disappearing, countries are jockeying for control over a new Arctic passage, while low-lying cities and small island nations are confronting the possibility of their own demise. Catastrophic flooding events are increasing in frequency, as are extreme droughts. Hurricane-related storm surges, tsunamis, and raging rivers have devastated regions on a local and global scale. In this seminar we will turn to the narratives and images that the human imagination has produced in response to the experience of overwhelming watery invasion, from Noah to New Orleans. Objects of analysis will include mythology, ancient and early modern diluvialism, literature, art, film, and commemorative practice. The basic question we'll be asking is: What can we learn from the humanities that will be helpful for confronting the problems and challenges caused by climate change and sea level rise?
For BA Students: Arts and Letters Sector
Course not offered every year
Also Offered As: COML 151, ENVS 150
Activity: Lecture
1 Course Unit

GRMN 155 Fascist Cinemas
Cinema played a crucial role in the cultural life of Nazi Germany and other fascist states. As cinema enthusiasts, Goebbels and Hitler were among the first to realize the important ideological potential of film as a mass medium and saw to it that Germany remained a cinema powerhouse producing more than 1000 films during the Nazi era. Mussolini, too, declared cinema "the strongest weapon." This course explores the world of Nazi cinema ranging from infamous propaganda pieces such as The Triumph of the Will and The Eternal Jew to entertainments by important directors as Douglas Sirk. While the main focus is Germany, the course explores the strange and mutually defining kinship between fascism more broadly and film. We will consider what elements mobilize and connect the film industries of the Axis Powers: style, genre, the aestheticization of politics, the creation of racialized others. More than seventy years later, fascist cinemas challenge us to grapple with issues of more subtle ideological insinuation than we might think. Weekly screenings with subtitles.
Taught by: MacLeod
Course not offered every year
Activity: Lecture
1 Course Unit

GRMN 180 German in Residence
The German House is a half-credit course with concentrations in German conversation, film, and culture. Though many students enroll for credit, others often come to select events. All interested parties are invited, and you do not have to actually live in the house to enroll for credit. Students from all different levels of language proficiency are welcome. Beginners learn from more advanced students, and all enjoy a relaxed environment for maintaining or improving their German language skills.
One-term course offered either term
Activity: Lecture
0.5 Course Units
GRMN 181 Comparative Cultures of Sustainability
Sustainability is more than science, engineering, policy, and design. Surveying the world, we see that the politics and practice of sustainability play out in different ways depending on cultural factors. Some cultures are more prone to pursue ecological goals than others. Why? Do the environmental history and experience of a nation affect policy? Do nature and the environment play a crucial role in the cultural memory of a nation? Can cultural components be effectively leveraged in order to win approval for a politics of sustainability? And what can we, as residents of a country where climate change and global warming are flashpoints in an enduring culture war, learn from other cultures? This course is designed to equip undergraduate students with the historical and cultural tools necessary to understand the cultural aspects of sustainability in two countries noted for their ecological leadership and cultural innovation, Germany and the Netherlands. This hybrid course combines online instruction with a short-term study abroad experience in Berlin and Rotterdam. During the pre-tip online portion of the course, students will become acquainted with the cultural histories of German and Dutch attitudes toward sustainability and the environment through a combination of recorded lectures by the instructor, reading assignments, viewing assignments (documentary and feature films), threaded discussions, and short written assignments. The goal of the pre-tip instruction are to help students develop tools for analyzing and interpreting cultural difference, construct working models of German and Dutch concepts of sustainability, and formulate hypotheses about the relation between culture and policy in Germany and the Netherlands. Taught by: Richter
Course usually offered summer term only
Also Offered As: ENVS 181, URBS 181
Prerequisites: There are no prerequisites or language requirements.
Activity: Lecture
1 Course Unit
Notes: Summer abroad course.

GRMN 203 TEXTS AND CONTEXTS.
In this course, you will explore themes of cultural and historical significance in contemporary German-speaking countries through literature and nonfiction, through film and current event media coverage. Whether you wish to dive deeply into historical or political contexts, explore untranslatable cultural phenomena or the aesthetic rhythm and semantic complexity of the German language, GRMN 203 Texts and Contexts will inspire your imagination and deepen your understanding of German language, culture and literature. This is a required course for all courses taught in German at or above the 200 level.
For BA Students: Advanced Language Course
One-term course offered either term
Also Offered As: GRMN 506
Prerequisites: GRMN 104 or the equivalent.
Activity: Lecture
1 Course Unit

GRMN 215 Conversation and Composition
Offers students the opportunity to improve significantly written and spoken discourse strategies and to raise language competence to an academic register. In addition, the course familiarizes students with several reading strategies. Students write several essays, weekly reaction pieces, lead discussions, and create short in-class presentations. During the second half of the semester, students create a common course web site in connection with their readings of an authentic literary text. In collaborative group work, students create the contents for different components: biography, text analyses, historical background, geography and didactizations emphasizing integrated skills and discourse competence. Their work is posted to a web site, which in turn, is incorporated in the 4th-semester syllabus, where students use the peer-generated information and comprehension checks for their understanding of an abridged version of the authentic literary text. Course not offered every year
Prerequisite: GRMN 104 or the equivalent
Activity: Lecture
1 Course Unit
Notes: Required for the major, also carries credit for the minor in German

GRMN 219 Business German: A Macro Perspective
This course offers you insights into the dynamics of Business German, while taking a macro approach. Examples of various course topics include: economic geography and its diversity, the changing role of the European Union, and the economic importance of national transportation and tourism. In addition, the course emphasizes the development of students’ discourse competencies, Business German vocabulary and grammar. Course assignments include oral presentations on current events, class discussions, role-play, and collaborative group work. Class time will be utilized to practice speaking, answering questions, reviewing exercises and holding group discussions on various topics. Class participation is a key component of this course.
For BA Students: Advanced Language Course
Taught by: James
Course usually offered in fall term
Prerequisites: GRMN 203 or equivalent.
Activity: Lecture
1 Course Unit
Notes: No previous knowledge of economics or business required. Course taught in German.

GRMN 220 Business German: A Micro Perspective
This course is designed to enhance your speaking, reading and writing skills, in addition to helping you build a strong foundation in business vocabulary. Course objectives include acquiring skills in cross cultural communication, teamwork, business management, and creating a business plan. German grammar will be covered on a need be basis. This course will prepare you to perform and contribute while in a German-speaking business environment.
For BA Students: Advanced Language Course
Taught by: James
Course usually offered in spring term
Prerequisite: GRMN 203 or equivalent
Activity: Lecture
1 Course Unit
Notes: Course taught in German.
GRMN 232 Topics in European History
The title for Fall 2017 is: The Nazi Revolution: Power and Ideology.
Taught by: Steinberg
Course not offered every year
Also Offered As: HIST 230
Activity: Seminar
1 Course Unit
Notes: Topics vary annually.

GRMN 233 Censored! The Book and Censorship Since Gutenberg
Although its pages may appear innocuous enough, bound innocently between non-descript covers, the book has frequently become the locus of intense suspicion, legal legislation, and various cultural struggles. But what causes a book to blow its cover? In this course we will consider a range of specific censorship cases in the west since the invention of the printed book to the present day. We will consider the role of various censorship authorities (both religious and secular) and grapple with the timely question about whether censorship is ever justified in building a better society. Case studies will focus on many well-known figures (such as Martin Luther, John Milton, Voltaire, Benjamin Franklin, Goethe, Karl Marx, and Salman Rushdie) as well as lesser-known authors, particularly Anonymous (who may have chosen to conceal her identity to avoid pursuit by the Censor).
Taught by: Wiggin
Course not offered every year
Also Offered As: COML 233
Activity: Seminar
1 Course Unit

GRMN 235 Autobiographical Writing
How does one write about oneself? Who is the "author" writing? What does one write about? And is it fiction or truth? Our seminar on autobiographical writing will pursue these questions, researching confessions, autobiographies, memoirs, and other forms of life-writing both in their historical development and theoretical articulations. Examples will include selections from St. Augustine's confessiones, Rousseau's Confessions, Franklin's Autobiography, as well as many examples from contemporary English, German, French, and American literature.
Taught by: Weissberg
Course not offered every year
Also Offered As: COML 238
Activity: Lecture
1 Course Unit

GRMN 237 Berlin: History, Politics, Culture
What do you know about Berlin's history, architecture, culture, and political life? The present course will offer a survey of the history of Prussia, beginning with the seventeenth century, and the unification of the small towns of Berlin and Koelln to establish a new capital for this country. It will tell the story of Berlin's rising political prominence in the eighteenth century, and its position as a center of the German and Jewish Enlightenment. It will follow Berlin's transformation into an industrial city in the nineteenth century, its rise to metropolis in the early twentieth century, its history during the Third Reich, and the post-war cold war period. The course will conclude its historical survey with a consideration of Berlin's position as a capital in reunified Germany.
The historical survey will be supplemented by a study of Berlin's urban structure, its significant architecture from the eighteenth century (i.e. Schinkel) to the nineteenth (new worker's housing, garden suburbs) and twentieth centuries (Bauhaus, Speer designs, postwar rebuilding, GDR housing projects, post-unification building boom). In addition, we will read literary texts about the city, and consider the visual art and music created in and about Berlin, and focus on Berlin's Jewish history. The course will be interdisciplinary with the fields of German Studies, history, history of art, urban studies, and German-Jewish studies. It is also designed as a preparation for undergraduate students who are considering spending a junior semester with the Penn Abroad Program in Berlin.
For BA Students: Humanities and Social Science S
Taught by: Weissberg
Course not offered every year
Also Offered As: ARTH 237, COML 237, HIST 237, URBS 237
Activity: Lecture
1 Course Unit
Notes: All readings and lectures in English.

GRMN 239 Sustainability & Utopianism
This seminar explores how the humanities can contribute to discussions of sustainability. We begin by investigating the contested term itself, paying close attention to critics and activists who deplore the very idea that we should try to sustain our, in their eyes, dystopian present, one marked by environmental catastrophe as well as by an assault on the educational ideals long embodied in the humanities. We then turn to classic humanist texts on utopia, beginning with More's fictive island of 1517. The "origins of environmentalism" lie in such depictions of island edens (Richard Grove), and our course proceeds to analyze classic utopian visions from Europe and America of the nineteenth and twentieth centuries, as well as literary and visual texts that deal with contemporary nuclear and flood catastrophes. Authors include: Bill McKibben, Jill Kerr Conway, Christopher Newfield, Thomas More, Francis Bacon, Karl Marx, Henry David Thoreau, Robert Owens, William Morris, Charlotte Perkins Gilman, Ayn Rand, Christa Wolf, and others.
For BA Students: Humanities and Social Science S
Taught by: Wiggin
Also Offered As: COML 209, ENGL 275, ENGL 375, ENVS 239, STSC 368
Activity: Seminar
1 Course Unit
Notes: Taught in English.
GRMN 242 The Fantastic and Uncanny in Literature: Ghosts, Spirits & Machines
Do we still believe in spirits and ghosts? Do they have any place in an age of science of technology? Can they perhaps help us to define what a human being is and what it can do? We will venture on a journey through literary texts from the late eighteenth century to the present to explore the uncanny and fantastic in literature and Our discussions will be based on a reading of Sigmund Freud’s essay on the uncanny, and extraordinary Romantic narratives by Ludwig Tieck, E.T.A. Hoffmann, Edgar Allan Poe, Nathaniel Hawthorne, Prosper Merimée, Villiers de Isle-Adam, and others.
For BA Students: Arts and Letters Sector
Taught by: Weissberg
Course not offered every year
Also Offered As: COML 126
Activity: Lecture
1 Course Unit
Notes: All readings and lectures in English.

GRMN 244 Metropolis: Culture of the City
An exploration of modern discourses on and of the city. Topics include: the city as site of avant-garde experimentation; technology and culture; the city as embodiment of social order and disorder; traffic and speed; ways of seeing the city; the crowd; city figures such as the detective, the criminal, the flaneur, the dandy; film as the new medium of the city. Special emphasis on Berlin. Readings by, among others, Dickens, Poe, Baudelaire, Rilke, Doeblin, Marx, Engels, Benjamin, Kracauer. Films include Fritz Lang’s Metropolis and Tom Tykwer’s Run Lola Run.
For BA Students: Arts and Letters Sector
Taught by: MacLeod
Course not offered every year
Also Offered As: CIMS 244, COML 254, URBS 244
Activity: Lecture
1 Course Unit
Notes: All lectures and readings in English.

GRMN 247 Free Radicals: Marx, Marxism, and the Culture of Revolution
"A spectre is haunting Europe—the spectre of Communism": This, the famous opening line of The Communist Manifesto, will guide this course’s exploration of the history, legacy, and potential future of Karl Marx’s most important texts and ideas, even long after Communism has been pronounced dead. Contextualizing Marx within a tradition of radical thought regarding politics, religion, and sexuality, we will focus on the philosophical, political, and cultural origins and implications of his ideas. Our work will center on the question of how his writings seek to counter or exploit various tendencies of the time; how they align with the work of Nietzsche, Freud, and other radical thinkers to follow; and how they might continue to haunt us today. We will begin by discussing key works by Marx himself, examining ways in which he is both influenced by and appeals to many of the same fantasies, desires, and anxieties encoded in the literature, arts and intellectual currents of the time. In examining his legacy, we will focus on elaborations or challenges to his ideas, particularly within cultural criticism, postwar protest movements, and the cultural politics of the Cold War. In conclusion, we will turn to the question of Marxism or Post-Marxism today, asking what promise Marx’s ideas might still hold in a world vastly different from his own.
For BA Students: Humanities and Social Science Sector
Course not offered every year
Also Offered As: COML 247, PHIL 247
Activity: Lecture
1 Course Unit
Notes: All readings and lectures in English.

GRMN 248 Nietzsche’s Modernity and the Death of God
"God is dead." This famous, all too famous death sentence, issued by the 19th-century German philosopher Friedrich Nietzsche, also signaled the genesis of a radical challenge to traditional notions of morality, cultural life, and the structure of society as a whole. In this course we will examine both the "modernity" of Nietzsche’s thought and the ways in which his ideas have helped to define the very concept of Modernity (and, arguably, Postmodernity) itself. In exploring the origin and evolution of Nietzsche’s key concepts, we will trace the ways in which his work has been variously revered or refuted, championed or co-opted, for more than a century. We will survey his broad influence on everything from philosophy and literature to music and art, theater and psychology, history and cultural theory, politics and popular culture. Further, we will ask how his ideas continue to challenge us today, though perhaps in unexpected ways. As we will see, Nietzsche wanted to teach us "how to philosophize with a hammer."
Course not offered every year
Also Offered As: COML 268, PHIL 067, RELS 238
Activity: Seminar
1 Course Unit
Notes: Topics vary annually.

GRMN 249 Topics in Modernism
This course explores an aspect of literary modernism intensively; specific course topics will vary from year to year.
Course not offered every year
Also Offered As: COML 140, COML 248, COML 355, ENGL 259, RUSS 252
Activity: Seminar
1 Course Unit
Notes: Topics vary annually.

GRMN 253 Freud: The Invention of Psychoanalysis
No other person of the twentieth century has probably influenced scientific thought, humanistic scholarship, medical therapy, and popular culture as much as Sigmund Freud. This course will study his work, its cultural background, and its impact on us today. In the first part of the course, we will learn about Freud’s life and the Viennese culture of his time. We will then move to a discussion of seminal texts, such as excerpts from his Interpretation of Dreams, case studies, as well as essays on psychoanalytic practice, human development, definitions of gender and sex, neuroses, and culture in general. In the final part of the course, we will discuss the impact of Freud’s work. Guest lecturers from the medical field, history of science, psychology, and the humanities will offer insights into the reception of Freud’s work, and its consequences for various fields of study and therapy.
For BA Students: Humanities and Social Science Sector
Taught by: Weissberg
Course not offered every year
Also Offered As: COML 253, ENGL 105, GSWS 252, HIST 253
Activity: Lecture
1 Course Unit
Notes: All readings and lectures in English.
GRMN 257 Fascist Cinemas
Cinema played a crucial role in the cultural life of Nazi Germany and other fascist states. As cinema enthusiasts, Goebbels and Hitler were among the first to realize the important ideological potential of film as a mass medium and saw to it that Germany remained a cinema powerhouse producing more than 1000 films during the Nazi era. In Italy, Mussolini, too, declared cinema "the strongest weapon." This course explores the world of "fascist" cinemas ranging from infamous propaganda pieces such as The Triumph of the Will to popular entertainments such as musicals and melodramas. It examines the strange and mutually defining kinship between fascism more broadly and film. We will consider what elements mobilize and connect the film industries of the Axis Powers: style, genre, the aestheticization of politics, the creation of racialized others. More than seventy years later, fascist cinemas challenge us to grapple with issues of more subtle ideological insinuation than we might think. Weekly screenings with subtitles.

For BA Students: Arts and Letters Sector
Taught by: MacLeod
Course not offered every year
Also Offered As: CIMS 257, COML 269, ITAL 257
Activity: Lecture
1 Course Unit
Notes: All readings and discussions in English.

GRMN 258 German Cinema
An introduction to the momentous history of German film, from its beginnings before World War One to developments following the fall of the Berlin Wall in 1989 and German reunification in 1990. With an eye to film's place in its historical and political context, the course will explore the "Golden Age" of German cinema in the Weimar Republic, when Berlin vied with Hollywood; the complex relationship between Nazi ideology and entertainment during the Third Reich; the fate of German film-makers in exile during the Hitler years; post-war film production in both West and East Germany; the call for an alternative to "Papa's Kino" and the rise of New German Cinema in the 1960s.

For BA Students: Arts and Letters Sector
Taught by: MacLeod
Course not offered every year
Also Offered As: CIMS 258, COML 270
Activity: Lecture
1 Course Unit
Notes: All readings and discussions in English.

GRMN 259 Topics in Film History
This topic course explores aspects of Film History intensively. Specific course topics vary from year to year. See the Cinema Studies website at http://cinemastudies.sas.upenn.edu for a description of the current offerings.

Taught by: Katz, Corrigan, Decherney, Beckman
Course not offered every year
Also Offered As: CIMS 259, COML 261, GRMN 550
Activity: Lecture
1 Course Unit

GRMN 261 Jewish Films and Literature
From the 1922 silent film "Hungry Hearts" through the first "talkie," "The Jazz Singer," produced in 1927, and beyond "Schindler's List," Jewish characters have confronted the problems of their Jewishness on the silver screen for a general American audience. Alongside this Hollywood tradition of Jewish film, Yiddish film blossomed from independent producers between 1911 and 1939, and interpreted literary masterpieces, from Shakespeare's "King Lear" to Sholom Aleichem's "Teyve the Dairyman," primarily for an immigrant, urban Jewish audience. In this course, we will study a number of films and their literary sources (in fiction and drama), focusing on English language and Yiddish films within the framework of three dilemmas of interpretation: a) the different ways we "read" literature and film, b) the various ways that the media of fiction, drama, and film "translate" Jewish culture, and c) how these translations of Jewish culture affect and are affected by their implied audience.

For BA Students: Arts and Letters Sector
Taught by: Hellerstein
Course not offered every year
Also Offered As: ENGL 279, JWST 261
Activity: Lecture
1 Course Unit
Notes: All readings and lectures in English.

GRMN 262 Women in Jewish Literature
This course introduces students of literature, women's studies, and Jewish studies to the long tradition of women as readers, writers, and subjects in Jewish literature. All texts will be in translation from Yiddish and Hebrew, or in English. Through a variety of genres--devotional literature, memoir, fiction, and poetry -- we will study women's roles and selves, the relation of women and men, and the interaction between Jewish texts and women's lives. The legacy of women in Yiddish devotional literature will serve as background for our reading of modern Jewish fiction & poetry from the past century. The course is divided into five segments. The first presents a case study of the Matriarch Rachel and Leah, as they are portrayed in the Hebrew Bible, in rabbinic commentary, in pre-modern prayers, and in modern poems. We then examine a modern novel that recasts the story of Dinah, Leah's daughter. Next we turn to the seventeenth century Glikl of Hamel, the first Jewish woman memoirist. The third segment focuses on devotional literature for and by women. In the fourth segment, we read modern women poets in Yiddish, Hebrew, and English. The course concludes with a fifth segment on fiction and a memoir written by women in Yiddish, Hebrew, and English. "Jewish woman, who knows your life? In darkness you have come, in darkness do you go." J. L. Gordon (1890)

For BA Students: Arts and Letters Sector
Taught by: Hellerstein
Course not offered every year
Also Offered As: JWST 102, NELC 154
Activity: Seminar
1 Course Unit
Notes: All readings and lectures in English.
GRMN 263 Jewish American Literature
What makes Jewish American literature Jewish? What makes it American? This course will address these questions about ethnic literature through fiction, poetry, drama, and other writings by Jews in America, from their arrival in 1654 to the present. We will discuss how Jewish identity and ethnicity shape literature and will consider how form and language develop as Jewish writers "immigrate" from Yiddish, Hebrew, and other languages to American English. Our readings, from Jewish American Literature: A Norton Anthology, will include a variety of stellar authors, both famous and less-known, including Isaac Mayer Wise, Emma Lazarus, Isaac Bashevis Singer, Celia Dropkin, Abraham Cahan, Anzia Yezierska, Saul Bellow, Philip Roth, Cynthia Ozick, and Allegra Goodman. Students will come away from this course having explored the ways that Jewish culture intertwines with American culture in literature.
For BA Students: Arts and Letters Sector
Taught by: Hellerstein
Course not offered every year
Also Offered As: COML 277, ENGL 079, JWST 261
Activity: Lecture
1 Course Unit
Notes: All readings and lectures in English.

GRMN 264 Translating Cultures: Literature on and in Translation
"Languages are not strangers to one another," writes the great critic and translator Walter Benjamin. Yet two people who speak different languages have a difficult time talking to one another, unless they both know a third, common language or can find someone who knows both their languages to translate what they want to say. Without translation, most of us would not be able to read the Bible or Homer, the foundations of Western culture. Americans wouldn't know much about the cultures of Europe, China, Africa, South America, and the Middle East. And people who live in or come from these places would not know much about American culture. Without translation, Americans would not know much about the diversity of cultures within America. The very fabric of our world depend upon translation between people, between cultures, between texts. With a diverse group of readings—autobiography, fiction, poetry, anthropology, and literary theory—this course will address some fundamental questions about translating language and culture. What does it mean to translate? How do we read a text in translation? What does it mean to live between two languages? Who is a translator? What are different kinds of literary and cultural translation? What are their principles and theories? Their assumptions and practices? Their effects on and implications for the individual and the society?
For BA Students: Arts and Letters Sector
Taught by: Hellerstein
Course not offered every year
Also Offered As: COML 260, JWST 264
Activity: Seminar
1 Course Unit
Notes: Benjamin Franklin Seminar. All readings and lectures in English.

GRMN 265 Yiddish in Eastern Europe
This course presents the major trends in Yiddish literature and culture in Eastern Europe from the mid-19th century through World War II. Divided into four sections - "The Shtetl," "Religious vs. Secular Jews," "Language and Culture," and "Confronting Destruction" - this course will examine how Jews expressed the central aspects of their experience in Eastern Europe through history, literature (fiction, poetry, drama, memoir), film, and song.
Taught by: Hellerstein
Course not offered every year
Also Offered As: EEUR 265, GRMN 565, JWST 265, JWST 465
Activity: Lecture
1 Course Unit
Notes: All readings and lectures in English.

GRMN 279 Introduction to Literary Theory
This course introduces students to major issues in the history of literary theory.
Course not offered every year
Also Offered As: COML 094, ENGL 094
Activity: Lecture
1 Course Unit

GRMN 280 Topics in Aesthetics
What is beauty? What is the relationship between beauty and goodness? What does aesthetic judgment tell us, if anything, about the world? This course addresses these and other questions by focusing predominantly on Kant's highly influential aesthetic theory. It situates this text in the context of other works on aesthetics. We begin with Plato's view expressed in The Symposium that beauty is a form to which humans gain (some) access through love. We then turn to essays by Shaftesbury and Hume that introduce key aesthetic notions that Kant will elaborate (and revise)—including those of taste, common sense, harmony, and aesthetic disinterest. We also read selections from the work of Friedrich Schiller, John Dewey, and A. K. Coomaraswamy who offer alternative accounts of the relationship between beauty and ethical life—a relationship that Kant acknowledges but considers to be importantly limited. The question of the relationship between ethics and aesthetics will form the backdrop for this semester's reading overall.
Taught by Gibbons
Course not offered every year
Also Offered As: PHIL 280
Activity: Seminar
1 Course Unit

GRMN 302 Places of Memory. Lieux de memoire. Erinnerungsorte.
What is culture? What is German? Where are the borders between German, Austrian and Swiss culture? What is part of the "cultural canon"? Who decides and what role does memory play? Relying on the theory of collective memory (Halbwachs) and the concept of "places of memory" (Erinnerungsorte; Nora, Francois/Schulze) and with reference to exemplary scholarly and literary texts, debates, songs, films, documents, and paintings from high and pop culture, this course will weave a mosaic of that which (also) constitutes German or German-language culture.
Course usually offered in fall term
Prerequisites: GRMN 203 is a prerequisite.
Activity: Lecture
1 Course Unit
Notes: This course will be offered every fall semester. Taught in German.
For centuries the "Orient” has functioned as an important concept in formulating a European as well as a specifically German identity. In the context of today’s debates about the expansion of Europe and the so-called war on terrorism, it is a concept which demands further historical investigation. On the basis of travel narratives and other texts, we will explore this key term, noting how it has been insistently (re)formulated since the beginnings of modernity. We will also investigate several theoretical models which can help us to think through the cultural encounters documented in the primary works. A series of fundamental questions will accompany us through the semester. Where is the East? Is the East a homogenous place eliciting either fear or wonder? Who lives in the East and how are the "customs and manners” of its inhabitants comprehended? What happens to a German in the East? And, vice versa, what happens to an "Oriental” in Germany? Is the East only in the East? Can one also find the East in Germany?

Taught by: Wiggin
Course not offered every year
Also Offered As: GRMN 536
Prerequisite: GRMN 203 or equivalent
Activity: Lecture
1 Course Unit
Notes: This course is taught in German.

In this class we will focus on how literary hi/stories are (re)written, and to what ends. Over the course of the semester, texts from the seventeenth century will be paired alongside a rewrite from the twentieth. Paired readings may include: Martin Opitz (Buch von der deutschen Poeterey) and Gunther Grass (Das Treffen in Telgt), Grimmeleshauen (Coursache) and Bertold Brecht (Mutter Courage) and Abraham Sancta Clara (Predigten) and Barbara Frischmuth (Die Klosterschule). In our discussions, we will explore a series of related questions: How does the older text resonate within the new? How does the newer text comment on the old? What are the politics of such dialogues with the distant past?

Taught by: Wiggin
Course not offered every year
Prerequisite: GRMN 203 or equivalent
Activity: Lecture
1 Course Unit
Notes: Taught in German.

Topics vary annually.
Course not offered every year
Also Offered As: COML 330, DTCH 330, DTCH 509, PHIL 280
Activity: Seminar
1 Course Unit
Notes: Taught in English.

The detective story and the crime drama are time-honored genres of literature and popular culture. We are drawn to morbid scenes of violence and crime, and satisfied by the apprehension of criminals and their punishment. At the same time, the process of detection, of deciphering clues, is much like the process of reading and interpretation. In this course we will read a variety of detective and crime stories, some by famous authors (e.g., Droste-Huelshoff, Fontane, Handke), others by contemporary authors that address interesting aspects of German culture (e.g., Turkish-Germans, gay and lesbian subcultures, DDR and Wende). We will also look at episodes from popular West, East, and post-reunification German TV crime shows (e.g., Tatort).

Taught by: Frei
Course not offered every year
Activity: Lecture
1 Course Unit
Notes: Taught in German.

Lectures and discussions of major works of modern German prose narrative, including Kafka, Mann, Hesse, Seghers, Grass, and Boell.

Course not offered every year
Activity: Lecture
1 Course Unit
Notes: Taught in German.

The topic for Spring 2015 is: Unhuman Encounters

Topics vary annually. Typically "the Other” stands for a person or a group of people from another cultural background. But there have always been other encounters that forced people to distinguish themselves from an "other". Foremost, in order to define what is "human”, the "unhuman” needed to be described. Initially, this meant distinguishing the human from the rest of nature. With the industrial revolution, the technological became a concern--machines as monsters. On a figurative level, we have the supernatural, ghosts, aliens, and cyborgs. In this course we will explore the ways in which real and imagined encounters with these "other Others” are depicted in German language literature and culture.

Taught by: Dayioglu-Yucel
Course not offered every year
Prerequisite: GRMN 203 or equivalent
Activity: Seminar
1 Course Unit
Notes: Taught in German.

Focus on the continuity of the literary tradition, innovation, and prominent themes related to coming-of-age in today’s society, and specific stylistic experiments. Topics include: the changing literary perspective on German history and World War II; the representation of such prominent issues as individual responsibility, German reunification, and human relations in modern society.

Course not offered every year
Activity: Lecture
1 Course Unit
Notes: Taught in German.
GRMN 377 Germany and the European Union
In January 1999, a single monetary system united Germany, a core nation, with 10 other European states. Since January 2002 Euro bank notes and coins have gone into circulation in 12 European countries. The European Union is now stronger than ever before, and on May 1, 2004 ten more countries joined the EU - the largest-ever expansion. Is the EU benefiting from this enlargement or does the arrival of so many new members drain money from the EU budget and slow down the EU decision-making? This course will provide an overview of the political and economic developments towards integration in post-war Europe, focusing on Germany’s key role. Studying content-rich reading materials, it explores historic-political, social, economic and cultural issues that are urgent for Germany as well as the European community. Accompanying activities will help students to improve the level of complexity of their language skills.
Taught by: Shields
Course not offered every year
Prerequisites: GRMN 203 or equivalent.
Activity: Lecture
1 Course Unit
Notes: Taught in German.

GRMN 378 Foreign in Germany
Foreign minority groups are integral elements of German society. This course will provide an overview of the history of foreigners in Germany and their political, social and economic significance. Content-rich reading materials will show Germany as a country that is rapidly developing into a multinational, multiracial and multicultural society. Focusing on the various attitudes of Germans held towards foreigners and the foreigners’ attitudes towards life in Germany, the text selection will provide the basis for in-depth study of the subject, including the development of German policy regarding foreigners.
Taught by: Shields
Course not offered every year
Prerequisite: GRMN 203 or equivalent
Activity: Lecture
1 Course Unit
Notes: Taught in German.

GRMN 379 Decadence
The period of the late nineteenth and turn to the twentieth century has often been described as a time of decadence—a decline in the “standards” of morals and virtue. While Freud explored the nature of sexual desire, writers like Schnitzler or Wedekind made this exploration central for their stories or plays. The course will focus on the literature and culture of fin-de-siècle Vienna and Berlin, and consider a variety of texts as well as their later reception and translation into film. Lectures and discussion in German.
Taught by: Weissberg
Course not offered every year
Prerequisites: GRMN 203 or equivalent.
Activity: Lecture
1 Course Unit
Notes: Lectures and discussions in German.

GRMN 380 Heimat
The concept of Heimat (homeland, home, roots) has been a focal point of German culture for at least the past two hundred years; but it has no precise translation into English. Heimat is deeply connected with German notions of modernity, nature, community, and gender; but the question of where one belongs has also been associated with escapism, exclusion and marginality. Beginning with a reading of Freud’s essay “Das Unheimliche,” we will explore literary representations of Heimat (including works by authors such as Eichendorff, Storm, Stifter, Raabe, and Sebald); nineteenth-century paintings by artists such as Leibl; and Edgar Reitz’s epic film Heimat (1984).
Taught by: MacLeod
Course not offered every year
Also Offered As: GRMN 584
Prerequisites: GRMN 203 or equivalent.
Activity: Lecture
1 Course Unit
Notes: Taught in German.

GRMN 381 Topics in German Culture. Topics vary annually. The topic for Fall 2017 is: Contemporary Germany - Deutschland schafft sich ab...oder erfindet sich neu?
Taught by: Hahmann
Course not offered every year
Prerequisite: GRMN 203 or equivalent
Activity: Seminar
1 Course Unit
Notes: Taught in German.

GRMN 390 Kafka
This seminar is designed to afford advanced students an in-depth study of a particular theme, genre or author. The seminar on Franz Kafka will discuss the author’s life and works and offer an introduction to his critical reception.
Taught by: Hahmann
Course not offered every year
Activity: Lecture
1 Course Unit
GRMN 401 Trans(l)its
The course, required for all majors in the fall of their senior year, considers movements between languages, including those of the students themselves. Research underscores the importance of providing students and adult language learners with the tools to reflect on their own language learning. This required course provides an important space for German-learners at Penn to draw on one another's experiences in the program, to build a sense of community, and to complete a final project which, in the case of majors, serves to establish their senior thesis. Drawing on Goethe's musings on "world literature," the course focuses on authors who have arrived at their German words via global, worldly itineraries. Authors who adopt German as their literary language-sometimes called Chamisso authors in honor of the nineteenth-century writer Adalbert von Chamisso, by birth a French speaker-provide a special focus of this course. The course encourages students to become Chamisso authors themselves via a series of critical and creative writing exercises.

Taught by: Wiggins, MacLeod
Course usually offered in fall term
Prerequisites: GRMN 203.
Activity: Lecture
1 Course Unit
Notes: This course will be offered every fall semester.

GRMN 403 Senior Colloquium
Taught by: Wiggins, MacLeod
Course usually offered in spring term
Activity: Seminar
0.5 Course Units

GRMN 507 Elementary Middle High German
Designed to familiarize the student with the principal elements of Middle High German grammar and to develop skills in reading and translating a major work of the twelfth century. Limited text interpretation.

Course not offered every year
Activity: Seminar
1 Course Unit
Notes: Middle High German for Reading Knowledge will be taught in English.

GRMN 510 Topics in Language and Literature
Topic for Fall 2015: Old English and its Afterlives. The first half or more of this course will be devoted to the study of 8th-12th-century language and literature, with attention to grammar, metrics, translation, and transmission. We will cover a wide range of texts, such as the life of Saint Andrew, a saint who saved his followers from cannibals; Aelfric's Preface to his landmark translation of the Bible, King Alfred the Great's Preface to Gregory's Pastoral Care, a brilliant meditation on the relationship between memory and culture, Wulfstan's thunderous Sermon to the English, which rebukes the Anglo-Saxon for stooping to fratricide, incest, and child slavery during the Viking invasions; the very strange collection of monstrosities and prodigies, which we call The Wonders of the East; "Caedmon's Hymn," what might just be the first recorded poem in English, supposedly composed by an illiterate cowherd; and the stunningly beautiful lyric poem "The Dream of Rood" in which the Cross recounts its heroics during the Crucifixion. In the second half of the course we will turn to post-Conquest literature (and beyond), as we explore the ways that medieval and early modern writers documented and theorized the Anglo-Saxon past. This section of the course will be determined part by student interests. Our questions will include the following: what constitutes a significant event? In what ways do different genres—chronicles, saints' lives, encyclopedias, sermons, romances, genealogies, geographies—offer competing or affirming views of the past? How do linguistic change and continuity matter? What impact did the Anglo-Saxons' pressing concerns with conquest, anonymity, decadence, and suffering have on late writers? And how did pre-Conquest England serve the needs of later English propaganda, antiquarianism, and reform? Students are not expected to know Old English, but we will need to get up to speed pretty quickly.

Taught by: Steiner
Course not offered every year
Also Offered As: COML 502, ENGL 501, HIST 590
Activity: Seminar
1 Course Unit
Notes: Topics vary annually. Topic for Fall 2015: Old English and Its Afterlives

GRMN 511 Stylistics
Textual analysis based on communication theory. Texts selected from literature and other disciplines. Emphasis placed on the development of the student's own compositional and stylistic skills.

Course not offered every year
Prerequisite: GRMN 221 or the equivalent language preparation
Activity: Seminar
1 Course Unit
Notes: Graduate seminar

GRMN 516 Teaching Methods
This course examines major foreign language methodologies, introduces resources available to foreign language teachers, and addresses current issues and concerns of foreign language teaching and learning, such as second language acquisition theory and application of technology.

Taught by: Frei
One-term course offered either term
Activity: Seminar
1 Course Unit
GRMN 517 Technology and Foreign Language Teaching
This course focuses on the evaluation, design, and development of multimedia in foreign language teaching and seeks to spotlight intersections of pedagogy and technology. Emphases are on the evaluation and production of effective multimedia-based materials and the pedagogical concerns raised by their implementation. In workshops, you will learn to use video-, image-, and sound-editing software applications. In weekly lectures, you will examine current trends and issues in pedagogically sound applications of technology. We will focus our discussions mainly on the efficacy of Web-based design and development.
Taught by: Frei/McMahon
Course usually offered in spring term
Also Offered As: EDUC 673, ROML 691
Activity: Seminar
1 Course Unit

GRMN 526 The Trouble with Freud: Psychoanalysis, Literature, Culture
For professionals in the field of mental care, Freud's work is often regarded as outmoded, if not problematic. The seminar will consider selected episodes in the interaction between philosophy and psychology. It starts with an intensive study of Descartes' machine psychology (in the Treatise on Man), which should complicate our picture of the history of such interactions. We then proceed, partly in response to student interest, to interactions involving Kant and nineteenth-century Kantians, Rylean "behaviorism", and recent work on the embodied mind (Wheeler, others).
Taught by: Hatfield
Course not offered every year
Also Offered As: COML 523, ENGL 571, GSWS 525, HSSC 594
Activity: Seminar
1 Course Unit
Notes: Readings and discussions in English.

GRMN 527 Philosophy of Psychology
The seminar will consider selected episodes in the interaction between philosophy and psychology. It starts with an intensive study of Descartes' machine psychology (in the Treatise on Man), which should complicate our picture of the history of such interactions. We then proceed, partly in response to student interest, to interactions involving Kant and nineteenth-century Kantians, Rylean "behaviorism", and recent work on the embodied mind (Wheeler, others).
Taught by: Hatfield
Course not offered every year
Also Offered As: PHIL 526
Activity: Seminar
1 Course Unit

GRMN 531 German Literature to 18th Century
Historical overview of authors, their works, genres, and epochs. Special attention to social, historical, cultural and religious backgrounds. Reading of selected works or passages.
Course usually offered in fall term
Activity: Seminar
1 Course Unit

GRMN 532 German Literature 18th Century to Present
A continuation of GRMN 531, this course examines literary developments from the Enlightenment to the present.
Course usually offered in spring term
Activity: Seminar
1 Course Unit

GRMN 534 History of Literary Theory
Over the last three decades, the fields of literary and cultural studies have been reconfigured by a variety of theoretical and methodological developments. This seminar will analyze pivotal works of twentieth-century theory, and ask how crucial contemporary theorists engage with the longer history and institutional practices of literary criticism. There will be no examinations. Students will prepare "position notes" each week, which will then be reworked into a paper (1200-1500 words) to be submitted one week after the presentation. A second paper will be an annotated bibliography on a theoretical issue or issues that a student wishes to explore further. The bibliography will be developed in consultation with the instructor; it will typically include three or four books and six to eight articles or their equivalent. The annotated bibliography will be prefaced by a five or six page introduction; the whole will add up to between 5000 and 6000 words of prose. Students will prepare "position notes" each week, which will either be posted on a weblog or circulated in class.
Course not offered every year
Also Offered As: CLST 511, COML 501, ENGL 571, SLAV 500, SPAN 682
Activity: Seminar
1 Course Unit
Notes: Topics vary annually.

GRMN 535 Goethe's Novels
With each of his major novels, Goethe intervened decisively and provocatively in the genre and wider culture. This seminar will analyze three of Goethe's novels spanning his career: the sensational epistolary novel The Sorrows of Young Werther (1774, rev. 1787); the novel of adultery Elective Affinities (1809), and the Bildungsroman Wilhelm Meister's Apprenticeship (1795/96). (We will also look ahead to his "archival" novel Wilhelm Meister's Journeyman Years 718297). Particular attention will be paid to the ways in which these novels address questions of modernization - technology and secularization, to name only two - through the lens of individuals who understand themselves in relation to artistic media. We will also consider seminal scholarship on the novels (e.g. Benjamin, Lukacs) in addition to recent critical approaches.
Taught by: MacLeod
Course not offered every year
Also Offered As: COML 536
Prerequisites: Upper-level course, assumes some familiarity with German literature and culture.
Activity: Seminar
1 Course Unit
GRMN 536 Foreign Exchanges: German Travel Literature and the East
For centuries the "Orient" has functioned as an important concept in formulating a European as well as a specifically German identity. In the context of today's debates about the expansion of Europe and the so-called war on terrorism, it is a concept which demands further historical investigation. On the basis of travel narratives and other texts, we will explore this key term, noting how it has been insistently (re)formulated since the beginnings of modernity. We will also investigate several theoretical models which can help us to think through the cultural encounters documented in the primary works. A series of fundamental questions will accompany us through the semester. Where is the East? Is the East a homogenous place eliciting either fear or wonder? Who lives in the East and how are the "customs and manners" of its inhabitants comprehended? What happens to a German in the East? And, vice versa, what happens to an "Oriental" in Germany? Is the East only in the East? Can one also find the East in Germany?
Taught by: Wiggin
Course not offered every year
Also Offered As: GRMN 318
Activity: Lecture
1 Course Unit
Notes: Taught in German.

GRMN 540 Memory, Trauma, Culture
In recent years, studies of memory (both individual and cultural) have rivedaled those of history, and have produced alternative narratives of events. At the same time, research has also focused on the rupture of narrative, the inability to find appropriate forms of telling, and the experience of a loss of words. The notion of trauma (Greek for "wound") may stand for such a rupture. Many kinds of narratives, most prominently the recollections of Holocaust survivors, are instances in which memories are invoked not only to come to terms with traumatic events, but also to inscribe trauma in various ways. In this seminar, we will read theoretical work on memory and trauma, discuss their implication for the study of literature, art, and culture, read select examples from Holocaust survivors' autobiographies (i.e. Primo Levi, EliWiesel), and discuss visual art (i.e. Boltanski, Kiefer) and film (i.e. Resnais, Lanzmann, Spielberg).
Taught by: Weissberg
Course not offered every year
Also Offered As: ARTH 560, COML 539, JWST 540
Activity: Seminar
1 Course Unit
Notes: All readings and lectures in English.

GRMN 542 Topics in Culture.
Topics vary annually.
Course not offered every year
Also Offered As: ARTH 563, COML 542, NELC 584
Activity: Seminar
1 Course Unit

GRMN 548 19th Century Philosophy
After an orientation to Kant's philosophy, we will examine Hegel, Feuerbach, Marx, and Nietzsche.
Taught by: Horstmann
Course not offered every year
Also Offered As: PHIL 448
Activity: Seminar
1 Course Unit

GRMN 550 German Film History and Analysis
From the early 20th century, German cinema has played a key role in the history of film. Seminar topics may include: Weimar cinema, film in the Nazi period, East German film, the New German cinema, and feminist film.
Taught by: Richter
Course not offered every year
Also Offered As: CIMS 550, COML 552, GRMN 259
Activity: Lecture
1 Course Unit
Notes: Topics vary annually.

GRMN 551 Kant's First Critique
Kant's "Critique of Judgment" (1790) is the third and last of his three Critiques. It is of major importance for an understanding of Kant's philosophy as a whole in at least three respects. 1) Being the latest of the three Critiques it gives the ultimate view Kant has with regard to his 'critical system' in its entirety. This view is presented explicitly both in the unpublished First Introduction and the published version of the Introduction to the third Critique. 2) It contains as its first part his theory of the judgment of taste, i.e. his aesthetic theory. This theory is of interest not just because of its immense influence on subsequent theories of the beautiful but also because of the way it tries to solve the problem of the universal validity of judgments that do not have the statue of judgments of cognition. 3) The third Critique presents in its second part Kant's attempt to integrate living organisms as objects of knowledge into his epistemological framework. It thus comprises his philosophy of biology and his discussion of the status and the function of teleological explanations in science. Though the seminar is meant to deal with all these aspects it can -- depending on the interests of the participants -- focus with different intensity on each of these.
Taught by: Horstmann
Course not offered every year
Also Offered As: PHIL 465
Activity: Seminar
1 Course Unit

GRMN 552 Kant II
A study of Kant's moral philosophy, political philosophy, and aesthetics, focusing on his Groundwork for the Metaphysics of Morals, Critique of Practical Reason, Metaphysics of Morals, and Critique of Judgement.
Course not offered every year
Also Offered As: PHIL 466
Activity: Seminar
1 Course Unit

GRMN 553 Hermeneutics
Theory of interpretation and the construction of meaning. Focus is usually on a text by Hegel or Gadamer. May be repeated for credit.
Taught by: Dunning
Course not offered every year
Also Offered As: COML 581
Activity: Seminar
1 Course Unit
GRMN 556 What is Enlightenment?
The question “What is the Enlightenment?” was posed for an essay competition in a journal, the Berlin Monatsschrift in 1784. At that point, French and English philosophers had already considered new ways of thinking, inventing the modern individual and the modern citizen (in contrast to a state’s subject). German responses to this question were written by an established philosopher (Immanuel Kant), a Jewish resident of Berlin (Moses Mendelssohn), as well as concerned readers of recent philosophical treatises. In our course, we will consider this question by exploring this early discussion and the formation of Enlightenment thought in Europe and specifically Germany, including the German-Jewish Enlightenment (Haskalah), but also trace the historical transformation of this discussion, including Theodor W. Adorno’s and Max Horkheimer’s Dialectics of Enlightenment (1944/1947) and more recent criticism.
Taught by: Weissberg
Course not offered every year
Activity: Seminar
1 Course Unit
Notes: Graduate seminar.

GRMN 560 Topics in Philosophy and Literature
Taught by: Chignell
Course not offered every year
Also Offered As: COML 559, JWST 560, PHIL 551
Activity: Seminar
1 Course Unit
Notes: Topics vary. The title for Fall 2017 is: Kant’s Philosophy of Religion

GRMN 562 Early Modernism.
Taught by: Wiggin
Course not offered every year
Activity: Seminar
1 Course Unit
Notes: Topics change annually.

GRMN 565 Yiddish in Eastern Europe
This course presents the major trends in Yiddish literature and culture in Eastern Europe from the mid-19th century through World War II. Divided into four sections - “The Shtetl,” “Religious vs. Secular Jews,” “Language and Culture,” and “Confronting Destruction” - this course will examine how Jews expressed the central aspects of their experience in Eastern Europe through history, literature (fiction, poetry, drama, memoir), film, and song.
Taught by: Hellerstein.
Course not offered every year
Also Offered As: EEUR 265, GRMN 265, JWST 265, JWST 465
Activity: Lecture
1 Course Unit
Notes: All readings and lectures in English.

GRMN 567 Topics in History of Philosophy. Topics change annually. Title for Spring 2016 is: Schiller’s Philosophical Writings
Topics change annually. Title for Spring 2016 is: Schiller’s Philosophical Writings. Today Friedrich Schiller is primarily known for his dramas and poems. However, during a period of several years (after he was appointed professor of History in Jena) he was also concerned with philosophical issues. The focus was mainly on questions of aesthetics and philosophy of history. With regard to both, it was Kant who was extremely influential for the development of Schiller’s philosophical position. But Schiller did not simply copy or rearrange Kantian ideas, in fact, he evolved Kantian philosophy significantly in numerous respects. And even though Schiller later gave up with his philosophical ambitions— in a letter he even dismissed his philosophical efforts altogether as immature—his specific understanding of Kantian philosophy became extremely influential for the genesis of German idealism in general, but in particular shaped the reception of Kantian ideas by Hegel. In this seminar we will look at Schiller’s most important philosophical writings and address both his conception of aesthetics and his approach to philosophy of history.
Taught by: Hahmann
Course not offered every year
Also Offered As: PHIL 467
Activity: Seminar
1 Course Unit
Notes: Seminar taught in English.

GRMN 568 Hegel’s Aesthetics
Taught by: Hindrichs
Course not offered every year
Also Offered As: PHIL 568
Prerequisites: GRMN 216 or equivalent. Upper-level course, assumes some familiarity with German literature and culture.
Activity: Seminar
1 Course Unit
Notes: This course is taught in German.

GRMN 573 Topics in Criticism & Theory: Object Theory
Taught by: MacLeod
Course not offered every year
Also Offered As: ARTH 573, CIMS 515, COML 570, ENGL 573, FREN 573
Activity: Seminar
1 Course Unit
Notes: Topics change annually.
GRMN 578 Topics in Art History
Topics vary. Fall 2016: 16 C. North Paint/Graphc. 16th Century Northern Paintings and Graphics. Focusing primarily on Germany and the Netherlands during the period of the nascent Reformation, this course will use both paintings and prints to investigate a host of social and cultural changes: the religious image and its use (including Iconoclasm), to political structures (the Holy Roman Empire and developing nation-states, such as Spain and England), and to innovative artistic themes, particularly the rise of specialized pictorial genres and secular subjects. Major artists will include Hieronymus Bosch, Albrecht Durer and his circle, Lucas Cranach, Hans Holbein (and England), Lucas van Leyden, and Pieter Bruegel. Students will be expected to write a research paper of their choosing after completing a shorter analysis paper on a single work. Open to qualified undergraduates as well as graduate students.
Taught by: Silver
Course not offered every year
Also Offered As: ARTH 561, ARTH 701
Activity: Seminar
1 Course Unit

GRMN 579 Winckelmann
Celebrity-scholar, literary stylist, cultural monument, pagan hero, self-made man, homosexual codeword, murder victim: despite his humble origins in Prussia, Johann Joachim Winckelmann (1717-68) enjoyed a meteoric career as an archaeologist and art historian in Rome and came to define a century. His developmental view of culture and his celebration of Greek art challenged prevailing ideas and established new paradigms. The seminar will pay careful attention to Winckelmann’s most important writings, including “Reflections on the Imitation of the Painting and Sculpture of the Greeks” (1755), the “History of Ancient Art” (1764), and his famous descriptions of statues such as the Belvedere Apollo and Laocoön group, while keeping in mind the context of mid eighteenth century Rome. The lasting impact of Winckelmann’s Greek subject matter, his aesthetic theory, and his literary style will be traced, with readings ranging from Johann Wolfgang Goethe, Gotthold Ephraim Lessing, Walter Peter, Rainer Maria Rilke, and Thomas Mann, to the troubling reincarnation of Winckelmann’s statues in Leni Riefenstahl’s Fascist Olympic films. Finally, Winckelmann’s central role in the field of queer studies will be explored, via a consideration of his representation of the male body beautiful and of his own status as a codeword for homosexual desire.
Taught by: MacLeod
Course not offered every year
Also Offered As: ARTH 584, COML 579
Prerequisites: Upper-level course, assumes some familiarity with German literature and culture.
Activity: Seminar
1 Course Unit

GRMN 580 Topics In Aesthetics
Taught by: Weissberg, MacLeod
Course not offered every year
Also Offered As: ARTH 560, COML 582, JWST 582, PHIL 480
Activity: Seminar
1 Course Unit
Notes: Topics vary annually.

GRMN 581 Topics in Jewish-German Culture
Reading and discussion course on selected topics in Jewish history. The instructors are visiting scholars at the Center for Advanced Judaic Studies. Topic and seminar title for Spring 2015: Topics in Jewish Studies: The Origins of Jewish Studies. Course description for Spring 2015: This is a reading course that grants seminar participants access to Katz Center fellows, some of the best scholars in Judaic studies from around the world. The aim of the course is to expose students to these scholars and their work, to get to know them as people, learn from them at high level, and understand their approach to the field. Over the course of the spring semester there will be four 3-session modules. Students will meet with 4 different fellows for 3 sessions each. The weekly 90-minute classes will be held at the Katz Center on Wednesdays from 10:30 am - 12 pm, and participants will be encouraged to then stay for lunch and the fellows’ seminar which runs from 12:30 - 2:30 pm.
Taught by: Spring 2015: Liliane Weissberg and Steven Weitzman
Course not offered every year
Also Offered As: COML 584, HIST 490, JWST 490, RELS 429
Activity: Seminar
1 Course Unit

GRMN 582 Topics in Political Science
Topics vary.
Course not offered every year
Also Offered As: PSCI 582, PSCI 584, PSCI 588, PSCI 598
Activity: Seminar
1 Course Unit

GRMN 602 Seminar in German Philology
Topics vary annually.
Course not offered every year
Also Offered As: LING 610
Activity: Seminar
1 Course Unit

GRMN 603 Seminar in German Literature
Topics range from the study of individual authors to analyses of major texts.
Course not offered every year
Activity: Seminar
1 Course Unit

GRMN 604 Seminar in German-Jewish Studies
The course will focus on a specific topic, such as German-Jewish autobiography, writings related to the Jewish emancipation, German-Jewish philosophy and literature, the notion of exile, the Shoah, or contemporary German-Jewish literature. Topics will be announced.
Taught by: Weissberg
Course not offered every year
Activity: Seminar
1 Course Unit

GRMN 611 Topics in History and Theory
A seminar on advanced topics in architectural design and theory. Topics and instructors will vary.
Course not offered every year
Also Offered As: ARCH 711, ARCH 712
Activity: Seminar
1 Course Unit
GRMN 628 Topics 18th Century, vary annually.
Topic for Fall 2014 is: Wolfgangs Lehrjahre (1765-1774) The decade before the publication of Goethe’s Die Leiden des jungen Werthers is full of literary ferment. The goal of this course is to gain a sense of the multiplicity of projects and perspectives in this crucial decade in order to break down any teleology that might see Werther as its crowning triumph. In other words, this is a course in the “politics” of literature and literary aesthetics. Works to be read, discussed, and reported on include: Kant, Beobachtungen uber das Gefuehl des Schoenen und Erhabenen; Klopstock, Salomo, ein Trauerspiel; Gleim, Lieder nach dem Anakreon; Herder, Fragmente uber di neuere deutsche Literatur; Lessing, Laokoon oder uber die Grenzen der Mahlerey und Poesie; Wieland, Geschichten des Agathon; Lessing, Minna von Barnhelm; Mendelssohn, Phaedon oder uber die Unsterblichkeit der Seele; von Gerstenberg, Ugolino; Wieland, Musarion; Klopstock, Oden und Elegien; La Roche, Geschichte des Fauleins von Sternheim; Herder, Abhandlung uber den Ursprung der Sprache; Lavater, Von der Physiognomik; Lessing, Emilia Galotti; Goethe, Goetz von Berlichingen mit der eisernen Hand; Herder, Von deutscher Art und Kunst; Nicolai, Sebaldus Nothanker; Wieland, Alceste; Zimmerman, Von der Einsamkeit; Blankenburg, Versuch uber den Roman, and, of course, Werther.
Taught by: Richter
Course not offered every year
Activity: Seminar
1 Course Unit
Notes: Graduate seminar, taught in German.

GRMN 631 The Age of Storm and Stress
An in-depth investigation of the major thinkers and writers of the Sturm and Drang period (1767-1785). Concepts to be considered include: genius, nature, language, violence, irrationality, “Germaness.” Works by Herder, the young Goethe and Schiller, Hamann, Gerstenberg, Lenz, Klinger, and Wagner. Emphasis on drama and drama theory.
Taught by: Richter
Course not offered every year
Activity: Seminar
1 Course Unit

GRMN 632 Romanticism
The course focuses both on the timely impact and the lasting contribution of Romanticism. Lectures cover the philosophical, intellectual, social, and political currents of the age. Authors: Schlegel, Wackenroder, Tieck, Brentano, Arnim, Novalis, Hoffmann, Kleist, Eichendorff.
Taught by: MacLeod, Weissberg
Course not offered every year
Activity: Seminar
1 Course Unit

GRMN 633 Classicism
An investigation of Weimar Classicism. Drawing on literary and theoretical works by Goethe, Schiller, and others, the seminar will explore concepts such as: aesthetic education; the nature of a “classic,” “autonomous” art; imitation; German responses to Greek antiquity.
Taught by: MacLeod, Richter
Course not offered every year
Activity: Seminar
1 Course Unit

GRMN 635 Goethe’s Wilhelm Meister
Goethe’s Wilhelm Meister project spanned several decades and three novels. This seminar will analyze Wilhelm Meisters Lehrjahre (1795), the foundational work in the development of the German Bildungsroman, and Wilhelm Meisters Wanderjahre (1829), an anomalous and eccentric narrative that stretches the boundaries of the novel genre. We will also consider recent critical approaches to the novels, and will discuss in particular Foucauldian and psychoanalytic readings that deal with Bildung as a discourse of desire, formation, and discipline.
Taught by: MacLeod
Course not offered every year
Activity: Seminar
1 Course Unit

GRMN 636 Literature of Enlightenment
German intellectual and literary developments from 1690-1780 in the context of the European enlightenment.
Taught by: Richter
Course not offered every year
Activity: Seminar
1 Course Unit

GRMN 638 Studies in 19th Century Literature
The course concentrates on issues of “realism” and "representation". Examples will be drawn from nineteenth century German fiction.
Taught by: MacLeod, Weissberg
Course not offered every year
Activity: Seminar
1 Course Unit

GRMN 641 Drama of the Nineteenth Century
A study of the German drama after Goethe and Schiller, with special emphasis on the response of such authors as Kleist, Buechner, Grillparzer, and Hebbel to the classical drama. Discussions of theories and techniques (Freytag, Szondi). Readings also include Nestroy, Hauptmann, and Schnitzler.
Course not offered every year
Activity: Seminar
1 Course Unit

GRMN 642 Drama of the Twentieth Century
Based on a discussion of the relationship of drama (text) and theater (performance), the course examines the development of realistic and antirealistic currents in modern German drama. From Wedekind and Expressionism to Piscator’s political theater, Brecht’s epic theater and beyond (Horvath, Fleisser, Frisch, Duerrenmatt, Handke).
Taught by Jarosinski
Course not offered every year
Also Offered As: COML 642
Activity: Seminar
1 Course Unit

GRMN 646 Novel of the Twentieth Century
A study of the major developments in modern German narrative prose in its international context. Discussions of theories and techniques. Readings of authors such as Kafka, Thomas and Heinrich Mann, Doeblin, Seghers, Boell, and Grass.
Course not offered every year
Activity: Seminar
1 Course Unit
GRMN 648 Modern German Lyrics
Origins and development of modern German lyrical poetry since the late nineteenth century. Authors such as George, Rilke, Hofmannsthal, Brecht, Benn, Bachmann, Celan will be interpreted in light of the important poetic trends in the twentieth century.
Taught by: MacLeod
Course not offered every year
Activity: Seminar
1 Course Unit

GRMN 650 Topics in 20th-C Studies
Course not offered every year
Also Offered As: PSCI 584
Activity: Seminar
1 Course Unit
Notes: Topics vary

GRMN 653 Baroque
Lectures on the concept of "Baroque" in literature and the social and intellectual backgrounds of German Baroque literature; reading and discussion of lyrics, dramas and novel.
Taught by: Wiggin
Course not offered every year
Activity: Seminar
1 Course Unit

GRMN 654 Renaissance and Reformation
Major works and authors of the fifteenth and sixteenth centuries. Authors include Luther, Hans Sachs, Wickram, Fischart, and Frischlin.
Taught by: Wiggin
Course not offered every year
Activity: Seminar
1 Course Unit

GRMN 660 German Literature After 1945: Recording, Remembrance, and Forgetting
The seminar examines literary and other artistic works that represent contested parts of the recent German past. Particular attention will be paid to the use made of historical facts in lyric poetry, prose, documentary theater, film, and photography. Through close readings of emblematic literary and theoretical texts, we will consider the widespread notion of the past as a narrative contruction, investigate modes of witnessing and testimony, and examine collective and individual repression as well as private and public rituals of remembrance. The material will be considered along with the larger claim of literary discourse, and lyric poetry specifically, as uniquely suited to represent otherwise inaccessible dimensions of experience.
Course not offered every year
Activity: Seminar
1 Course Unit

GRMN 663 Weimar Literature
This course examines the major cultural developments—including Expressionism, New Objectivity, and the European avant-garde—that took place during the tumultuous years of Germany's first experiment in democracy. We will cover a variety of genres (poetry, drama, fiction and non-fiction), while also paying attention to the visual arts, in particular the cinema. The primary aims of the course are: to familiarize students with the rich cultural efflorescence of the period; to examine the legacy of the First World War, the rise of the urban metropolis and their various representations; and to assess the course of history as reflected both in and outside the literary sphere. Authors to be covered include: Vicki Baum, Walter Benjamin, Bertolt Brecht, Alfred Doeblin, Ernst Juenger, Irmgard Keun, Siegfried Kracauer, Erich Maria Remarque, Joseph Roth and Ernst Toller.
Course not offered every year
Activity: Seminar
1 Course Unit
Notes: Conducted as a research seminar, requiring an oral presentation and lengthy scholarly paper. Primary readings and discussion will be in German.

GRMN 664 Topics in European History
This course will focus on problems in European political, social, cultural, and economic development from 1750 to the close of the second World War. Readings will be major works in the different fields of European historical scholarship, ranging from family to diplomatic history and covering a wide variety of methodological approaches.
Course usually offered in fall term
Also Offered As: HIST 620
Activity: Seminar
1 Course Unit

GRMN 670 German Literary Theory & Criticism
This course will concentrate on major and/or current issues in literary criticism, specific problems, critics, or approaches. Topics will vary; in the past, courses have concentrated on Walter Benjamin's work, and "The Frankfurt School and After."
Course not offered every year
Also Offered As: ARTH 670, COML 670
Activity: Seminar
1 Course Unit

GRMN 672 Reading Modernity
In this course we will examine Modernism and the avant-garde as concepts in literature, theater, and criticism. Both terms in the seminar title will be significant to our work, as we ask not only how to define and debate “modernity” today, but also how to understand various notions of “reading” and cultural analysis that emerge during the period and live on in various ways today. In addition, we will take account of important technological, social, and economic developments marking modernity, focusing our attention on the ways in which they intersect and interact with cultural production, cultural politics, and perception itself. Readings will include key texts by representative authors, including Benjamin, Kafka, Barthes, Kracauer, Brecht, Adorno, Baudelaire, Eliot, Woolf, and others. The final section of the course is concerned with contemporary debates surrounding Modernism’s relation to Fascism and the juxtaposition of Modernism and Postmodernism.
Taught by: Jarosinski
Course not offered every year
Also Offered As: COML 634
Activity: Seminar
1 Course Unit
Notes: Taught in English.
GRMN 674 Topics in Aesthetic Theory
Topics vary annually.
Taught by: Weissberg, MacLeod, Corrigan
Course not offered every year
Also Offered As: ARTH 674, CIMS 591, COML 674
Activity: Seminar
1 Course Unit

GRMN 676 Readings in Feminist Theory
The seminar will provide a survey of recent feminist theories, and a
discussion of literary texts focusing on issues of gender, race, and class.
The reading list will include essays by French, English, and American
theorists as well as novels by Bachmann, Wolf, and Jelinek.
Taught by: Weissberg
Course not offered every year
Also Offered As: COML 676
Activity: Seminar
1 Course Unit

GRMN 678 Realism: Literature and Theory
What is "realism"? What does it mean to depict the world as a "realist"
writer or artist? This seminar will consider these questions and
concentrate on German literature and art of the second half of the
nineteenth century. It will focus on writers such as Stifter, Storm, Raabe,
and Fontane; but also on Stifter's drawings and paintings, visual artists
such as Menzel, and the vogue of historical painting. Finally, the seminar
will consider the role of early photography in the development of the
notion of "realism." Secondary literature will include studies by Michael
Fried, Linda Nochlin, and others.
Taught by: Weissberg
Course not offered every year
Activity: Seminar
1 Course Unit

GRMN 679 The title for Spring 2014 is: German Prints & Drawings.
Development of the major graphic media and subjects from Schongauer
through the sixteenth century. Regular visits to Philadelphia Museum of
Art.
Taught by: Silver
Course usually offered in fall term
Also Offered As: ARTH 662, ARTH 761, DTCH 601
Activity: Lecture
1 Course Unit
Notes: Topics change annually.

GRMN 680 Studies in Contemporary Music
Seminar on selected topics in the music of the twentieth century.
Course not offered every year
Activity: Seminar
1 Course Unit

GRMN 691 Travel in German Literature
During the early modern period (circa 1450-1800) the world became
global. A "new world" which challenged "old world" frameworks of
knowledge was made to accommodate European travellers. This seminar
will devote itself to travel literature (broadly conceived) on the Americas
to explore questions historical and actual, literary and theoretical: How
did contact initially effect the old world? How did its representation
evolve over the early modern period? How can a concept of early modern
globalism be useful today? Weekly seminar topics will be organized
around a single primary text (some available only in Van Pelt's Rare Book
Room) and an array of secondary materials. Each participant will lead
one seminar session, assigning further readings as s/he determines
necessary. A one-day seminar within the seminar will allow students
to present their work on early modern globalism in a conference-style
format. Each contribution will then be re-worked as the final paper.
Primary materials may include: Herzog Ernst; Schedel's Weltchronik;
Muenster's Cosmographica, travel accounts by Staden and Hutter;
Theodor de Bry's American publications; Ortelius, Blaeu, and Janssens
maps; Gottfried's American compilation; travel literature by Penn,
Pastorius, and Saur; Insel Felsenburg; Humboldt.
Taught by: Wiggin
Course not offered every year
Activity: Seminar
1 Course Unit

Government Administration (GAFL)

GAFL 500 Half-Term Electives
Descriptions for each section can be found by clicking the provided
link. Section 011 Influencing Public Policy. Section 012 Organizational
Leadership and Communication. Section 021 Designing Thinking for
Social Entrepreneurs. Section 022 Project Management in the Public
Sector. Section 023 Campaign Management: How to Run and Win. Please
direct any issues or inquiries to felsinstitute@sas.upenn.edu.
One-term course offered either term
Corequisites: Must be taken with corresponding GAFL 500 section in
opposing session. E.g. GAFL 500 011 and 023. This completes the 1 CU.
Activity: Seminar
0.5 Course Units
Notes: This is a "hybrid" course, with synchronous, online meetings and
once-monthly, on-campus meetings in Philadelphia, PA. On-campus
meetings vary by term. Please read the description for dates and times.
Also, please note there is an additional $150 online course fee. Half-term
electives enable students to engage with a greater number of topics over
the span of a semester. Each elective covers different material. These
courses are 0.5 CU each. Students will need to take one in session 1
and one in session 2 to receive a full CU. Fall 2017 on-campus meetings
will be held on the following Fridays and Saturdays from 2:53:00pm: First
session: September 8 9, October 13 14 Second session: November 10 11,
December 1 2
GAFL 502 Public Communications
Successful leaders must be able to convey their integrity and their ideas, their vision and their values clearly and convincingly in public settings. By analyzing great political speeches and affording students the opportunity to prepare and deliver different types of speeches, this course teaches the fundamentals of persuasive public speaking while encouraging students to develop their own voice. This is a performance course. Students will gain skill and confidence in their speech writing and public speaking skills through practice, peer feedback, and extensive professional coaching. Class lectures and discussions will focus on persuasive strategies and techniques for handling community meetings, Q and A sessions, and interactions with the media.
Taught by: Benedict (Fall & Spring); Besnoff (Summer)
Course offered summer, fall and spring terms
Activity: Lecture
1 Course Unit
Notes: This course has seats reserved for Fels’ students and gives priority to grad students. Post-bacc students, contact Joshua Power (joshuarp@sas.upenn.edu) Undergraduate students, contact Joshua Power 2 weeks before the start of the pertinent term to request a seat. Seats are not guaranteed to post-bacc or undergraduate students.

GAFL 506 The Problem of Jobs: The Philadelphia Story
Once the “workshop of the world” with a diverse manufacturing economy, the City of Philadelphia has lost a huge proportion of its historical economic base in the past 60 years. Today, Philadelphia struggles to find its competitive advantage. Yet, it has tremendous assets that can be leveraged. This course will explore the rise and fall of Philadelphia’s manufacturing economy, efforts to forestall its decline in the 1960s and 70s, the racial and gender dynamics of its employment ecosystem, and contemporary strategies to create a sustainable local economy. We will focus on the emerging national recognition of place-based economic development strategies, including the revival of downtown residential living, tourism, and hospitality, and the role of institutions, such as universities and hospitals, in the revitalization of urban America. The course will combine readings in economic and social history and urban economics with case study analyses of local policies aimed at stimulating growth.
Taught by: Hornstein
Course not offered every year
Activity: Seminar
1 Course Unit

GAFL 511 Reinventing Nonprofits
Course offered summer, fall and spring terms
Activity: Lecture
1 Course Unit

GAFL 515 Public Finance Leadership in the New Fiscal Reality
Several factors are intersecting upon U.S. local governments including: muted economic growth, demographics, technological change, ineffective monetary & fiscal policy, and political shenanigans. These are having a profound impact on local government financial health. Many local governments are struggling to structurally balance their budgets, even now several years into one of the longest U.S. post-WWII economic recoveries. Expenditure demand, especially because of rising employee pension and OPEB benefits, is rising faster than expected. Revenues are not rising as quickly as they have historically. This New Fiscal Reality is redefining the concept of municipal distress. Further, the options local governments have to respond to distress may be changing. It might be necessary for local governments to move away from typical solutions like distressed municipality programs and other state level aid. If the current financial trajectory continues, some local governments will not be able to deliver the same service-level they have in the past. New solutions are required. This class will 1) define the New Fiscal Reality; 2) review essential public finance concepts and relationships; 3) study past and recent examples of financial distress and prescribed solutions; 4) survey the current local government financial landscape; and 5) identify solutions public finance leaders can institute for the future. Several local government finance, political and policy experts will speak during the semester. A heavy amount of student engagement is expected to be completed in the form of research, group work, writing, and the critiquing of other students/work.
Taught by: Kozlik
Course usually offered in spring term
Activity: Lecture
1 Course Unit

GAFL 517 Quantitative Tools for Consulting
The purpose of the course is to study the theory and application of certain, key quantitative methods utilized in financial and fiscal decision-making in state and local governments: defining and measuring efficiency and equity; statistical analysis, multivariate analysis, linear and multiple regression; inter-temporal decision-making; and cost-benefit analysis. Primary emphasis will be on understanding the context and quantitative basics of these methods to prepare students for effective careers in state and local governments. Each student should have a basic understanding of market economics, the roles of government in our market economy, accounting/budgeting basics, and the Philadelphia metro area economy and government.
Taught by: Lee Young Huang
Activity: Seminar
1 Course Unit
GAFL 520 Marketing & Fundraising for Non-Profit Organizations
Fundraising and marketing are complementary tools for building revenue streams and fulfilling project goals of nearly every nonprofit organization. This course develops students’ ability to market a nonprofit to mission recipients and prospective donors and to solicit funds from individuals and organizations. Through lectures, readings, discussions, and assignments, students are actively engaged in learning how to help an organization achieve its mission and objectives. This includes but is not limited to the assessing an organization’s marketing and fundraising capabilities; identifying, segmenting, and creating relationships with target markets and donors; building infrastructure to properly seek and steward gifts; using technology to fulfill marketing and fundraising objectives; and focusing on fundraising and marketing methods such as social media, direct response, events, major gifts, planned giving, and others.
Taught by: Hugg
Course usually offered in fall term
Activity: Hybrid Course
1 Course Unit
Notes: This is a "hybrid" course, with synchronous, online meetings and once-monthly, on-campus meetings at the Fels Institute of Government in Philadelphia, PA. On-campus meetings vary by term. Please read the description for dates and times. Also, please note there is an additional $150 online course fee.

GAFL 521 Advanced Public Management
TBA
Taught by: Lim
Course usually offered in spring term
Activity: Hybrid Course
1 Course Unit

GAFL 526 Municipal Bonds
The course provides a comprehensive overview of the $3.7 trillion municipal bond market, with a focus on public finance investment banking; capital project financing for state and local governments including water, sewer, mass transit and road projects, and non-profit financing for educational and healthcare institutions; the legal and regulatory framework governing the municipal bonds market; rating agency analysis; quantitative modeling; and investor perspectives.
Taught by: Steven Genyk
Course usually offered in fall term
Activity: Lecture
1 Course Unit

GAFL 527 Community Development and Qualitative Methods
Urban planning and community development involve attempting to understand (and then propose methods for solving) complex problems arising from our shared experience of living together in communities. These wicked problems (Rittel & Weber, 1973) often arise from multiple co-occurring influences; economic, socio-cultural, political, geographic/geological, psychological, etc. The fluid and multi-dimensional nature of these problems, therefore, calls for a fluid and multi-dimensional approach to understanding them. Nonetheless, for the better part of the last half a century the majority of efforts to approach such dilemmas has relied largely on quantitative research methods. While quantitative approaches to understanding community dynamics certainly have a demonstrated value, an over-reliance on such methods can come at the expense of the more nuanced understanding available through qualitative research approaches. Qualitative methods are useful in exploring questions such as where, when, who and how many. They are less effective, however, in answering questions of why and how. For answers to these sorts of questions we must turn to qualitative research methods.
Taught by: Terence Milstead
Activity: Seminar
1 Course Unit

GAFL 528 Critical Issues in Public Finance
The Course, Critical Issues in Public Finance will consider contemporary issues affecting the fiscal state of local governments. Covered will be issues that have distressed municipalities; the policies/initiatives that seek to rectify such including privatization/public private partnerships; reformation of municipal pensions; sustainable education funding alternatives; and tax policies aimed at promoting economic growth. Students will be assigned to a team, which will identify and provide a solution for an issue or issues plaguing a fictional government. Each team will prepare a written report and make a presentation all of which will constitute the final project. Assignments will serve as the building blocks for the final written work product and presentation developed by each team. The class is divided into four modules. The first module will take a historical look at events behind fiscal distress in municipalities and then explore current day drivers that are causing the same today. Modules two, three and four will examine some of the tools that have been used successfully or otherwise to remediate the drivers of fiscal distress. In each module case studies will be used to further analyze the particular fiscal challenge of a municipality. Written assignments will be based on case studies. Summer 2017 On-Campus Meetings are 9:30am-1:00pm on Fridays—May 19, June 23, and July 21 and Saturdays—May 20, June 24, and July 22
Taught by: Olanipekun-Lewis
Course usually offered summer term only
Activity: Hybrid Course
1 Course Unit
Notes: This is a "hybrid" course, with synchronous, online meetings and once-monthly, on-campus meetings in Philadelphia, PA. On-campus meetings vary by term. Please read the description for dates and times. Also, please note there is an additional $150 online course fee.
GAFL 529 Nonprofit Financial Management
The course is designed to provide the student with an understanding of the primary financial management issues and decisions that confront senior management in nonprofits and government. Students will examine financial analysis techniques from both a practical and strategic perspective as they examine operating and capital decisions. The objective of the course is to allow the student to understand how managers integrate the various discrete financial decisions within a broader framework that allows them to analyze, develop and execute a coherent overall financial strategy.
Taught by: Rosenzweig, Janet
Course usually offered in spring term
Activity: Lecture
1 Course Unit

GAFL 530 Evidence Based Policies of Economic and Political Development
This class provides a "hands-on" introduction to the promises and limitations of using Randomized Control Trials (RCTs) to inform policy makers, practitioners, and academics of the conditions under which policies likely would have a positive effect on economic and political outcomes, in the context of international development. This course has three parts: the first is devoted to understanding the "nuts and bolts" of running field experiments / RCTs in developing countries. In part, we will be reading Glennester and Takavarasha’s Running Randomized Evaluations: A Practical Guide. In addition, we will discuss core behavioral concepts from both behavioral economics and social psychology (prospect theory). The second part of the course will be devoted to demonstrating how schools have used RCTs to inform core policy debates (e.g. What are some effective ways to reduce corruption? How can we improve the performance of frontline service providers? How can politicians be more responsive to their constituents?) In the third part, students will be presenting their own research proposals, explicitly designed to address either a core policy question in the developing world or--for those interested--in the USA. Here students will have an opportunity to partner with the Social and Behavioral Sciences Team (https://sbst.gov), which is under the National Science and Technology Council.
Course usually offered in spring term
Also Offered As: PSCI 413
Activity: Seminar
1 Course Unit

GAFL 531 Data Science for Public Policy
Taught by: Nelson Lim
Course usually offered in fall term
Activity: Seminar
1 Course Unit

GAFL 532 Urban Government in Action
This class explores how city administrators and legislators have addressed the critical issues facing urban America today, including fighting urban blight and transforming neighborhoods, public school funding, public financing of sports stadiums, reducing the tax burden, public health issues like smoking bans, legislative redistricting, crime and safety issues, campaign finance finance reform, economic development issues like tax increment financing, race relations, welfare reform, public transportation, and how to reverse job and population losses. The goal is to place in context the various ways that elected officials approach complex issues, towards a more realistic understanding of how to influence a proposal as it works its way through the process towards implementation.
Taught by: Kenney
Course usually offered in fall term
Also Offered As: CRIM 402, CRIM 602
Activity: Lecture
1 Course Unit

GAFL 533 Infrastructure Investment and Economic Growth: Why, How, and When
Infrastructure is widely acknowledged to be critical for economic success, and infrastructure investments are promoted as leading to economic growth, either at the local or national level. Yet, investments in telecommunications, transportation, energy, or other infrastructure do not always yield the hoped public benefit. This course will help answer the question: Under what circumstances does infrastructure investment contribute to economic growth, and how do we know? Because government resources are limited, advocates often must be creative to find sufficient funding to get desirable projects completed. This course will also help answer the question: How do we pay for the infrastructure projects we want to build? The course will illustrate approaches to answering these questions using case studies of past and proposed investments.
Taught by: Angelides
Course usually offered in spring term
Activity: Lecture
1 Course Unit

GAFL 538 Hum Rights, Justice, Pol
Course offered summer, fall and spring terms
Activity: Lecture
1 Course Unit

GAFL 542 Downtown Development
Course usually offered in fall term
Also Offered As: CPLN 642
Activity: Lecture
1 Course Unit
GAFL 546 Social Enterprise Models and Social Impact Locally and Globally

If you believe in finding innovative ways to make a difference and solve social issues locally and globally, you will benefit from the Social Enterprise and Impact Locally and Globally Course (Social Enterprise). Social Enterprise is designed for those who have a practitioner’s interest in the development, leadership, and management of the evolving nonprofit sector and their interaction with the socially conscious private sector and government. The course takes the student through the process of developing a mock social enterprise including idea exploration, testing and plan execution and provides the student with essential strategies and tools to conduct in-depth analysis of a social enterprise leading to their application to a regional social enterprise. This course fulfills an elective for the MPA and the Certificate in Nonprofit Administration.

Taught by: Hansen-Turton, Tine; Torres, Nicholas
Course usually offered in spring term
Activity: Seminar
1 Course Unit

GAFL 548 Grant Writing

This course will provide students with the role of the foundation in philanthropy, what it does, how it does it, and what you need to know to be both an effective foundation manager and foundation grant seeker. From the foundation side, the course will include strategic planning, assessment of project results, and the responsibilities of the foundation grant program officer. From the grant seeker side, it will include identifying the appropriate foundations, making the connection to the foundation, grant writing, and relationship management. Summer 2016 On-Campus Meetings: 9:30am-1:00pm Fridays and Saturdays May 20-1, June 24-5, and July 22-3

Taught by: Colleen Terrell
Activity: Hybrid Course
1 Course Unit

Notes: In Summer 2016 ONLY This is a "hybrid" course, with synchronous, online meetings and once-monthly, on-campus meetings at the Fels Institute of Government in Philadelphia, PA. On-campus meetings vary by term. Please read the description for dates and times. Also, please note there is an additional $150 online course fee.

GAFL 549 Leading Nonprofits

Leading Nonprofit Organizations is designed for those interested in leading and managing a nonprofit organization. It takes a practitioners perspective on strategic realities of modern practice. Each section will seek to rapidly orient a new manager to the complexities, strategic issues, & politics. The course is taught through a combination of theory and practice using selected readings, lectures, guest presentations, group activities (Mock senior staff discussions) and field assignments (pairing with area nonprofit leader and attendance at one of the organizations board meetings.)

Course usually offered summer term only
Activity: Lecture
1 Course Unit

Notes: The Summer 2017 offering of this course is a hybrid course with an additional $150 online course fee. The course meets online weekly on Mondays from 7:45-8:45pm and on-campus on the following Fridays from 9:30am-1pm May 19, June 23, and July 21 and on the following Saturdays from 9:30-1pm May 20, June 24, and July 22.

GAFL 550 Organizational Diagnosis

This course will help participants learn the skills involved in conducting a systemic, organizational diagnosis. Applying organizational diagnosis skills can help organizations make more effective, evidence-based decisions; increase an organization’s ability to learn and to apply these learnings; increase organizational effectiveness; and, often, save organizations from flawed and detrimental actions. The course places an emphasis on systems thinking, psychodymanic organizational theory, and appreciative inquiry as ways into understanding organizational issues and problems. Frequently, when organizations find themselves in trouble, e.g. problems in the system about such things as lack of leadership, poor communication, diminished productivity, low morale, etc., there is a tendency to frame the problem(s) simplistically and/or locate blame on a few difficult individuals or groups. However, upon closer examination, problematic issues are often found to be symptomatic and/or symbolic of multiple issues within the organization. This course will help participants to understand how problems, which appear, at one level of the system, (e.g. at the personal or interpersonal level) often represent problems at other levels of the system (e.g. at the group and/or institutional level), or signify a range of inter-related issues. Emphasis will be placed on the diagnostic skills needed to examine government agencies, non-profits, and bureaucracies. It will provide participants with the theoretical constructs and application skills necessary for identifying and framing problem areas, collecting data, and organizing feedback to client systems. Real-time examples will inform our discussions as we consider the relationship between diagnosis, organizational reflection, and appropriate action.

Activity: Hybrid Course
1 Course Unit

Notes: This is a "hybrid" course, with synchronous, online meetings and once-monthly, on-campus meetings at the Fels Institute of Government in Philadelphia, PA. Weekends vary by term. There is a $150 online course fee.

GAFL 551 Lobbying

In a system of representative government, organizations and individuals with interests at stake often seek the support of a government relations professional. This course addresses government relations from the varying perspectives of the current or aspiring professional, the client, and the government official. It is designed to provide the students with an introduction to government affairs and lobbying at the local, state, and federal levels of government and to illustrate how lobbying and the lobbyists shape and affect public policy. The course is not designed as a how-to in lobbying, but, rather, it is designed to expose students to lobbying and, more importantly, the lobbying process. To that end, students will draw on many disciplines, such as psychology, law, history, political science, urban affairs, economics, foreign policy, domestic policy, and others, to understand the complex mosaic of the lobbying and legislative processes.

Course not offered every year
Activity: Lecture
1 Course Unit

GAFL 555 Using the Political Process to Effect Organizational Change

Course usually offered in spring term
Also Offered As: DYNM 655

Prerequisites: Course permits must be requested at https://www.sas.upenn.edu/lps/graduate/dynamics/course-permit

Activity: Seminar
1 Course Unit

Notes: For additional information, please see our website at: http://www.organizationaldynamics.upenn.edu
**GAFL 561 Media Relations**
This course is designed to help you better understand the role and practice of media relations and messaging in corporate, non-profit, and government organizations in this new media era. You will learn how to research media and reporters, develop messages, build strategic media plans, generate media coverage, serve as spokespeople, handle crisis situations, and use new media strategies. You will hear from public relations professionals on such topics as working with reporters, developing PR campaigns, and creating effective web outreach programs. Class discussions, reading assignments, research and writing projects, group projects, and case studies offer an engaging and interactive learning environment to expand and apply your knowledge of media relations and messaging. Summer 2017 On-Campus Meetings are 9:30am-1:00pm on Fridays—May 19, June 23, and July 21 and Saturdays—May 20, June 24, and July 22.
Taught by: Frank Igwe
Course usually offered summer term only
Activity: Hybrid Course
1 Course Unit
Notes: This is a "hybrid" course, with synchronous, online meetings and once-monthly, on-campus meetings in Philadelphia, PA. On-campus meetings vary by term. Please read the description for dates and times. Also, please note there is an additional $150 online course fee.

**GAFL 569 The Politics of Housing and Urban Development**
This course offers an exploration of how legislative action, government policymaking, and citizen advocacy influence plans for the investment of public capital in distressed urban neighborhoods. Course topics this semester will include an evaluation of the results of City of Philadelphia development policies under the administration of former Mayor Michael A. Nutter, as well as consideration of plans being undertaken by the administration of Mayor James F. Kenney, who took office in January. The course will also include an assessment of a large-scale property acquisition and development strategy being implemented by the Philadelphia Housing Authority in North Philadelphia and a review of recent and current reinvestment proposals for Camden's waterfront and downtown-area neighborhoods.
Taught by: Kromer
Course usually offered fall term
Also Offered As: CPLN 625, URBS 451
Activity: Lecture
1 Course Unit

**GAFL 599 Independent Study**
Activity: Independent Study
1 Course Unit

**GAFL 612 Quantitative Methods for Policy Analysis**
This course will help students learn how to make evidence-based decisions in a public sector context. The course will introduce important data analysis skills and help students evaluate the quality of studies undertaken to measure the impact of public policies and programs. This course will meet on-campus on the following Fridays from 9:30am-1pm and on the following Saturdays from 2-5:30pm: Fridays September 8, October 13, November 10, and December 1; Saturdays September 9, October 14, November 11, and December 2. This course will meet online on Mondays 6:45-7:45pm.
Taught by: Robertson-Kraft, Claire
Course usually offered spring term
Activity: Hybrid Course
1 Course Unit
Notes: This is a "hybrid" course, with synchronous, online meetings and once-monthly, on-campus meetings at the Fels Institute of Government in Philadelphia, PA. Weekends vary by term. Please read the course description for further information.

**GAFL 621 Public Economics**
This course provides students with the knowledge required to understand government operations in relation to the market economy. In theory of supply and demand, students explore the pricing mechanism, price elasticity, and the effects of price controls on markets. Efficiency is examined in connection with competition and again in connection with equity, and market failure is considered as a reason for government intervention. Cost-benefit analysis is examined in the context of selecting among public investment alternatives. The course also assists students in addressing issues connected with local public goods and economic development.
Taught by: Sieg, Holger Wolfgang
Course usually offered fall term
Activity: Lecture
1 Course Unit

**GAFL 623 Leading People**
Leading People focuses on Strategic Human Resource Management (SHRM), the combination of human resource management (HRM) and the strategic direction of the organization, whether public or non-profit. This course will examine the theory and principles of SHRM as they relate to job analysis, recruitment and selection, compensation, benefits, training and career development, performance management, and labor-management relations. Learning to deal with the daily SHRM challenges makes leaders and managers more effective and more valuable to the organization. Summer 2017 On-Campus Meetings are 9:30am-1:00pm on Fridays—May 19, June 23, and July 21 and Saturdays—May 20, June 24, and July 22.
Taught by: Jones
Course usually offered summer term only
Activity: Hybrid Course
1 Course Unit
Notes: This is a "hybrid" course, with synchronous, online meetings and once-monthly, on-campus meetings in Philadelphia, PA. On-campus meetings vary by term. Please read the description for dates and times. Also, please note there is an additional $150 online course fee.
GAFL 631 Policy Making & Public Institutions
This course introduces students to the theories and practice of the policy-making process. There are four primary learning objectives. First, understanding how the structure of political institutions matter for the policies that they produce. Second, recognizing the constraints that policy makers face when making decisions on behalf of the public. Third, identifying the strategies that can be used to overcome these constraints. Fourth, knowing the toolbox that is available to participants in the policy-making process to help get their preferred strategies implemented. While our focus will primarily be on American political institutions, many of the ideas and topics discussed in the class apply broadly to other democratic systems of government. The class will be a mix of lecture and cases. Cases are on a diverse set of policy topics, with a goal of illustrating broad themes about the policy-making process rather than the specifics of certain policy areas.
Taught by: Meredith, Marc
Course usually offered in spring term
Activity: Lecture
1 Course Unit
Notes: This course is a core requirement for the full-time MPA program at the Fels Institute of Government. Permits will not be issued to non-Fels students.

GAFL 640 Program Evaluations and Data Analysis
One of the trademarks of the 21st century public management is the usage of data and analysis in the decision-making process. A successful public leader will use empirical evidence to guide her decisions. She knows what types of data and analysis she should ask her analysts to collect and conduct, how to consume the results they generate, and how to transform the analytical results into effective communication with stakeholders. This class will help you become that 21st century public leader. My goal for this class is to teach you fundamental ideas of performance management, program evaluation, and data analysis. At the end of this course, you will understand key principals of performance measures and program evaluation; be able to process, manage, and analyze quantitative data using Excel; and learn to write basic programming tasks using R. I picked Excel because it is a standard software that most organizations already have. It is not an ideal software to conduct sophisticated statistical analysis, but being a power-user of Excel will make you a valued employee. I will teach you how to use it to conduct reproducible analysis using R. It is the future of quantitative analysis. Most importantly, it is free. Knowing how to use R is an attractive skill for your employer. In addition, I will teach you how to transform analytical results into effective communication.
Taught by: Lim, Nelson
Course usually offered in spring term
Activity: Lecture
1 Course Unit
Notes: This course is a requirement for MPA full-time students who started in Fall 2015 or later. It is an elective for MPA full-time students who started Fall 2014 or earlier.

GAFL 641 Program Evaluations & Data Analysis--Hybrid Format
This course introduces program evaluation in the context of research methods. Students learn about design and the application of data collection skills to all phases of program/service delivery from needs assessment to analysis of findings to implementation of changes based on results. Students learn to appreciate how these skills can be used as practical tools for identifying problems to developing and implementing programs. This applied course provides students with practical experiences to apply guidelines of evaluation and research methods in actual program evaluation projects in the Philadelphia region. Summer 2017 On-Campus Meetings are 2:00pm-5:30pm on Fridays–May 19, June 23, and July 21 and Saturdays–May 20, June 24, and July 22 Taught by: Claire Robertson-Kraft
Course usually offered summer term only
Prerequisites: GAFL 612 Quantitative Methods for Policy Analysis with grade of B or higher. First-Year Exec MPA Students ONLY
Activity: Hybrid Course
1 Course Unit
Notes: This is a "hybrid" course, with synchronous, online meetings and once-monthly, on-campus meetings at the Fels Institute of Government in Philadelphia, PA. On-campus meetings vary by term. Please read the description for dates and times. Also, please note there is an additional $150 online course fee.

GAFL 651 Public Financial Management
This course provides an introduction to the fundamentals of accounting and budgeting for government and nonprofit organizations. The course is designed for students with little or no background in financial reporting, budgeting, and financial management. "Accounting and budgeting must be recognized as separate systems that must interact in a complementary manner if managers are to exercise control of the financial resources of their organizations" (Garner, 1991).
Taught by: Levine, Carolyn
Course usually offered in spring term
Activity: Lecture
1 Course Unit
Notes: This course satisfies a core requirement in the Master of Public Administration and the Certificate of Public Finance.

GAFL 652 Financial Management of Public and Nonprofit Organizations
This course provides an introduction to financial management principles for public and nonprofit organizations. The primary objective of this course is to demystify financial information and improve students ability to effectively engage in financial discussions, regardless of their role in the organization. This course will be focused on the vocabulary and tools necessary to interpret, analyze, and properly communicate financial information in order to develop and execute an appropriate financial strategy. On-campus meetings for Spring 2017 will be on Fridays from 2pm-5:30pm on Jan. 13, Feb. 17, Mar. 17, and Apr. 21 and on Saturdays from 9:30am-1pm Jan 14, Feb. 18, Mar. 18, and Apr. 22. The class will meet online weekly on Mondays 7:15-8:15pm.
Taught by: Dingley, Julie
Course usually offered in spring term
Activity: Hybrid Course
1 Course Unit
Notes: This is a "hybrid" course, with synchronous, online meetings and once-monthly, on-campus meetings at the Fels Institute of Government in Philadelphia, PA. On-campus meetings vary by term. Please read the description for dates and times. Also, please note there is an additional $150 online course fee.
**GAFL 710 Negotiations**
This course will meet in-person from 9:30am-1:00pm on the following Fridays and Saturdays: September 8-9, October 13-14, November 10-11, December 1-2. This course will meet virtually Mondays 7:00-8:00pm.
One-term course offered either term
Activity: Hybrid Course
1 Course Unit
Notes: This is a "hybrid" course, with synchronous, online meetings and once-monthly, on-campus meetings at the Fels Institute of Government in Philadelphia, PA. Weekends vary by term. There is a $150 online course fee.

**GAFL 716 Campaign Management: How to Run and Win**
This is a practical course designed to impart the elements of a successful political campaign for public office to the student. Study will focus on the local campaign and how it is planned, organized, executed and funded. Local practitioners will augment course sessions to provide interaction between the student and those who have successfully run campaigns, raised funds, and been elected.
Taught by: Smith
Course usually offered in fall term
Activity: Lecture
1 Course Unit

**GAFL 719 Advanced Budgeting**
The course will build on the fundamentals taught in the introductory budgeting unit to help build students' competence in budgetary analysis. Using detailed data from a major city as a course-long case study, and incorporating excel skill-building exercises, students will develop hands-on understanding of budgets by working through such factors as economic drivers of fiscal performance, revenue analysis and forecasting, including tax policy considerations; expenditure analysis and projection, with an emphasis on workforce costs; and capital budgeting and financing. Students will also be introduced to key fiscal policies, budget monitoring and performance measurement, and the development of effective budget communications for various audiences.
Taught by: Nadol and Westerman
Course usually offered in fall term
Activity: Seminar
1 Course Unit

**GAFL 732 Public Management**
This core MPA course is intended to help each student to learn more than he or she already knows about public management both as a profession and as a field of academic study and to enjoy the company of supportive peers, instructors, and special guests as he or she contemplates a post-mpa career in governance. This course satisfies a core requirement in the Master of Public Administration full-time program.
Taught by: Dilullo & Mulhern
Two terms. student may enter either term.
Activity: Seminar
1 Course Unit

**GAFL 733 Public Management (MPA Executive Section)**
Overview—Public managers must have technical expertise in planning, staffing, and budgeting; however, technical skills alone are not sufficient to become an effective public manager. You must understand the socio-political context of your organization and your success will be dependent on your ability to analyze policy options and persuade stakeholders and supervisors, through effective communications, to pursue the policy options you recommend. Public managers in the 21st century must also understand the ever increasing diversity of their constituents and stakeholders. Economic globalization and international migration continue to increase the the racial and ethnic diversity of our workforce. Diversity begets complexity and tension. Effective public managers must learn to lead inclusive organizations that leverage diversity and defuse tensions among heterogeneous constituents and stakeholders.
Learning objectives The goal for this class is to expand your knowledge about public management, both as a profession and as a field of study. At the end of this course, you will understand key competencies of an effective public manager, demonstrate your understanding through class discussions, weekly reading notes, a group case study analysis and presentation, and a policy memo that analyzes management dilemmas and proposes responses. To accomplish this goal, we will go beyond passive learning from classroom lectures. We will have a few guest speakers whose expertise will complement readings. We expect you to be prepared and to participate in classroom discussions, engage practicing public administrators and accomplished researchers in seminars/ workshops, and learn to draft policy briefs and policy memos completing scenario-based assignments.
Taught by: Jones, Darrell D.
Course usually offered in spring term
Activity: Hybrid Course
1 Course Unit
Notes: This is a "hybrid" course, with synchronous, online meetings and once-monthly, on-campus meetings in Philadelphia, PA. On-campus meetings vary by term. Please read the description for dates and times. Also, please note there is an additional $150 online course fee.

**GAFL 735 The Performance Imperative**
The course will explore the critical role of performance measurement in improving management, particularly for public sector entities. This will include the examination of fundamental principles of performance measurement, the identification and application of different performance measurement techniques and strategies, and the evaluation of best practices within the field. Topics to be covered include the evolution and adaptation of "Stat-ing" (e.g., CompStat, CitiStat, StateStat), the relationship between performance measurement and financial management, and how performance measurement can be used to inform different analytic techniques. On-campus meetings for Spring 2017 will be on Fridays from 9:30am-1pm on Jan. 13, Feb. 17, Mar. 17, and Apr. 21 and on Saturdays from 2-5:30pm on Jan 14, Feb. 18, Mar. 18, and Apr. 22. The class will meet online weekly on Mondays 8:45 to 9:45pm.
Taught by: Gallagher & Blauer
One-term course offered either term
Activity: Hybrid Course
1 Course Unit
Notes: This is a "hybrid" course, with synchronous, online meetings and once-monthly, on-campus meetings at the Fels Institute of Government in Philadelphia, PA. Weekends vary by term. Please read the course description for further information.

**GAFL 797 Capstone Fieldwork**
Activity: Masters Thesis
0 Course Units
GAFL 799 MPA Capstone
The completion of a capstone project is one of the academic requirements for the Master of Public Administration (MPA) at the University of Pennsylvania's Fels Institute of Government. The capstone project represents a way for graduate students to apply their multidisciplinary learning from the program to a specific public administration challenge(s) or issue(s). To successfully complete a capstone project, a student must receive a passing grade for his or her capstone paper and associated briefing. The student's capstone paper resembles a policy memo that an administrative staff writes to decision makers and stakeholders. The paper integrates and deepens the student's learning from the program. More importantly, the capstone paper provides a way for a student to bring her/his learning and knowledge from the program back into her/his chosen career. The research focus should be one that is of great interest to the student as well as one from which a potential organization will benefit.

Taught by: Nelson Lim--MPA Full-Time Format; Claire Robertson-Kraft--MPA Exec Format
One-term course offered either term
Activity: Seminar
0 Course Units
Notes: In Summer ONLY, This is a "hybrid" course, with synchronous, online meetings and once-monthly, on-campus meetings in Philadelphia, PA. On-campus meetings vary by year. Please read the description for dates and times. Also, please note there is an additional $150 online course fee for hybrid offerings.

Graduate Arts & Sciences (GAS)

GAS 600 English Language Skills
For prospective International Teaching Assistants seeking English fluency certification, this course emphasizes the development of oral academic discourse skills and practices prominent features of spoken English that promote successful communication in academic settings, including intelligibility, active listening skills, grammar.

Taught by: Theodoropulos
Course usually offered in fall term
Activity: Lecture
1 Course Unit
Notes: Offered through Penn Language Center.

Greek (GREK)

GREK 015 Elementary Modern Greek I
This course is designed for students with no prior knowledge of the modern Greek Language. Instructions are theme based and is supported by a Textbook as well as other written or audiovisual material. It provides the framework for development of all communicative skills (reading, writing, comprehension and speaking) at a basic level. The course also introduces students to aspects of Modern Greek culture that are close to students' own horizon, while it exposes them to academic presentations of Greek history, arts, and current affairs. Quizzes, finals and short individual work with presentation are the testing tools. The completion of this unit does NOT satisfy the language requirement.

For BA Students: Language Course
Taught by: Tsekoura
Course not offered every year
Activity: Lecture
1 Course Unit
Notes: Offered through Penn Language Center.

GREK 016 Elementary Modern Greek II
Continuation of Elementary Modern Greek I, with increased emphasis on reading and writing.

For BA Students: Language Course
Taught by: Tsekoura
Course not offered every year
Prerequisites: GREK 015 or equivalent.
Activity: Lecture
1 Course Unit
Notes: Offered through Penn Language Center.

GREK 017 Intermediate Modern Greek I
This course is designed for students with an elementary knowledge of Demotic Modern Greek, and aims mainly at developing oral expression, reading and writing skills.

For BA Students: Language Course
Taught by: Tsekoura
Course not offered every year
Prerequisites: GREK 015 and 016 or equivalent.
Activity: Lecture
1 Course Unit
Notes: Offered through Penn Language Center.

GREK 018 Intermediate Modern Greek II
Further attention to developing oral expression, reading, and writing skills for students with knowledge of Demotic Modern Greek.

For BA Students: Last Language Course
Taught by: Tsekoura
Course not offered every year
Prerequisites: GREK 015, 016, and 017 or equivalent.
Activity: Lecture
1 Course Unit
Notes: Offered through Penn Language Center.

GREK 101 Elementary Classical Greek I
Intensive introduction to Classical Greek morphology and syntax. This course includes exercises in grammar, Greek composition, and translation from Greek to English. Emphasis is placed upon developing the ability to read Greek with facility.

For BA Students: Language Course
Taught by: Nishimura-Jensen
Course usually offered in fall term
Activity: Seminar
1 Course Unit

GREK 102 Elementary Classical Greek II
Students complete their study of the morphology and syntax of Classical Greek. We begin the semester with continuing exercises in grammar and translation, then gradually shift emphasis to reading unadapted Greek texts.

For BA Students: Language Course
Taught by: Nishimura-Jensen
Course usually offered in spring term
Prerequisites: GREK 101 or equivalent.
Activity: Seminar
1 Course Unit
GREK 112 Intensive Elementary Classical Greek
An introduction to the ancient Greek language for beginners, with explanation of basic grammatical concepts and intensive exercises in reading and writing. Ideal for undergraduates or graduate students from Penn or elsewhere with some background in learning other languages, or who need to learn Greek rapidly. The course covers the first year of college-level Greek, equivalent to GREK 101 + GREK 102 at more than twice the normal pace. For further information on Penn's Greek curriculum, visit the Classical Studies department website.
Course usually offered summer term only
Activity: Seminar
2 Course Units

GREK 115 Greek/Heritage Speakers I
This course is intended to help Heritage Speakers or student with prior knowledge of conversational modern Greek (or even Ancient Greek) to refresh or enrich their knowledge of modern Greek and who would not be a good fit for the elementary or intermediate classes. A theme-based textbook and instructions along with a comprehensive overview of grammar as a whole is presented while original text, songs, video and other media are used in order to augment vocabulary and increase fluency in modern Greek. Students are expected to properly use the language, do theme-based research on the themes examined and provide written work on various subjects and make conversation in class.
Presentations on researched topics account for final exam.
For BA Students: Language Course
Taught by: Tsekoura
One-term course offered either term
Activity: Lecture
1 Course Unit

GREK 116 Greek/Heritage Speakers II
It is the continuation of GREK 115 with completing Grammar (passive voice as well as unusual nouns and adjectives etc.) and adding more challenging reading and writing material. The completion of this course satisfies the language requirement. ALL students completing the HSI GREK 115 are eligible to enroll. ALL OTHERS will have to take a placement test.
For BA Students: Last Language Course
Taught by: Tsekoura
Course usually offered in spring term
Activity: Lecture
1 Course Unit

GREK 203 Intermediate Classical Greek: Prose
This course is for those who have completed Ancient Greek 102, Greek 112 or equivalent. You are now ready to begin reading real Greek! We will read a selection of passages from Greek prose authors, focusing on language and style.
For BA Students: Language Course
Course usually offered in fall term
Prerequisites: GREK 102, GREK 112 or equivalent
Activity: Seminar
1 Course Unit

GREK 204 Intermediate Classical Greek: Poetry
We will read a selection of passages from Greek poetic authors, ranging from Homer to tragedy.
For BA Students: Last Language Course
Course usually offered in spring term
Prerequisites: GREK 203 or equivalent.
Activity: Seminar
1 Course Unit

GREK 212 Intensive Intermediate Greek
An introduction to the basic history and conventions of Greek prose and poetry, with continuous readings from classical authors accompanied by grammar review and exercises. Ideal for undergraduates or graduate students from Penn or elsewhere who have completed the equivalent of one year Greek (e.g., GREK 112). The course covers the second year of college-level Greek, equivalent to GREK 203 + GREK 204 at more than twice the normal pace.
For BA Students: Last Language Course
Course usually offered summer term only
Activity: Seminar
2 Course Units

GREK 309 Topics in Greek Literature
Close reading and discussion of a Greek author or a particular genre of Greek literature. Topics will vary each semester, and the course may be repeated for credit.
One-term course offered either term
Prerequisite: GREK 204
Activity: Seminar
1 Course Unit

GREK 401 Greek for Advanced Students
For graduate students in other departments needing individualized study in Greek literature.
For BA Students: Advanced Language Course
Course not offered every year
Activity: Seminar
1 Course Unit

GREK 540 The Greek Text: Language and Style
What do we need to read texts in ancient Greek? In this course we read just one prose text and one poetic text, or a very limited number of texts and passages, with a focus on language and formal analysis (such as diction, grammar, stylistics, metrics, rhetoric, textual criticism). A range of exercises will be used to develop these skills, including composition, lexical studies, recitation, memorization, exegesis, written close-readings, and sight-translation.
Course not offered every year
Activity: Seminar
1 Course Unit

GREK 541 Greek Literary History
We survey an extensive range of readings in a variety of authors in both prose and poetry and consider the problems and opportunities for composing a literary history.
Course not offered every year
Activity: Seminar
1 Course Unit

GREK 600 Graduate Greek Seminar
Topics will vary
One-term course offered either term
Activity: Seminar
1 Course Unit

GREK 611 Greek Epigraphy
An introduction to the principles and practices of Greek Epigraphy. Study of selected Greek inscriptions.
Taught by: McInerney
Course not offered every year
Also Offered As: AAMW 611, ANCH 611, CLST 611
Activity: Seminar
1 Course Unit
GREK 990 Masters Thesis
One-term course offered either term
Activity: Masters Thesis
1 Course Unit

GREK 998 Supervised Reading
One-term course offered either term
Activity: Independent Study
1 Course Unit

GREK 999 Independent Study
For doctoral candidates.
One-term course offered either term
Activity: Independent Study
1 Course Unit

**Gujarati (GUJR)**

GUJR 402 Beginning Gujarati Part I
During the first year of Gujarati, major emphasis is placed on acquiring phonetics, grammatical patterns, and basic vocabulary. These goals are accomplished through guided drills and conversations accompanied by formal instruction on Gujarati grammar. From the outset, students are also taught the Gujarati writing system, which is used for all materials. By the end of the first year of instruction, student should be able to carry on coherent conversations on selected topics, read simple texts and compose short pieces in Gujarati.
For BA Students: Language Course
Course usually offered in fall term
Activity: Lecture
1 Course Unit

GUJR 403 Beginning Gujarati Part II
During the first year of Gujarati, major emphasis is placed on acquiring phonetics, grammatical patterns, and basic vocabulary. These goals are accomplished through guided drills and conversations accompanied by formal instruction on Gujarati grammar. From the outset, students are also taught the Gujarati writing system, which is used for all materials. By the end of the first year of instruction, student should be able to carry on coherent conversations on selected topics, read simple texts and compose short pieces in Gujarati.
For BA Students: Language Course
Course usually offered in spring term
Prerequisites: Beginning Gujarati Part I or equivalent ascertained through placement test or permission of instructor.
Activity: Seminar
1 Course Unit

GUJR 422 Intermediate Gujarati Part I
This course is designed as a continuation of beginning Gujarati. The course objectives are to expand the mastery of sentence patterns and augment vocabulary and its usage through intensive grammar and comprehension exercises. A special emphasis will be placed on greater cultural awareness. Upon completion of this course students should be able to interact socially with added confidence and greater expressiveness. Students should also experience a great improvement in their comprehension of spoken and written language. During the second year of Gujarati, students are introduced to progressively more difficult reading selections, along with additional instructions in the formal grammar of the language. To maintain and develop oral and aural command of the language, readings are discussed in Gujarati. To develop their writing abilities, students are also expected to compose short essays on their readings.
For BA Students: Language Course
Two terms. student must enter first term.
Activity: Lecture
1 Course Unit

GUJR 423 Intermediate Gujarati Part II
For BA Students: Last Language Course
Taught by: Suthar, B
Course usually offered in spring term
Prerequisites: Intermediate Gujarati Part I or equivalent ascertained through placement test or permission of instructor.
Activity: Lecture
1 Course Unit

**Health & Societies (HSOC)**

HSOC 001 Emergence of Modern Science
During the last 500 years, science has emerged as a central and transformative force that continues to reshape everyday life in countless ways. This introductory course will survey the emergence of the scientific world view from the Renaissance through the end of the 20th century. By focusing on the life, work, and cultural contexts of those who created modern science, we will explore their core ideas and techniques, where they came from, what problems they solved, what made them controversial and exciting and how they relate to contemporary religious beliefs, politics, art, literature, and music. The course is organized chronologically and thematically. In short, this is a “Western Civ” course with a difference, open to students at all levels.
For BA Students: Hum/Soc Sci or Nat Sci/Math Sector
Taught by: Kucuk
Course usually offered in fall term
Also Offered As: STSC 001
Activity: Lecture
1 Course Unit
HSOC 002 Medicine in History
This course surveys the history of medical knowledge and practice from antiquity to the present. No prior background in the history of science or medicine is required. The course has two principal goals: (1) to give students a practical introduction to the fundamental questions and methods of the history of medicine, and (2) to foster a nuanced, critical understanding of medicine's complex role in contemporary society. The course takes a broadly chronological approach, blending the perspectives of the patient, the physician, and society as a whole—recognizing that medicine has always aspired to "treat" healthy people as well as the sick and infirm. Rather than history "from the top down" or "from the bottom up," this course sets its sights on history from the inside out. This means, first, that medical knowledge and practice is understood through the personal experiences of patients and caregivers. It also means that lectures and discussions will take the long-discredited knowledge and treatments of the past seriously, on their own terms, rather than judging them by today's standards. Required readings consist largely of primary sources, from elite medical texts to patient diaries. Short research assignments will encourage students to adopt the perspectives of a range of actors in various historical eras.
For BA Students: History and Tradition Sector
Taught by: Barnes
Course usually offered in fall term
Also Offered As: HIST 036, STSC 002
Activity: Lecture
1 Course Unit

HSOC 003 Technology and Society
Technology plays an increasing role in our understandings of ourselves, our communities, and our societies, in how we think about politics and war, science and religion, work and play. Humans have made and used technologies, though, for thousands if not millions of years. In this course, we will use this history as a resource to understand how technologies affect social relations, and conversely how the culture of a society shapes the technologies it produces. Do different technologies produce or result from different economic systems like feudalism, capitalism and communism? Can specific technologies promote democratic or authoritarian politics? Do they suggest or enforce different patterns of race, class or gender relations? Among the technologies we'll consider will be large objects like cathedrals, bridges, and airplanes; small ones like guns, clocks and birth control pills; and networks like the electrical grid, the highway system and the internet.
For BA Students: Society Sector
Taught by: Benson
Course usually offered in spring term
Also Offered As: STSC 003
Activity: Lecture
1 Course Unit

HSOC 010 Health and Societies
"Two fundamental questions structure this course: (1) What kinds of factors shape population health in various parts of the world in the twenty-first century? and (2) What kinds of intellectual tools are necessary in order to study global health? Grasping the deeper "socialness" of health and health care in a variety of cultures and time periods requires a sustained interdisciplinary approach. "Health and Societies: Global Perspectives" blends the methods of history, sociology, anthropology and related disciplines in order to expose the layers of causation and meaning beneath what we often see as straightforward, common-sense responses to biological phenomena. Assignments throughout the semester provide a hands-on introduction to research strategies in these core disciplines. The course culminates with pragmatic, student-led assessments of global health policies designed to identify creative and cost effective solutions to the most persistent health problems in the world today.
For BA Students: Humanities and Social Science Sector
Taught by: McKay
Course usually offered in spring term
Activity: Lecture
1 Course Unit
Notes: Also fulfills General Requirement in Science Studies for Class of 2009 and prior

HSOC 032 Risky Business
This freshman seminar on medical decision making will focus on personal and public medical and health decisions - how we make them and how they can be improved. While in theory medical decisions are in large part both informed and constrained by scientific evidence, in reality they are much more complex. Drawing upon a range of information sources including original research and popular media, the seminar will introduce students to the challenges of making personal and public (i.e., policy) decisions under conditions of inherent uncertainty and resource constraint. We will examine how research and scholarship can inform and improve such decisions and decision making processes. Using a variety of approaches (class discussions, examination of primary research, popular media, simple experiments, expert guests) this highly interactive seminar will provide a strong introductory foundation to medical decision making specifically and, by extension, to decision making under conditions of uncertainty more generally.
Taught by: Schwartz
Course not offered every year
Also Offered As: STSC 032
Activity: Seminar
1 Course Unit

HSOC 039 The Healer's Tale: Negotiating Trust in Modern America
Dramatic, deadly, and terrifying in their brutal immediacy, outbreaks of epidemic disease have devastated and transformed human societies since the beginnings of recorded history. From the Black Death to cholera to AIDS, epidemics have wrought profound demographic, social, political and cultural change all over the world. Such is the power of their mystery and horror that while thousands die everyday in the United States from mundane illnesses such as heart disease or lung cancer, panic grips the land at the thought of a handful of deaths from seemingly exotic afflictions such as West Nile encephalitis and "weaponized" anthrax. Through a detailed analysis of specific historical outbreaks, this seminar will investigate the causes and effects of epidemic disease, and will examine the ways in which different societies in different eras have responded in times of crisis.
Taught by: Tighe
Course not offered every year
Activity: Seminar
1 Course Unit
HSOC 050 Mad, Bad and Sad: The Construction, Prevention and Treatment of Mental Illness
This freshmen seminar is designed to introduce students to research and debates surrounding the concept of mental disorder and to help them to think critically about these disorders’ biological and social construction. In addition to learning about the presentation and treatment of mental illness, they will also be introduced to concepts in epidemiology, psychology, psychiatry and health services research, and learn about the history of the science surrounding psychiatry and how different beliefs at different times have influenced policy, systems, services and treatment. Taught by: Mandell Course not offered every year Activity: Seminar 1 Course Unit

HSOC 052 Autism Epidemic
The CDC estimates that 1 in 150 children have autism. Three decades ago, this number was 1 in 5,000. The communities in which these children are identified in ever increasing numbers are ill prepared to meet their needs. Scientists have struggled to understand the causes of this disorder, its treatment, and why it appears to be rapidly increasing. Families, policy makers, schools and the healthcare system have argued bitterly in the press and in the courts about the best way to care for these children and the best ways to pay for this care. In this class, we will use autism as a case study to understand how psychiatric and developmental disorders of childhood come to be defined over time, their biological and environmental causes identified, and treatments developed. We will also discuss the identification and care of these children in the broader context of the American education and healthcare systems. Taught by: Mandell Course not offered every year Activity: Seminar 1 Course Unit

HSOC 059 Medical Missionaries and Partners
Global health is an increasingly popular goal for many modern leaders. Yet critics see evidence of a new imperialism in various aid programs. We will examine the evolution over time and place of programs designed to improve the health of underserved populations. Traditionally categorized as public health programs or efforts to achieve a just society, these programs often produce results that are inconsistent with these goals. We will examine the benefits and risks of past programs and conceptualize future partnerships on both a local and global stage. Students should expect to question broadly held beliefs about the common good and service. Ultimately we will examine the concept of partnership and the notion of community health, in which ownership, control, and goals are shared between outside expert and inside community member. Taught by: Bream Course not offered every year Activity: Seminar 1 Course Unit

HSOC 100 Introduction to Sociological Research
One of the defining characteristics of all the social sciences, including sociology, is a commitment to empirical research as the basis for knowledge. This course is designed to provide you with a basic understanding of research in the social sciences and to enable you to think like a social scientist. Through this course students will learn both the logic of sociological inquiry and the nuts and bolts of doing empirical research. We will focus on such issues as the relationship between theory and research, the logic of research design, issues of conceptualization and measurement, basic methods of data collection, and what social scientists do with data once they have collected them. By the end of the course, students will have completed sociological research projects utilizing different empirical methods, be able to evaluate the strengths and weaknesses of various research strategies, and read (with understanding) published accounts of social science research. Taught by: Armenta, Harknett, Koppel, Park, Smith, Wilde One-term course offered either term Also Offered As: SOCI 100 Activity: Lecture 1 Course Unit

HSOC 107 Science, Technology & Medicine in Colonial India
In this course we will explore the broad contours of the histories of Science, Medicine and Technology in Colonial India (c. 1757-1947). This broad overview will be developed each week through a case study based on any one particular scientific discipline, technological project or medical event. Overall the course will attempt to locate the development of science, technology and medicine within the social, political and cultural context of colonial India. It is also worth noting that 'Colonial India', will include discussions of regions which today make up the Republic of India, Pakistan and Bangladesh. Taught by: P. Mukarji One-term course offered either term Also Offered As: STSC 107 Activity: Seminar 1 Course Unit

HSOC 110 Science and Literature
This course will explore the emergence of modern science fiction as a genre, the ways it has reflected our evolving conceptions of ourselves and the universe, and its role as the mythology of modern technological civilization. We will discuss such characteristic themes as utopias, the exploration of space and time, biological engineering, superman, robots, aliens, and other worlds—and the differences between European and American treatment of these themes. For BA Students: Arts and Letters Sector Taught by: Adams Course usually offered in spring term Also Offered As: COML 074, ENGL 075, HIST 117, STSC 110 Activity: Lecture 1 Course Unit
HSOC 111 Health of Populations.
This course develops some of the major measures used to assess the health of populations and uses those measures to consider the major factors that determine levels of health in large aggregates. These factors include disease environment, medical technology, public health initiatives, and personal behaviors. The approach is comparative and historical and includes attention to differences in health levels among major social groups.
Taught by: Kohler
One-term course offered either term
Also Offered As: SOCI 111
Activity: Lecture
1 Course Unit

HSOC 123 Darwin's Legacy: The Evolution of Evolution
Darwin's conceptions of evolution have become a central organizing principle of modern biology. This course will explore the origins and emergence of his ideas, the scientific work they provoked, and their subsequent re-emergence into modern evolutionary theory. In order to understand the living world, students will have the opportunity to read and engage with various classic primary sources by Darwin, Mendel, and others. The course will conclude with guest lectures on evolutionary biology today, emphasizing current issues, new methods, and recent discoveries. In short, this is a lecture course on the emergence of modern evolutionary biology—its central ideas, their historical development and their implications for the human future.
For BA Students: Living World Sector
Taught by: Gil-Riano
Course usually offered in spring term
Also Offered As: STSC 123
Activity: Lecture
1 Course Unit

HSOC 135 The Politics of Food
In this ABCS and Fox Leadership Program course students will use course readings and their community service to analyze the institutions, ideas, interests, social movements, and leadership that shape “the politics of food” in different arenas. Service sites include: the Agatston Urban Nutrition Initiative; the Greater Philadelphia Coalition Against Hunger; the West Philadelphia Recess Initiative; the Vetri Foundation’s Eatiquette Program; and Bon Appetit at Penn. Academic course work will include weekly readings, Canvas blog posts, several papers, and group projects. Service work will include a group presentation (related to your placement) as well as reflective writing during the semester. Typically one half of each class will be devoted to a discussion of the readings and the other either to group work and discussion of service projects, or to a course speaker. This course is affiliated with the Communication within the Curriculum (CWIC) program, and student groups are required to meet twice with speaking advisors prior to giving presentation.
Taught by: Summers
Course not offered every year
Also Offered As: PSCI 135
Activity: Lecture
1 Course Unit

HSOC 140 History of Bioethics
This course is an introduction to the historical development of medical ethics and to the birth of bioethics in the twentieth-century United States. We will examine how and why medical ethical issues arose in American society at this time. Themes will include human experimentation, organ donation, the rise of medical technology and euthanasia. Finally, this course will examine the contention that the current discipline of bioethics is a purely American phenomenon that has been exported to Great Britain, Canada and Continental Europe.
Taught by: Linker
One-term course offered either term
Activity: Seminar
1 Course Unit

HSOC 145 Comparative Medicine
This course explores the medical consequences of the interaction between Europe and the “non-West.” It focuses on three parts of the world Europeans colonized: Africa, South Asia, and Latin America. Today's healing practices in these regions grew out of the interaction between the medical traditions of the colonized and those of the European colonizers. We therefore explore the nature of the interactions. What was the history of therapeutic practices that originated in Africa or South Asia? How did European medical practices change in the colonies? What were the effects of colonial racial and gender hierarchies on medical practice? How did practitioners of “non-Western” medicine carve out places for themselves? How did they redefine ancient traditions? How did patients find their way among multiple therapeutic traditions? How does biomedicine take a different shape when it is practiced under conditions of poverty, or of inequalities in power? How do today's medical problems grow out of this history? This is a fascinating history of race and gender, of pathogens and conquerors, of science and the body. It tells about the historical and regional roots of today's problems in international medicine.
For BA Students: History and Tradition Sector
Taught by: Mukharji
Course usually offered in fall term
Also Offered As: HIST 146, STSC 145
Activity: Lecture
1 Course Unit
HSOC 150 American Health Policy

"American Health Policy" places the success or failure of specific pieces of U.S. health care legislation into social and political context. The course covers the time period from the U.S. Civil War to the 2010 Affordable Care Act (ACA), addressing two central questions: 1) Why was the United States one of the only industrialized nations to, until recently, have a private, non-nationalized, non-federalized health care system? 2) Why has U.S. health insurance historically been a benefit given through places of employment? Some topics addressed include: private health insurance, industrial health and workmen's compensation, the welfare state (in Europe, Canada, and the U.S.), maternal and infant care programs, Medicare and Medicaid. One of the main take-home messages of the course is that 20th-century U.S. health care policies both reflected and shaped American social relations based on race, class, gender, and age. This course is a combination lecture and "SAIL" class. SAIL stands for "Structured, Active, In-Class Learning." During many class periods, students will work in small groups on a specific exercise, followed by a large group discussion and/or brief lecture. Students who choose to take this course, therefore, must be fully committed to adequately preparing for class and to working collaboratively in class. (Note: the 2015 format will be somewhat different from the 2014 format).

Taught by: Johnson
One-term course offered either term
Also Offered As: SOCI 152
Activity: Seminar
1 Course Unit

HSOC 152 Technology and Medicine in Modern America

Medicine as it exists in contemporary America is profoundly technological; we regard it as perfectly normal to be examined with instruments, to expose our bodies to many different machines; and to have knowledge produced by those machines mechanically/electronically processed, interpreted and stored. We are billed technologically, prompted to attend appointments technologically, and often buy technologies to protect, diagnose, or improve our health: consider, for example, HEPA-filtering vacuum cleaners; air-purifiers; fat-reducing grills; bathroom scales; blood pressure cuffs; pregnancy testing kits; blood-sugar monitoring tests; and thermometers. Yet at the beginning to the twentieth century, medical technologies were scarce and infrequently used by physicians and medical consumers alike. Over the course of this semester, we will examine how technology came to medicine's center-stage, and what impact this change has had on medical practice, medical institutions and medical consumers - on all of us!

Taught by: Johnson
Course usually offered summer term only
Also Offered As: STSC 162
Activity: Seminar
1 Course Unit

HSOC 157 Chinese Science

Taught by: Petrie
One-term course offered either term
Also Offered As: STSC 152
Activity: Lecture
1 Course Unit

HSOC 170 Ancient Greek Medicine

The history of modern medicine as we know it in the West is remarkably recent; until the nineteenth century prevailing theories of the body and mind, and the many therapeutic methods to combat disease, were largely informed by an elaborate system developed centuries earlier in ancient Greece, at a period when the lines between philosophy, medicine, and what we might consider magic, were much less clearly defined than they are today. This course will examine the ways in which the Greeks conceptualized the body, disease, and healing, and will compare these to medical culture of our own time. We will consider sources from Hippocrates, Plato, and Aristotle to Galen and Soranus, and whenever possible we will juxtapose these writings with modern discourse about similar topics. Several visitors from the Medical School are expected to participate on a regular basis. All readings will be in English and no previous background in Classical Studies is required.

Taught by: Rosen
Course not offered every year
Activity: Seminar
1 Course Unit

HSOC 179 Environmental History

This course provides an introduction to environmental history—the history of the interrelationship between humans and the rest of nature. In the words of historian J.R. McNeill, "Human history has always and will always unfold within a larger biological and physical context, and that context evolves in its own right. Especially in recent millennia, that context has co-evolved with humankind." In this course we will study this co-evolution between human actors and non-human actors in global history, analyzing political, social, cultural and economic factors that affect ideas about nature and material effects on nature. We will consider the concept of the Anthropocene and study current environmental changes and challenges.

Taught by: Greene, A
Course not offered every year
Also Offered As: STSC 179
Activity: Lecture
1 Course Unit

HSOC 202 The Scientific Revolution

During the 16th and 17th centuries, something that resembled modern science emerged from something that did not. Though the nature and cause of that transition are contested, there were unquestionably many pivotal developments in the content and conduct of science, and it is in this period that many of the 'founding' figures of science, from Copernicus to Galileo to Newton, are identified. This course will examine the many elements that went into the transition, including the revolution in cosmology, the revolt against ancient natural philosophy, the rise of experimentalism, the new philosophies of inquiry, new social structures for natural inquiry and the conceptual foundations of classical physics.

Taught by: VOELKEL
Course not offered every year
Also Offered As: STSC 202
Activity: Lecture
1 Course Unit
HSOC 206 Doing Good?: Humanitarianism and Global Health
This course will explore the current context of health policy, health reform, and health service delivery in the developing world. After examining global economic and political context of health care, students will analyze the role that economic development plays in promoting or undermining health. Students will examine key disease challenges such as tuberculosis, malnutrition, and HIV/AIDS.
Taught by: McKay
Course not offered every year
Activity: Seminar
1 Course Unit

HSOC 209 Race and Gender in Global Science
This course critically examines the creation of scientific conceptions of 'race' and 'sex' in the modern era and their global impact. How did 'race' and 'sex' come to be the primary categories through which human variation has been classified in the modern West? What concepts of 'race' and 'sex' did colonial scientists, doctors, naturalists, and other experts invent, and how and why did they do this? How have scientific conceptions of 'race' and 'sex' been adapted to fit the sociopolitical projects of formerly colonized regions? And how have recent developments in genomic science sought to reinvent these categories? With these questions in mind, this course challenges us to think critically about the political contexts in which conceptions of 'race' and 'sex' have been crafted as well as how they have been contested and re-defined.
Taught by: Gil-Riano
Course usually offered in spring term
Also Offered As: STSC 209
Activity: Seminar
1 Course Unit

HSOC 212 Science Technology and War
In this survey we explore the relationships between technical knowledge and war in the nineteenth and twentieth centuries. We attend particularly to the centrality of bodily injury in the history of war. Topics include changing interpretations of the machine gun as inhumane or acceptable; the cult of the battleship; banned weaponry; submarines and masculinity; industrialized war and total war; trench warfare and mental breakdown; the atomic bomb and Cold War; chemical warfare in Vietnam; and "television war" in the 1990s.
For BA Students: Humanities and Social Science S
Taught by: Lindee
Course not offered every year
Also Offered As: STSC 212
Activity: Lecture
1 Course Unit

HSOC 216 Gender and Health
Women's health is a constant refrain of modern life, prompting impassioned debates that speak to the fundamental nature of our society. Women's bodies are the tableaux across which politicians, physicians, healthcare professional, activists, and women themselves dispute issues as wide-ranging as individual versus collective rights, the legitimacy of scientific and medical knowledge, the role of the government in healthcare, inequalities of care, and the value of experiential knowledge, among many others. Understanding the history of these questions is crucial for informed engagement with contemporary issues.
Taught by: Linker
Course not offered every year
Also Offered As: GSWS 216
Activity: Seminar
1 Course Unit

HSOC 230 Fundamentals of Epidemiology
This course introduces students to the basic tenets of epidemiology and how to quantitatively study health at the population level. Students learn about measures used to describe populations with respect to health outcomes and the inherent limitations in these measures and their underlying sources of data. Analytic methods used to test scientific questions about health outcomes in populations then are covered, again paying particular attention to the strength and weaknesses of the various approaches. Multiple large epidemiologic research and field studies are used as in-class exemplars.
Course usually offered in spring term
Activity: Seminar
1 Course Unit

HSOC 232 Social Epidemiology
Illness, crime, and other instances of social dysfunction do not happen in a vacuum, nor are they distributed randomly throughout society. The field of social epidemiology examines the influence of workplace, neighborhood, social relationships, and other nonbiological factors on health outcomes. This course gives students the skills to explore and assess complex health challenges that are seen in popular media and public discourse by examining such factors as healthcare access, social inequality, racism and discrimination, and trust and social capital. Using readings, videos and interactive discussions with a focus on emergent health issues, this course equips students to diagnose and interpret underlying reasons for poor health using social epidemiological tools and to consider practical interventions to address those fundamental causes of illness.
Course not offered every year
Activity: Seminar
1 Course Unit

HSOC 238 Introduction to Medical Anthropology
Introduction to medical anthropology takes central concepts in anthropology — culture, adaptation, human variation, belief, political economy, the body — and applies them to human health and illness. Students explore key elements of healing systems including healing technologies and healer-patient relationships. Modern day applications for medical anthropology are stressed.
For BA Students: Humanities and Social Science S
Taught by: Barg
One-term course offered either term
Also Offered As: ANTH 238
Activity: Lecture
1 Course Unit
HSOC 239 Global Health: Anthropological Perspectives
In some parts of the world spending on pharmaceuticals is astronomical. In others, people struggle for survival amid new and reemerging epidemics and have little or no access to basic or life-saving therapies. Treatments for infectious diseases that disproportionately affect the world's poor remain under-researched and global health disparities are increasing. This interdisciplinary seminar integrates perspectives from the social sciences and the biomedical sciences to explore 1) the development and global flows of medical technologies; 2) how the health of individuals and groups is affected by medical technologies, public policy, and the forces of globalization as each of these impacts local worlds. This course is a Benjamin Franklin Seminar.
Taught by: Petryna
Course not offered every year
Also Offered As: ANTH 273
Activity: Seminar
1 Course Unit

HSOC 251 Foundations of Public Health
Many factors have shaped, and continue to shape, population health and public health policy. This course will explore the concept, mission, and core functions of public health. Students will have a chance to learn about its key methodological (epidemiology, biostatistics) and content (environmental health, social and behavioral sciences, health policy) areas. In addition, we will focus on topics of particular relevance to the current health of the public; topics likely will include the basics of life (food, water, and shelter) and topics of current interest (e.g., motor vehicle crashes, mental health, violence).
Taught by: Sorenson
One-term course offered either term
Activity: Lecture
1 Course Unit

HSOC 252 Law and Medicine
This course is intended to give students an in-depth understanding of the ways in which medical practice and medical decision-making are guided by modern American law. Students will learn how the law’s regulatory powers have been used to set boundaries in medicine and, in turn, how medical practice and theory have informed modern legal developments. The field of health care law sits at a crossroads where many of life’s “big questions” converge, and consequently is shaped, more than any other legal discipline, by social, ethical, cultural and economic influences. By the end of this course, students should have an understanding both of the current state of American health law, and of the social forces that have shaped its historical development.
Course not offered every year
Activity: Lecture
1 Course Unit

HSOC 271 Greek & Roman Medicine
The history of Western medicine is remarkably recent; until the nineteenth century prevailing theories of the body and mind, and many therapeutic methods to combat disease, were largely informed by an elaborate system developed centuries earlier in ancient Greece, at a period when the lines between philosophy, medicine, and what we might consider magic, were much less clearly defined than they are today. This course will examine the ways in which the Greeks, and then the Romans, conceptualized the body, disease, and healing, and will compare these to medical culture of our time. We will consider sources from Hippocrates, Plato, and Aristotle to Galen and Soranus, and will juxtapose these writings with modern discourse about similar topics. We will also pay some attention to ancient pharmacology and religious healing, and will visit the Penn Museum to see their collection of ancient medical instruments. All readings will be in English and no previous background in Classical Studies is required. This course will be especially appealing (and useful) to Pre-med and Nursing students, and to students interested in the History of Science, Ancient Philosophy, and Classics.
Taught by: Rosen
Course not offered every year
Also Offered As: CLST 271
Activity: Seminar
1 Course Unit
Notes: Fulfills History Tradition Distribution Requirement

HSOC 275 Medical Sociology
This course is designed to give the student a general introduction to the sociological study of medicine. Medical sociology is a broad field, covering topics as diverse as the institution and profession of medicine, the practice of medical care, and the social factors that contribute to sickness and well-being. While we will not cover everything, we will attempt to cover as much of the field as possible through four central thematic units: (1) the organization of development of the profession of medicine, (2) the delivery of health-care, (3) social cultural factors in defining health, and (4) the social causes of illness. Throughout the course, our discussions will be designed to understand the sociological perspective and encourage the application of such a perspective to a variety of contemporary medical issues.
For BA Students: Society Sector
Taught by: Schnittker
One-term course offered either term
Also Offered As: SOCI 175, SOCI 275
Activity: Lecture
1 Course Unit
HSOC 279 Nature’s Nation: Americans and Their Environment
The United States is "nature’s nation." Blessed with an enormous, resource-rich geographically diverse and sparsely settled territory, Americans have long seen “nature” as central to their identity, prosperity, politics and power, and have transformed their natural environment accordingly. But what does it mean to be “nature’s nation? This course describes and explores how American “nature” has changed over time. How and why has American nature changed over the last four centuries? What have Americans believed about the nation’s nature, what have they known about the environment, how did they know it and how have they acted on beliefs and knowledge? What didn’t or don’t they know? How have political institutions, economic arrangements, social groups and cultural values shaped attitudes and policies? How have natural actors (such landscape features, weather events, plants, animals, microorganisms) played roles in national history? In addition to exploring the history of American nature, we will look for the nature in American history. Where is “nature” in some of the key events of American history that may not, on the surface, appear to be "environmental?"
Taught by: Greene, A
Course not offered every year
Also Offered As: STSC 279
Activity: Seminar
1 Course Unit

HSOC 299 Independent Study
Activity: Independent Study
1 Course Unit

HSOC 302 Stem Cell Science in Schools: History, Ethics, and Education
This course will provide University of Pennsylvania and a local Philadelphia High School students with the opportunity to learn fundamental biology concepts and apply them in a hands-on, inquiry-based approach that is also attentive to society, history and social context. Biological sciences have long been deeply engaged with social issues, and our topics for this course reflect their relevance to everyday life. Topics of this course will include, but are not limited to, cell development and stem cell biology, which form the basis of the emerging field of Regenerative Medicine. Penn students will reinforce their learning of these concepts by mentoring high school students, demonstrations by Penn scientists, and a co-teaching method involving Penn faculty and a partnering high school teacher. A primary goal of this course is to expose both Penn and high school students to cutting edge science and its societal impact. Through this course Penn students will learn critical skills that can help them bring scientific ideas to professionals, and important to any educated professional.
Taught by: Shuda
Course not offered every year
Activity: Lecture
1 Course Unit

HSOC 307 Globalization & Medicine in Colonial & Postcolonial South Asia
This seminar will explore a wide range of themes at the intersection of globalization and therapeutic cultures in South Asia and amongst South Asian diasporas. To begin with the course understands 'supraterritorial' as the key feature of globalization and proceeds to interrogate the myriad ways in which this supraterritoriality was produced, consumed, used and dabused within the therapeutic cultures that have been, and on occasion still are, available in south Asia—both in reality and symbolically. Each week, through a specific case study, framed by a few theoretical readings, we will attempt to deepen and problematize the simple definition of globalization with which we start the course. Throughout the course there will be a strong emphasis on combining case study-based empirical material with theoretical interventions in Cultural Theory and Postcolonial Studies.
Taught by: Mukharji
One-term course offered either term
Also Offered As: STSC 307
Activity: Seminar
1 Course Unit

HSOC 312 Weapons of Mass Destruction
The course explores the historical development of traditional weapons of mass destruction such as chemical, nuclear and biological agents, in addition to newer and seemingly non-traditional weapons such as land mines and civilian aircraft that can also be employed to cause large numbers of injuries and deaths among civilian and military populations. Through case studies in technology and public health, students will evaluate the medical, scientific, environmental, and cultural ramifications of these weapons and their effect on human heal and society by analyzing the rise of the military-industrial-academic-complex in twentieth century America.
Taught by: Lindee
One-term course offered either term
Also Offered As: STSC 312
Activity: Seminar
1 Course Unit

HSOC 321 Health in Urban Communities
This course will introduce students to anthropological approaches to health and to theories of participatory action research. This combined theoretical perspective will then be put into practice using West Philadelphia community schools as a case study. Students will become involved in design and implementation of health-related projects at an urban elementary or middle school. As one of the course requirements, students will be expected to produce a detailed research proposal for future implementation.
Course usually offered in fall term
Also Offered As: ANTH 312, URBS 312
Activity: Seminar
1 Course Unit
HSOC 334 Birth Culture and Medical Technology
How we are born and give birth can vary more than most people realize. Until the rise of medical technology, women gave birth at home surrounded by other women. Now, the majority of Americans are born in hospitals, and a large percentage of those birth are the result of surgical interventions. This course will explore the medicalization of birth, as well as the movements dedicated to promoting home birth, natural birth, and midwifery. Many of the readings will examine birth from an unapologetically feminist and/or holistic perspective, and we will discuss the psychological, political, cultural and spiritual dimensions of birth practices. We will also consider the impact of increasingly sophisticated medical technology on conception and pregnancy, including in vitro fertilization, surrogate mothers, and extending the childbearing years well into late life. An important theme throughout will be the concept of “appropriate technology” -- which technologies are appropriate and who decides? Readings will be drawn from a number of sources, principally midwifery, nursing, and medical journals.
Taught by: Mackenzie
Course not offered every year
Activity: Seminar
1 Course Unit

HSOC 335 Healthy Schools
This academically based community service research seminar will develop a pilot program to test the efficacy of using service-learning teams of undergraduates and graduate students to facilitate the development of School Health Councils (SHCs) and the Center for Disease Control's School Health Index (SHI) school self-assessment and planning tool in two elementary schools in West Philadelphia. This process is intended to result in a realistic and meaningful school health implementation plan and an ongoing action project to put this plan into practice. Penn students will involve members of the school administration, teachers, staff, parents and community member in the SHC and SHI process with a special focus on encouraging participation from the students’ students. In this model for the use of Penn service-learning teams is successful, it will form the basis of an ongoing partnership with the School District's Office of health, Safety & Physical Education to expand such efforts to more schools.
Taught by: Summers
Course not offered every year
Also Offered As: PSCI 335
Activity: Seminar
1 Course Unit

HSOC 337 Race and Medicine in the Global South
Racialized medical provisions under Apartheid in South Africa, theories of racial immunity to malaria in the Philippines and contemporary investigations of caste-based disease risks in India are some of the topics to be covered in this course. From the more straightforward issues of racial discrimination in medicine, to more complex issues of racial immunity or racial susceptibility to disease, medicine and race have been entangled together in multiple ways. More importantly these issues are far from being matters of the past. Genomic medicine and risk society have combined to make race and medicine one of the most potent contemporary issues. Outside the Western World, in the Global South, these issues are further refracted through local cultural, historical and political concerns. This course will take a long-term view of these contemporary issues.
Taught by: Mukharji
One-term course offered either term
Activity: Seminar
1 Course Unit

HSOC 338 Hybrid Science: Nature, health, and society in Latin America
What role did science and medicine play in the creation and growth of the Spanish and Portuguese empires? And why was the creation of science and health institutions crucial to the revolutionary movements for independence in Latin America? This course examines science and medicine in Latin America by attending to the ways that knowledge of nature and health has been central to the political struggles of the countries in this region. A crucial dynamic shaping the history and culture of this region is the interplay between the healing practices and cosmologies of European settlers, indigenous Americans, and the descendants of African slaves. Bearing this interplay in mind, this course explores how Latin America has been a fertile site of scientific creativity. It also examines the ways in which Latin American scientists and medical experts have refashioned concepts and practices from Europe and North America to fit local circumstances.
Taught by: Gil-Riano
Course usually offered in spring term
Also Offered As: STSC 338
Activity: Seminar
1 Course Unit

HSOC 347 Asian Medicine and Modernity
From Yoga clinics to Acupuncture shops, from Sting’s advocacy of Tantric Sexual regimens to Dr. Gregory House recommending the Cordyceps sinensis, Asian medicines are an increasingly important and conspicuous facet of the modern world. Yet, nearly all of them claim to be thousands of years old. How have they managed to survive and thrive despite their age? Why have they not disappeared like so much else from bygone Asian intellectual traditions? This course asks these and similar questions. It looks at the multifaceted ways in which Asian medicines have negotiated with modernity.
Taught by: Mukharji
One-term course offered either term
Activity: Seminar
1 Course Unit

HSOC 348 Current Issues in Global Health
Taught by: Johnson
Course not offered every year
Activity: Seminar
1 Course Unit

HSOC 359 Nutritional Anthropology
Human nutrition and nutritional status within context of anthropology, health, and disease. Particular emphasis on nutritional problems and the development of strategies to describe, analyze, and solve them. Students will participate in the Urban Nutrition Initiative, an academically based community service project in local area schools.
Course not offered every year
Also Offered As: ANTH 359
Activity: Seminar
1 Course Unit
HSOC 379 Animals in Science Medicine Technology
This course explores human-animal relationships: the wide range of these relationships, why they originated and how they have changed over time. How have humans classified, valued, utilized, consumed, behaved toward and understood animals? Where is the boundary between humans and other animals, and how do we know, since humans are also animals? How is that boundary been maintained and redefined? Are humans part of the animal "natural" world- or apart from it? How are humans similar to and different from other kinds of animals? How do we know about animals and what is it we know? To what extent are questions about animals really questions about humans? How has the meaning of animal changed over time? The course focuses in particular to the roles and relationships of animals within science and medicine, and as biotechnologies.
Taught by: Greene, A
One-term course offered either term
Also Offered As: STSC 379
Activity: Seminar
1 Course Unit

HSOC 382 Guns and Love Gone Bad: A Public Health Perspective
This course will address two health concerns of long-standing controversy: the role of guns in population health and violence in relationships. We will adopt a healthy skepticism about the assumptions and ideologies that currently dominate formal and informal discourse about these topics. A life span perspective - guns from design through use, and abuse from childhood through late life - will be grounded in a public health injury prevention framework. As a function of this approach, we will examine key aspects of the social context in which guns and abuse exist and within which related policies are formulated. Students are encouraged to examine their perceptions about these issues so that they can become more effective members of a society that appears to maintain a deep ambivalence about guns and about violence in relationships.
Taught by: Sorenson
Course not offered every year
Activity: Seminar
1 Course Unit

HSOC 391 Bioethics and National Security
At least since Augustine proposed a theory of "just war," armed conflict has been recognized as raising ethical issues. These issues have intensified along with the power and sophistication of weapons of war, and especially with increasing engineering capabilities and basic knowledge of the physical world. The life sciences have had their place in these developments as well, perhaps most vividly with the revelations of horrific experiments conducted by the Naziand Imperial Japanese militaries, but with much greater intensity due to developments in fields like genetics, neuroscience and information science, and the widely recognized convergence of physics, chemistry, biology and engineering. The fields of bioethics and national security studies both developed in the decades following World War II. During the cold war little thought was given to the fact that many national security issues entail bioethical questions, but this intersection has been increasingly evident over the past two decades. In spite of the overlapping domains of bioethics and national security, there has been remarkable little systematic, institutional response to the challenges presented by these kinds of questions: - What rules should govern the conduct of human experiments when national security is threatened? - Is it permissible to study ways that viruses may be genetically modified in order to defeat available vaccines, even for defensive purposes? - What role may physicians or other health care professionals play in interrogation of suspected terrorists? - Must warfighters accept any and all drugs or devices that are believed to render them more fit for combat, including those that may alter cognition or personality? - What responsibilities does the scientific community have to anticipate possible "dual purpose" uses or other unintended consequences of its work? Deploying the resources of ethics, philosophy, history, sociology and theory, this course will address these and other problems.
Taught by: Moreno
Course usually offered in spring term
Also Offered As: STSC 391
Activity: Seminar
1 Course Unit
HSOC 411 Sports Science Medicine Technology
Why did Lance Armstrong get caught? Why do Kenyans win marathons? Does Gatorade really work? In this course, we won't answer these questions ourselves but will rely upon the methods of history, sociology, and anthropology to explore the world of the sport scientists who do. Sport scientists produce knowledge about how human bodies work and the intricacies of human performance. They bring elite (world-class) athletes to their laboratories—or their labs to the athletes. Through readings, discussions, and original research, we will find out how these scientists determine the boundary between "natural" and "performance-enhanced," work to conquer the problem of fatigue, and establish the limits and potential of human beings. Course themes include: technology in science and sport; the lab vs. the field, genetics and race, the politics of the body, and doping. Course goals include: 1) reading scientific and medical texts critically, and assessing their social, cultural, and political origins and ramifications; 2) pursuing an in-depth The course fulfills the Capstone requirement for the HSOC/STSC majors. Semester-long research projects will focus on "un-black-boxing" the metrics sport scientists and physicians use to categorize athletes’ bodies as "normal" or "abnormal." For example, you may investigate the test(s) used to define whether an athlete is male or female, establish whether an athlete’s blood is "too" oxygenated, or assess whether an athlete is "too" fast (false start). Requirements therefore include: weekly readings and participation in online and in-class discussions; sequenced research assignments; peer review; and a final 20+page original research paper and presentation.
Taught by: Johnson
One-term course offered either term
Also Offered As: STSC 411
Activity: Seminar
1 Course Unit

HSOC 413 Perfect Bodies
Taught by: Linker
One-term course offered either term
Also Offered As: STSC 413
Activity: Seminar
1 Course Unit

HSOC 420 Research Seminar Health and Society
This course is designed to provide HSOC students with the tools necessary to undertake original research, guiding them through the research and writing process. Students will produce either a polished proposal for a senior thesis project, or, if there is room in the course, a completed research paper by the end of term. Students work individually, in small groups and under the close supervision of a faculty member to establish feasible research topics, develop effective research and writing strategies, analyze primary and secondary sources, and provide critiques of classmates’ drafts. Students must apply for this course by December 1.
Taught by: Cnnc
Course usually offered in spring term
Activity: Seminar
1 Course Unit

HSOC 421 Medicine and Development
This course is devoted to readings and research about medicine and development in resource-poor countries. The focus is on medical institutions and practices as seen within the broader context of development. We try to understand changing interpretations of how development takes place—of its relationship to technical knowledge, power and inequality. The course give students the opportunity to do intensive original research.
Taught by: McKay
One-term course offered either term
Activity: Seminar
1 Course Unit

HSOC 429 The Neurological Condition
Few aspects of our physical makeup are as closely linked to who we are as people as the nervous system. We define our selves by our capacity to think, to react, by our memories. In large part, we believe we are our brains. Yet such perceptions have a history far deeper than our current neuro-obsessed moment. In this course we explore the neurological condition as the human condition: the growing sense since the nineteenth century that we are defined by our nervous systems, and the science that has fostered this vision. From theories of diminishing “nerve force” and the electric cures of the Victorian era, to fMRIs and Obama’s 2013 BRAIN initiative, we explore how science, medicine, and technology have shaped our understanding of the brain and nervous system as the center of human identity. Course topics include the rise of professional neurology and neuroscience, cultural meanings of nerves and the brain, and the intimate role of patients and human subjects in formulating this science from the nineteenth century to the present.
Taught by: Elder
Course usually offered in spring term
Also Offered As: STSC 429
Activity: Seminar
1 Course Unit

HSOC 430 Disease & Society
What is disease? In this seminar students will ask and answer this question by analyzing historical documents, scientific reports, and historical scholarship (primarily 19th and 20th century U.S. and European). We will look at disease from multiple perspectives — as a biological process, clinical entity, population phenomenon, historical actor and personal experience. We will pay special attention to how diseases have been recognized, diagnosed, named and classified in different eras, cultures and professional settings.
Taught by: Aronowitz
One-term course offered either term
Activity: Seminar
1 Course Unit

HSOC 439 The Neurological Condition
Few aspects of our physical makeup are as closely linked to who we are as people as the nervous system. We define our selves by our capacity to think, to react, by our memories. In large part, we believe we are our brains. Yet such perceptions have a history far deeper than our current neuro-obsessed moment. In this course we explore the neurological condition as the human condition: the growing sense since the nineteenth century that we are defined by our nervous systems, and the science that has fostered this vision. From theories of diminishing “nerve force” and the electric cures of the Victorian era, to fMRIs and Obama’s 2013 BRAIN initiative, we explore how science, medicine, and technology have shaped our understanding of the brain and nervous system as the center of human identity. Course topics include the rise of professional neurology and neuroscience, cultural meanings of nerves and the brain, and the intimate role of patients and human subjects in formulating this science from the nineteenth century to the present.
Taught by: Elder
Course usually offered in spring term
Also Offered As: STSC 429
Activity: Seminar
1 Course Unit
HSOC 436 Biopiracy: Medicinal Plants and Global Power
Biopiracy has emerged as the name of conflict between multinational pharmaceutical companies attempting to get genetic patents on medicinal plants and indigenous communities in the Global South who have long known and used these plants for medicinal purposes. Today the story of Biopiracy is an unfolding story of plants, patents and power. The extraction and commercial exploitation of plants and knowledge about them from the Global South however is not new. It has been happening at increasing pace for at least the last two centuries. Both the anti-malarial drug quinine and the cancer drug vincristine for instance have their plant-origins in the Global South where local communities used them medicinally long before their discovery by biomedicine. This course will put the current debates around Biopiracy in context and explore how the entanglements of plants and power have changed or not changed.
Taught by: Mukharji
Course not offered every year
Also Offered As: STSC 436
Activity: Seminar
1 Course Unit

HSOC 441 Cross Cultural Approaches to Health
This course will explore the ways that health and illness-related beliefs and behaviors develop within communities. We will identify the forces that shape these beliefs and behaviors and ultimately affect who gets sick, who gets well, and the very nature of the illness experience. Emphasis will be given to the relationships among sociocultural, political and biological factors and the ways that these factors interact to produce the variation that we see in health and illness related attitudes, behaviors and outcomes across cultures.
Taught by: Barg
Course usually offered in spring term
Also Offered As: ANTH 441
Activity: Seminar
1 Course Unit

HSOC 442 Hospital as Curing Machine
This course examines the technological, scientific, and spatial evolution of the modern hospital from the miasmatic, vermin-infested medieval European hospital-as-almshouse, to the late twentieth-century ideal of the modern hospital as a condenser of sophisticated technologies, scientific expertise, and Taylorist efficiencies. In so doing, we will see how designers of hospital space, consciously or not, have striven to realize the mechanized, technological vision of the hospital as curing machine a phrase first invoked by 18th century French surgeon and anatomist Jacques Tenon. While the early nineteenth-century hospital had been a locus for fears about contagion, death, and disease in a pre-germ theory world, through its eventual integration of antiseptic practices, spatially produced zones of medical expertise (the operating suite, the laboratory, pediatric and maternity wards), novel technologies (incubators, hyperbaric chambers, x-rays, ultrasounds) and factory-like efficiencies the hospital came into its own as the epitome of rational modernist space. But, over the course of its evolution, the modern hospital has changed as well: as an incubator for super-bugs, as an engine for projects of renewal, and as a site for the cultural transformation of the meaning of birth, death, and health itself.
Taught by: Greene, G
Also Offered As: STSC 442
Activity: Lecture
1 Course Unit

HSOC 449 Vertical Global Health Movements
In the past 30-40 years, "vertical" movements to tackle specific disease problems-or even eliminate particular disease vectors-have become the norm for global health interventions, replacing a short-lived Primary Health Care movement that sought to broadly improve health and welfare conditions from the bottom up in resource-poor countries around the world. Many of these vertical programs were at first implemented with little consideration of specific local circumstances regarding difference in disease burden, transmission pathways, microbial strain, existing local treatment and control approaches, significant historical factors, or type and degree of suffering. Recent campaigns have attempted to revisit the problem of the "local." This course examines some of the most influential of these global vertical disease control campaigns from the 1950s through the present. Our goal will be to elucidate some of the crucial factors that have shaped local experiences of the relevant diseases, and that have influenced the direction and outcome of vertical control efforts at the local and global levels. Students will extensively research a particular campaign and its potential effects in a geographical location and time period of their choice.
Course not offered every year
Activity: Seminar
1 Course Unit

HSOC 458 Environments and Health
Do classrooms' fluorescent lights give you headaches? Have you ever felt invigorated by a mountain's breeze? Have you ever sought to get a "healthy" tan at the beach? Throughout history people have attributed their health -- good and bad-- to their physical surroundings. In this class we will explore how medical professionals, scientists and the general population have historically understood the ways in which the environment impacts different people, in different places, in different ways. We will interrogate medical theories that underpinned popular practices, like health tourism, public health campaigns, and colonial medical programs. We will also consider how people constructed and understood the physical environment, including farms and factories, cemeteries and cities, to be healthy or not. This course is designed to foster a collaborative atmosphere in which students will complete an original research paper through critical reading and step-wise assignments that will culminate in a final project.
Taught by: Crnic
Course not offered every year
Activity: Seminar
1 Course Unit
HSOC 461 The Child in the City
This course examines the problem of the child in urban space in 19th and 20th century European and American discourses. This course does not propose to recover the subjective experience of the child but, rather, views the child as an object around which numerous adult anxieties connected to industrialization, urbanization, and modernity itself cohered. Discourses on public health, environmental pollution, sexuality, criminality, and racial degeneration all focused their attention, anxieties, and energies on how to deal with the unique vulnerability of the child in modern urban space. This interdisciplinary course focuses specifically on atmospheres, environments, and architectures in urban settings as diverse as Chicago, New York, Paris, and London. We will examine how the built environment was envisioned as part of a set of critical technologies for resolving the threat that urban space posed to the child. We will explore objects and envir as diverse as tenement babycages, wartime floating hospitals, open-air schools, adventu playgrounds in post-WWII London, car-less communities in Radburn, NJ, and American chil books about urban blight and renewal.
Taught by: Greene, G
Course not offered every year
Also Offered As: STSC 461
Activity: Seminar
1 Course Unit

HSOC 462 Seeking Health: Tourism, Medicine in America 1800-2000
Summer camps, spring break, and trips to the beach, mountains, and national parks: vacations are an integral part of American culture. Often we talk and think about traveling for its ability to rejuvenate our tired bodies and spirits. Although tourism only developed over the past 100 years, the tradition of traveling for health has a much deeper history. This course will examine how different people in different times have understood the connections between travel and health, and how technologies have and continue to mediate those experiences. Over the course of the semester students will complete an original research paper through critical reading and step-wise assignments that will culminate in a final project. By the end of the semester, students will have honed their skills in primary and secondary source research, the construction of an academic argument and paper, and will continue to develop skills in critical analysis through weekly reading assignments.
Taught by: Cnnc
Course not offered every year
Activity: Seminar
1 Course Unit

HSOC 471 Guns and Health
The purpose of this course is for students to gain an understanding of the role of guns in health, and population and prevention approaches to violence. The course will include a focus on policies and regulations related to firearms, the primary mechanism by which violence-related fatalities occur in the U.S. We will address the life span of a gun, from design and manufacture through to use. In addition, we will address key aspects of the social context in which firearms exist and within which firearm policy is made.
Taught by: Sorensen
One-term course offered either term
Also Offered As: PUBH 534, STSC 471
Activity: Seminar
1 Course Unit

HSOC 488 The Anthropology of Risk Perception in Health
Taught by: Barg
Also Offered As: ANTH 438
Activity: Seminar
1 Course Unit

HSOC 499 Capstone Independent Study
One-term course offered either term
Activity: Independent Study
1 Course Unit

Health Care Innovation (HCIN)

HCIN 600 The American Health Care System
This course surveys the historical development of the American health care system from the turn of the twentieth century to the present. Topics include insurance, hospitals, compensation models, and reform efforts, including the Affordable Care Act, as well as how American health care is likely to evolve. Learners who successfully complete this course will be able to apply this information as context to understand and advocate for reforms and innovation in health care-related fields.
Course usually offered in fall term
Activity: Online Course
1 Course Unit

HCIN 601 Health Care Operations
This course offers an introduction to operations management, examining inefficiencies from waste, variability, and inflexibility and providing strategies for engaging in the ongoing process of reducing these negative impacts without sacrificing quality of care. After completing the course, learners will be able to use a systematic approach for analyzing and improving their work in health care settings.
Course usually offered in fall term
Activity: Online Course
1 Course Unit

HCIN 602 Behavioral Economics
This course uses behavioral economics as a framework for understanding how humans make decisions within the health care system. It offers practical applications of scholar research through an emphasis on case studies and the analysis of their results. Learners who successfully complete this course will be able to demonstrate how key concepts in behavioral economics are used, critique existing programs, design new approaches, and apply lessons to challenges they face in their work environments.
Course usually offered in spring term
Activity: Online Course
1 Course Unit

HCIN 603 Evaluating Health Policy
Course usually offered summer term only
Activity: Online Course
1 Course Unit
HCIN 604 Health Economics
This course applies economic principles to the health care sector. By recognizing the importance of scarcity and incentives, it focuses on critical economic issues in producing, delivering, and financing health care. It analyzes determinants of demand for medical care, the unique role of physicians in resource allocation, and competition in medical care markets. Learners who successfully complete this course will be able to identify critical economic issues, evaluate determinants of demand for medical care, describe the role of physicians in resource allocation, compare competition in medical care markets, and assess policy instruments.
Course usually offered in fall term
Activity: Online Course
1 Course Unit

HCIN 606 Applying Operations Mgmt
Course usually offered in fall term
Activity: Online Course
0.5 Course Units

Health Care Management (HCMG)

HCMG 101 Health Care Systems
This introductory course takes a policy and politics angle to health care’s three persistent issues - access, cost and quality. The roles of patients, physicians, hospitals, insurers, and pharmaceutical companies will be established. The interaction between the government and these different groups will also be covered. Current national health care policy initiatives and the interests of class members will steer the specific topics covered in the course. The course aims to provide skills for critical and analytical thought about the U.S. health care system and the people in it.
Taught by: Harrington/Polsky
One-term course offered either term
Activity: Lecture
1 Course Unit

HCMG 202 The Economics and Financing of Health Care Delivery
The course provides an application of economic models to demand, supply, and their interaction in the medical economy. Influences on demand, especially health status, insurance coverage, and income will be analyzed. Physician decisions on the pricing and form of their own services, and on the advice they offer about other services, will be considered. Competition in medical care markets, especially for hospital services, will be studied. Special emphasis will be placed on government as demander of medical care services. Changes in Medicare and regulation of managed care are among the public policy issues to be addressed.
Taught by: Candon
One-term course offered either term
Also Offered As: ECON 039
Prerequisites: Economics 1 or consent of instructor. Students who take HCMG 202 may not also take HCMG 352 for further credit.
Activity: Lecture
1 Course Unit

HCMG 203 Clinical Issues in Health Care Management: Doctors, Patients and Managers in Modern Society
This course will explore the effects of the changing health care environment on the physician, patient and health care manager. It is intended for any undergraduate with an interest in how 1/6th of the American economy is organized as well as those planning careers as health care providers and managers. The course complements other health care courses (that take a societal perspective) by focusing on the individuals who participate in the health care enterprise. There are no prerequisites, as the course will stand on its own content. The course will be divided into modules that focus on the participants of the health care process and the process itself. We will analyze the patient, the doctor, and manager in light of the patient-doctor interaction, the turbulent health care marketplace, expensive new technologies, resource allocation, and ethics.
Taught by: Asch
Course usually offered in spring term
Activity: Lecture
1 Course Unit

HCMG 204 Comparative Health Care Systems
This course examines the structure of health care systems in different countries, focusing on financing, reimbursement, delivery systems and adoption of new technologies. We study the relative roles of private sector and public sector insurance and providers, and the effect of system design on cost, quality, efficiency and equity of medical services. Some issues we address are normative: Which systems and which public/private sector mixes are better at achieving efficiency and equity? Other issues are positive: How do these different systems deal with tough choices, such as decisions about new technologies? Our main focus is on the systems in four large, prototypical OECD countries–Germany, Canada, Japan, and the United Kingdom–and then look at other countries with interesting systems--including Italy, Chile, Singapore, Brazil, China and India. We draw lessons for the U.S. from foreign experience and vice versa.
Taught by: TBA
Course usually offered in spring term
Also Offered As: HCMG 859
Activity: Lecture
1 Course Unit
HCMG 212 Health Care Quality and Outcomes: Measurement and Management
This course will familiarize students with methods used to assess the quality of hospital or provider health care using outcomes data, and to understand and evaluate studies involving health care outcomes. Students are exposed to the mechanics of hospital quality evaluation and challenged to evaluate the medical and health services research literature on health care evaluation, as well as to make inferences regarding hospital quality and the comparison or rankings of hospitals or providers. Topics will include the history of health care outcomes analysis; the conceptual framework for outcome studies; consumer demand for information; an overview of medical data and data collection systems; a description of outcome statistics and severity adjustments currently in use; the study of excess variation in outcomes; and the use of guidelines to assess outcomes. By the end of the course, students will have developed a thorough appreciation of the current methods used by policy makers, researchers, and health care providers to evaluate medical outcomes, as well as those used by consumers to choose hospitals and providers.
Taught by: Silber
Course usually offered in spring term
Prerequisite: Introductory Statistics or permission of instructor
Activity: Lecture
1 Course Unit

HCMG 213 Health Care Strategy and Management: the Business of Health Care
This course presents an overview of the business of health and how a variety of health care organizations have gained, sustained, and lost competitive advantage amidst intense competition, widespread regulation, high interdependence, and massive technological, economic, social and political changes. Specifically, we evaluate the challenges facing health care organizations using competitive analysis, identify their past responses, and explore the current strategies they are using to manage these challenges (and emerging ones) more effectively. Students will develop generalized skills in competitive analysis and the ability to apply those skills in the specialized analysis of opportunities in producer (e.g. biopharmaceutical, medical product, information technology), purchaser (e.g. insurance), and provider (e.g. hospitals, nursing homes, physician) organizations and industry sectors. The course is organized around a number of readings, cases, presentations, and a required project.
Taught by: Kimberly Swanson
Course usually offered in fall term
Activity: Lecture
1 Course Unit

HCMG 215 Management and Economics of Pharmaceutical, Biotech, and Medical Device Industries
This course provides an overview of the management, economic and policy issues facing the pharmaceutical, biotechnology, and medical device industries. The course perspective is global, but with emphasis on the U.S. as the largest and most profitable market. Critical issues we will examine include: R&D intensive cost structure and rapid technological change; biotechnology and genomics startups and alliances with the pharma industry; a complex global marketplace in which prices are regulated in most countries and customers include governments and insurers, as well as physicians, pharmacists and consumers; intense and evolving M&A, including mergers, joint ventures, and complex alliances; government regulation of every business function, including R&D, pricing and promotion; and global products and multinational firms. We use Wharton and industry experts from various disciplines to address these issues.
Taught by: Alpert
Course usually offered in spring term
Prerequisite: One undergraduate Health Care Management course or Economics course
Activity: Lecture
1 Course Unit

HCMG 216 Health Insurance and Health Care Strategy
This course combines the insights of health economics with a strategic perspective on the business of health. The first section will consider the costs and benefits of medical interventions, while the second considers insurance theory and places special emphasis on the challenges facing firms in the face of the rising costs of health benefits as well as opportunities for private insurers operating in publically financed markets. The third section will analyze strategies of vertical and horizontal integration and their effect on the balance of power in local healthcare markets. Finally, the course will cover the effects of reform on firm incentives. The course will be taught using a mix of lectures and cases.
Course usually offered in spring term
Activity: Lecture
1 Course Unit
HCMG 250 Health Policy: Health Care Reform and the Future of the American Health System
This course will provide students a broad overview of the current U.S. healthcare system. The course will focus on the challenges facing the health care system, an in-depth understanding of the Affordable Care Act (ACA) and of its potential impact upon health care access, delivery, cost, and quality as well as its effect on firms within the health care sector. The course will examine potential reforms, including those offered by liberals and conservatives and information that can be extracted from health care systems in other developed countries. The course will also explore the key facets of the ACA, including improving access to care and health insurance exchanges, improving quality and constraining costs through health care delivery system reforms, realigning capacity through changes in the health care workforce and in medical education, the potential impact on biomedical and other innovations, and the impact on economic outcomes such as employment, wage growth, and federal budget deficits. The course will also examine the political context and process of passing major legislation in general and health care legislation in particular, including constitutional arguments surrounding the Affordable Care Act. Throughout the course, the key lessons will integrate the disciplines of health economics, health and social policy, law and political science to elucidate key principles.
Taught by: Emanuel
Course usually offered in fall term
Also Offered As: BIOE 575, HCMG 850
Activity: Lecture
1 Course Unit

HCMG 352 Health Services Delivery: A Managerial Economic Approach
The purpose of this course is to apply economics to an analysis of the health care industry, with special emphasis on the unique characteristics of the US healthcare markets, from pre-hospital to post-acute care. This course focuses on salient economic features of health care delivery, including: the role of nonprofit providers, the effects of regulation and antitrust activity on hospitals, the degree of input substitutability within hospitals, the nature of competition in home health care, public versus private provision of emergency medical services, the effect of specialty hospitals and ambulatory surgery centers, the economics of direct-to-consumer advertising and its effect on drug safety, defining and improving medical performance in hospitals, specialization and investment in physical and human capital, and shifting of services between inpatient and outpatient settings and its effect on health care costs and quality.
Taught by: David
Course usually offered in spring term
Also Offered As: HCMG 852
Prerequisite: Students who took HCMG 202 may not take 352 for further credit
Activity: Lecture
1 Course Unit

HCMG 391 Health Care Entrepreneurship
Delivering basic health care advances worldwide and continuing to increase lifespan and quality (in an affordable manner) represent some of the major societal challenges of our time. Addressing these challenges will require innovation in both medical technology and the ways in which health services are delivered. Through readings, cases, guest lectures, and your own entrepreneurial work outside of class, we will examine the environment facing prospective health care entrepreneurs: (1) sources of health care innovation; (2) the many "customers" in health care: patients, doctors, hospitals, insurers, and regulators; (3) the powerful established firms with developed clinical and sales expertise; (4) the investing community. Along the way we will develop a framework for thinking about what is different (and what is not) about the challenges of health care entrepreneurship.
Taught by: Grennan
Course usually offered in fall term
Activity: Lecture
1 Course Unit

HCMG 841 Health Services System
This course provides an overview of the evolution, structure and current issues in the health care system. It examines the unique features of health care as a product, and the changing relationships between patients, physicians, hospitals, insurers, employers, communities, and government. The course examines three broad segments of the health care industry: payors, providers and suppliers. Within the payor segment, the course examines the sources and destinations of spending, managed care (HMOs, PPOs), employer based health insurance, technology assessment, payor strategy, and efforts to pay for the elderly, the poor & the medically indigent. Within the provider segment, the course examines the impact of cost containment and competition on hospitals and integrated delivery systems, long term care and disease management, and the important role of epidemiology in assessing population health needs and risks. Within the supplier segment, the course will examine developments in the biotechnology, pharmaceutical, medical devices, genomics and IT industries. NOTE: This is a required course for Wharton Graduate Health Management majors; it counts as an elective course for all other Wharton Graduate students. It is also open to Law School and Nursing School students with a joint Wharton Program.
Taught by: Burns
Course usually offered in fall term
Activity: Lecture
1 Course Unit
Notes: Lectures and cases. Weekly reading assignments.
HCMG 845 Managed Care and the Industrial Organization of Health Care
This course, co-taught with Brad Fluegel (former Executive VP of Wellpoint, Inc and current Chief Strategy Officer at Walgreens) will focus on two interrelated topics: managed care and market structure. The section on managed care will cover strategic planning and marketing of managed care services, operational issues in developing a managed care network, actuarial issues, and the management of physician behavior. The section on health care market structure will analyze strategies of vertical integration and horizontal integration (M+As), and their attempt to alter the balance of power in local healthcare markets. The section will also analyze the operational issues in managing cost and quality in an integrated system, integration along the supply chain, and the performance of these systems, and the bargaining and negotiation between hospitals, physicians, and health plans.
Taught by: Burns,Fluegel
Course usually offered in spring term
Activity: Lecture
1 Course Unit
Notes: Lectures, cases, exam, and orally presented term project.

HCMG 849 Financial Management of Health Institutions
This course focuses on health care organizations’ financial decisions in the changing health care landscape. Upon completion of the course, students will be able to utilize a range of financial tools and techniques for making value-added financial decisions in a variety of important contexts in the health care sector. The course involves case analyses and lectures, including presentations by practitioners with extensive real world experience. The course is organized around cases dealing with publicly-traded health care company valuation, valuation and return on investment of biopharmaceutical and medical technology development projects, valuation and deal structure for startup and early stage health care organizations, health plan pricing and finance, and health care provider risk-sharing arrangements. Each case is accompanied by background on tools, methods, institutions, and markets. Students seeking careers in health care finance and financial decision making. Students with more background will extend and enhance their analytical skills in a variety of important areas.
Taught by: Harrington
Course usually offered in fall term
Prerequisite: Finance 611 or equivalent coursework or experience
Activity: Lecture
1 Course Unit
Notes: Lecture and cases. Students work in teams to complete 4-5 case write-ups and an oral case presentation. There is also a written exam.

HCMG 852 Health Services Delivery: A Managerial Economic Approach
The purpose of this course is to apply economics to an analysis of the health care industry, with special emphasis on the unique characteristics of the US healthcare markets, from pre-hospital to post-acute care. This course focuses on salient economic features of health care delivery, including: the role of nonprofit providers, the effects of regulation and antitrust activity on hospitals, the degree of input substitutability within hospitals, the nature of competition in home health care, public versus private provision of emergency medical services, the effect of specialty hospitals and ambulatory surgery centers, defining and improving medical performance in hospitals, specialization and investment in physical and human capital, shifting of services between inpatient and outpatient settings and its effect on health care costs and quality, and innovation in primary care from retail clinics to patient-centered medical homes and retainer-based medicine.
Taught by: David
One-term course offered either term
Also Offered As: HCMG 352
Activity: Lecture
1 Course Unit
Notes: Written exam and student presentation.

HCMG 853 Medical Devices
Successful medical devices are an amalgamation of creative and innovative thinking, clinical expertise, and engineering know-how that endures intense regulatory and reimbursement scrutiny. This course will provide a foundation for understanding the nuances of the medical device industry. It will cover topics ranging from device design and discovery, regulatory issues, marketing, reimbursement, management, and strategy. Classroom activities will be supplemented with optional tours of hospitals, research and manufacturing facilities, and hands-on demonstrations of devices. Though the course is intended primarily for MBA students, it will be open to medical and engineering students as well as to hospital house staff.
Taught by: Grennan,Solomon
Course usually offered in fall term
Activity: Lecture
1 Course Unit
HCMG 855 Management of Health Care for the Elderly
This mini course is designed to provide students with an appreciation of the good, the bad and the ugly of how our current health care system cares for one of our nation's most precious resources - our seniors! This course will review care provided to seniors within a variety of institutional settings (hospitals, nursing facilities, various senior housing levels) as well as outpatient and home care services. Special attention will be paid to nursing homes and senior housing options and their past, present and future role within the overall health care system in the United States. The course will start with an overview of the senior population with special attention to their health and social needs. Several classes will be held off campus at selected nursing facilities and senior housing complexes. In addition, a broad range of special programs and services will be reviewed such as sub-acute care, long term care insurance, Medicare Risk Programs, elderly housing, adult day care, managed care, Medicare Part D, case management, hospice and other recent developments. Throughout the course, emphasis will be placed on entrepreneurial opportunities to serve the senior market at all levels. Students are required to produce a paper for this course that focuses on a specific area impacting the senior market. This is a wonderful opportunity for students to select an area of personal interest and conduct an in depth review of that area including making direct contact with national experts within the topic selected. All student topics must be approved during the first two weeks of class and the depth of research required agreed upon by the by the student and the instructor. Interested students not in the HCMG major are urged to speak to the instructor before enrolling in the course.
Taught by: Whitman
Course usually offered in fall term
Activity: Lecture
0.5 Course Units

HCMG 859 Comparative Health Care Systems
This course examines the structure of health care systems in different countries, focusing on financing, reimbursement, delivery systems and adoption of new technologies. We study the relative roles of private sector and public sector insurance and providers, and the effect of system design on cost, quality, efficiency and equity of medical services. Some issues we address are normative: Which systems and which public/private sector mix are better at achieving efficiency and equity? Other issues are positive: How do these different systems deal with the tough choices, such as decisions about new technologies? Our focus first on the systems in four large, prototypical OECD countries - Germany, Canada, Japan, and the United Kingdom - and then look at other developed and emerging countries with interesting systems - including Italy, Chile, Singapore, Brazil, China and India. We will draw lessons for the U.S. from foreign experience and vice versa.
Taught by: TBA
Course usually offered in spring term
Also Offered As: HCMG 204
Prerequisite: Format: HCMG or ECON course
Activity: Lecture
1 Course Unit

HCMG 863 Management and Economics of Pharmaceutical and Biotech Industries
This course provides an overview of the management, economic and policy issues facing the pharmaceutical, biotechnology and medical device industries. The course perspective is global, but with emphasis on the U.S. as the largest and most profitable market. Critical issues we will examine include: R&D intensive cost structure with regulation and rapid technological change; strategic challenges of biotechnology startups; a complex global marketplace in which prices are regulated in most countries and customers include governments and insurers, as well as physicians, and consumers; intense and evolving M&A, joint ventures, and complex alliances; thriving generics industry in the US and globally. We use Wharton and industry experts from various disciplines to address these issues.
Taught by: Alpert
Course usually offered in spring term
Activity: Lecture
1 Course Unit

HCMG 866 E-Health: Business Models and Impact
This course will introduce students to the main components of Health Information Technology (HIT) and how HIT currently effects, and in the future, may change health care operating models. Although it will not prepare students for primary technology management positions, it will help them understand the role of information technology in the success of the delivery system and other important healthcare processes. It will provide a foundation that will prepare them as managers, investors and consultants to rely upon or manage information technology to accomplish delivery system objectives. The course will give special attention to key health care processes, and topics such as the drive for provider quality and cost improvements, the potential ability to leverage clinical data for care improvement and product development, the growth of new information technologies for consumer directed healthcare and telemedicine, the strategies and economics of individual HIT companies and the role of government. The course relies heavily on industry leaders to share their ideas and experiences with students.
Taught by: Glaser/Patel
Course usually offered in spring term
Activity: Lecture
0.5 Course Units

HCMG 867 Health Care Entrepreneurship
The course focuses on the creation, funding, and management of biotechnology and health services enterprises. The course is designed to supplement other offerings in the Health Care Systems and Management Departments for those students with entrepreneurial interest in such ventures, and will focus on special issues surrounding the conceptualization, planning, diligence and capitalization, launch, compensation and management of these ventures. In addition, course offers methods for self-assessment & development of business models and plans, techniques for technology assessment and strategy, develops foundation for capitalization and partnering strategies, and creates a basis for best practices in company launch and plan execution. Students must apply to take this course. Please see the Health Care Management Department for the application.
Taught by: Kurtzman,Libson, Heil
Course usually offered in spring term
Activity: Lecture
0.5 Course Units
HCMG 868 Private Sector Role in Global Health
Issues surrounding global health have captivated the attention of the public sector and foundations for many decades. Many of their initiatives are realizing progress on the health-related Millennium Development Goals. The private sector has been less engaged in global health, but has a significant role to play in providing resources and in building infrastructure, human resource capacity and sustainability. This course explores entrepreneurial and other private sector solutions for health services and access to medicines and technologies in the developing world and other underserved areas. The course also encompasses study of creative programs to engage the private sector in development of vaccines and medicines for tropical and neglected diseases. Furthermore, the course addresses novel care systems and therapeutic strategies for the rapidly growing burden of chronic, non-communicable diseases in the developing world. In short, the course builds on the content of conventional global health courses from a managerial and entrepreneurial perspective. Learning is driven through readings, class discussion and a series of guest speakers representing a wide range of global health issues. Evaluation is largely based on a student group project.

Taught by: Sammut
Course usually offered in spring term
Activity: Lecture
0.5 Course Units

HCMG 890 Advanced Study Project: Management of Health Care Service Businesses
HCMG 890-001: This course examines issues related to the Services Sector of the health care industry. For those interested in management, investing, or banking to the health care industry, the services sector will likely be the largest and most dynamic sector within all of health care. We will study key management issues related to a number of different health care services businesses with a focus on common challenges related to reimbursement, regulatory, margin, growth, and competitive issues. We will look at a number of different businesses and subsectors that may have been unfamiliar to students prior to taking the course. We will make extensive use of outside speakers, many of whom will be true industry leaders within different sectors of the health care services industry. Speakers will address the current management issues they face in running their businesses as well as discuss the career decisions and leadership styles that enables them to reach the top of their profession. Students will be asked to develop a plan to both buyout and manage a specific health care services business of their choosing and will present their final plans to a panel of leading Health Care Private Equity investors who will evaluate their analysis. Prerequisites: HCMG 841. Health Care Management MBA majors only

Taught by: Present
Course usually offered in fall term
Prerequisite: HCMG 841
Activity: Seminar
1 Course Unit

HCMG 900 Proseminar in Health Services Research
This seminar will explore empirical methods in health care research with an emphasis on applications in health care economics and finance. The methods covered include estimation with panel data, program evaluation models, qualitative and limited dependent variable models, stochastic frontier models, estimation with count data, and duration models. The readings consist of a blend of classic and recent empirical studies, including articles on the demand for health care and health insurance, tests for moral hazard and adverse selection, and estimation of provider cost functions. Students are required to conduct an econometric analysis of some issue within the health care field. With the permission of the instructor, the seminar is open to doctoral students from departments other than Health Care Systems.

Taught by: Harrington
One-term course offered either term
Activity: Lecture
1 Course Unit

HCMG 901 Seminar in Health Care Cost Benefit and Cost Effectiveness Analysis
The purpose of this doctoral level course is to investigate the theory and practice of cost-benefit and cost-effectiveness analysis as applied to health care. The three techniques to be examined are cost-effectiveness analysis with single dimensional outcomes, cost effectiveness analysis with multiple attributes (especially in the form of Quality Adjusted Life Years), and economic cost-benefit analysis. Valuation of mortality and morbidity relative to other goods will be emphasized. Students will be expected to develop written critiques of articles in the literature, and to design a new application of one of the techniques as a term project.

Taught by: Polsky/Glick
Course usually offered in fall term
Activity: Seminar
1 Course Unit

HCMG 903 Economics of Health Care and Policy
This course applies basic economic concepts to analyze the health care market and evaluate health policies. The course begins with an analysis of the demand for health, the derived demand for medical care and the demand for health insurance. The second part of the course examines the supply of medical care by physicians and hospitals, medical technology, and the role of managed care organizations. The implication of adverse selection, moral hazard, externalities, and asymmetric information will be explored. The third part of the course examines the rationale for government intervention in medical markets as well as the effectiveness and efficiency of various health policies, including: Medicare, Medicaid, price regulation of hospitals, physician payment reform, medical malpractice, uncompensated care, and physician manpower planning.

Course usually offered in spring term
Activity: Lecture
1 Course Unit
Health Policy Research (HPR)

HPR 501 Economics of Health Care Delivery
How medical care is produced and financed in private and public sectors, economic models of consumer and producer behavior, applications of economic theory to health care.
Taught by: Dr. Mark Pauly
Course usually offered summer term only
Prerequisite: Course only open to Masters of Science in Health Policy Research students
Activity: Lecture
1 Course Unit

HPR 503 Qualitative Methods in Health Research
The purpose of this course is to expose students to a variety of qualitative approaches/methodologies that may be used in health services/policy research. In didactics we will discuss the pros and cons of a range of qualitative Methods, how the method is actually implemented (with multiple experts presenting approaches), and pair the presentation with a broader discussion in which students compare and contrast health oriented articles in which the method was used. Students will have the opportunity to apply the theoretical approaches to their own research interests with direct input from the faculty and their peers.
Taught by: Drs. Frances Barg and Judy Shea
Course usually offered summer term only
Also Offered As: PUBH 538
Prerequisite: Permission needed from Instructor
Activity: Lecture
1 Course Unit

HPR 504 Principles and Practice of Healthcare Quality Improvement
Healthcare delivery is complex and constantly changing. A primary mission of leading healthcare organizations is to advance the quality of patient care by striving to deliver care that is safe, effective, efficient, timely, cost effective, and patient-centered. The goal of this inter professional course is to provide students with a broad overview of the principles and tools of quality improvement and patient safety in health care while also guiding them through the steps of developing a quality improvement project. It will provide a foundation for students or practicing clinicians who are interested in quality improvement and patient safety research, administration, or clinical applications. As part of this course, students will design and plan for a real quality improvement project in their area of interest within healthcare using the methods and tools taught in the course.
Taught by: Jennifer S. Myers and Kathleen G. Burke
Course usually offered in fall term
Also Offered As: NURS 612
Prerequisite: Permission needed from Instructor
Activity: Lecture
1 Course Unit

HPR 505 Outcomes Research
This course is divided into two main parts. The first part addresses issues related to the measurement of quality in healthcare. Included is a review of the classical-structure-process-outcome quality paradigm. The paradigm's strengths and limitations are addressed. This part especially focuses on outcome measures of quality and examines the validity of alternative measures. The second part deals with observational, or quasi-experimental, research studies. It addresses the advantages and limitations of alternative designs, and covers the role of clinical risk adjustment in observational studies of medical interventions. It focuses on the problem of selection bias, and reviews recent methods for dealing with this bias, such as instrumental variables.
Taught by: Dr. Jeffrey Silber
Course usually offered in fall term
Also Offered As: EPID 580
Prerequisite: Permission needed from Instructor
Activity: Lecture
1 Course Unit

HPR 550 Clinical Economics and Clinical Decision Making
This course focuses on the application of decision analysis and economic analysis of diagnostic tests using two by two tables, likelihood ratios, and ROC curves. The course continues with the introduction of more general tools for decision analysis, including decision trees and other mathematical models. A major focus of the course is the application of economic principles to the evaluation of health outcomes. During seminars, students will carry out practical exercises that include problem solving, critically analyzing published articles, and learning to use computer software that facilitates decision and economic analyses.
Taught by: Drs. Sankey Williams and Henry Glick
Course usually offered in spring term
Also Offered As: EPID 550
Prerequisite: Permission needed from Instructor
Activity: Lecture
1 Course Unit

HPR 600 Introduction to Health Policy and Health Services Research
This course will provide students with an introduction to health services and health policy research. First, faculty representing various departments and and schools at the University of Pennsylvania will introduce students to a number of "hot topics," including health disparities, medical decision making, neighborhoods and health, quality of care, access to care, behavioral incentives, and cost effectiveness research. Second, the course will offer an introduction to various career paths in the research and policy domains. Third, the course will provide a brief overview of practical issues such as grant opportunities, data options, publishing, and dissemination.
Taught by: Dr. Zachary Meisel and Raina Merchant
Course usually offered summer term only
Prerequisites: This course is only open to Masters of Science in Health Policy Research students.
Activity: Seminar
1 Course Unit
HPR 602 Topics in Leadership for Health Policy
In this seminar series, students combine didactic sessions reviewing core leadership concepts and skills with reflective discussions on experiences in leadership through their training and community relationships.
Taught by: Drs. Anthony Rostain and Lucy Tuton
Course usually offered summer term only
Prerequisites: This course is only open to fellows in the National Clinician Scholars Program.
Activity: Seminar
1 Course Unit

HPR 603 Health Services and Policy Research Methods I: Primary Data Design and Collection
This course will introduce students to commonly used primary data collection methods and provide multiple examples of how they have been used in health services research. Through the course students will define a primary data collection research project and develop the methods necessary to conduct the project. To get the full benefit of this course, students should use this course to develop the methods they plan to employ in their primary data collection project.
Taught by: Drs. Marilyn Schapira and Judy Shea
Course usually offered in fall term
Prerequisite: Permission needed from Instructor
Activity: Lecture
1 Course Unit

HPR 604 Introduction to Statistics for Health Policy
This is the first semester of a two-semester sequence. It is an introductory statistics course covering descriptive statistics, probability, random variables, estimation, hypothesis testing, and confidence intervals for normally distributed and binary data. The second semester stresses regression models.
Taught by: Dr. Andrew Spieker
Course usually offered in fall term
Prerequisite: Permission needed from Instructor
Activity: Lecture
1 Course Unit

HPR 605 Multidisciplinary Perspectives on Health
In this seminar series, students select topics for in-depth discussion with visiting speakers from a wide range of disciplines. The discussions are led by core National Clinician Scholars Program faculty. Each topic involves 5 to 6 sessions with the initial session focusing on critical appraisal of relevant literature.
Taught by: Dr. Joanne Wood
Course usually offered in spring term
Prerequisites: This course is only open to fellows in the National Clinician Scholars Program.
Activity: Seminar
1 Course Unit

HPR 606 Fundamentals of Health Policy
While academic researchers often think of health policy in terms of research evidence and outcomes, politics and political processes also play important roles. The purpose of this course is to provide those pursuing careers in health services research and health policy with an understanding of the political context from which U.S. health policy emerges. This understanding is important for researchers who hope to ask and answer questions relevant to health policy and position their findings for policy translation. This understanding is important as well to policy leaders seeking to use evidence to create change. The class provides an overview of the U.S. health care system and then moves on to more comprehensive understanding of politics and government, including the economics of the public sector, the nature of persuasion, and techniques and formats for communication. The course emphasizes reading, discussion and applied policy analysis skills in both written and oral forms. Concepts will be reinforced with case studies, written assignments and a final policy simulation exercise where students will be placed in the position of political advisors and policy researchers.
Taught by: Dr. David Grande
Course usually offered in fall term
Prerequisite: Permission needed from Instructor
Activity: Lecture
1 Course Unit

HPR 607 Health Services and Policy Research Methods II: Causal Inference Using Secondary Data
Empirical research for health care policy frequently involves the analysis of observational data--information that is not primarily collected for research purposes. With the rapid increase in U.S. health information technology capacity, future opportunities for research using these "secondary data" appear promising. The objective of this course is to teach the skills necessary to conduct quality health policy research using secondary data. These skills include formulating research aims and applying appropriate study designs for achieving these aims. The course will also include a survey of the content and structure of several commonly used administrative and public databases available to researchers and workshops to develop the skills to access and manipulate these valuable resources.
Taught by: Dr. Rachel M. Werner
Course usually offered in spring term
Prerequisite: Permission needed from Instructor
Activity: Lecture
1 Course Unit

HPR 608 Applied Regression Analysis for Health Policy Research
This course deals with the work-horse of quantitative research in health policy--the single outcome, multiple predictor regression model. Students will learn how to 1) select an appropriate regression model for a given set of research questions/hypotheses, 2) assess how adequately a given model fits a particular set of observed data, and 3) how to correctly interpret the results from the model fitting procedure. After a brief review of fundamental statistical concepts, we will cover analysis of variance, ordinary least squares, and regression models for categorical outcomes, time to event data, longitudinal and clustered data. We will also introduce the concepts of mediation, interaction, confounding and causal inference.
Taught by: Dr. Nandita Mitra
Course usually offered in spring term
Prerequisite: Permission needed from Instructor
Activity: Lecture
1 Course Unit
HPR 610 Achieving Evidence-Based Health Policy
Achieving Evidence-Based Health Policy examines how research can influence health policy. The course teaches students practical tools for developing communications that effectively leverage policy impact. Sessions will examine: the dialectical relationship between research and policy; how selection of research methods may influence usefulness of results for the policy sphere; the implementation of research findings in real-world settings; the translation of research for a policy audience; and the role of various (the media; foundations; local, state, and federal government; advocates) in both research and policy debates. The instructors will draw on their work in pediatric health services research. The class will feature guest research and policy experts from the public and private sectors, who will explore core concepts using case studies from their expertise in topics like health care reform, immigrant health, mental health, and early childhood home visitation. These didactic topical presentations will be followed by discussions, seminar discussion examining how research findings impacted policy, and writing exercises aimed at honing skills for a policy audience.

Taught by: Dr. Marsha Gerdes
Course usually offered in spring term
Also Offered As: PUBH 537
Prerequisite: Permission needed from Instructor
Activity: Lecture
1 Course Unit

HPR 611 Implementation Science in Health and Health Care
In this course, we will highlight a suite of qualitative, quantitative and mixed research methods that address the features of implementation science. The course will include an introduction to the foundational aspects of implementation science, followed by guest speakers who describe their implementation science research. The structure of the course will focus on 3 successive stages-(1) introduction to the foundation/theory of implementation science, (2) exposure to researchers conducting implementation research, and (3) and learning how to critically evaluate and design implementation science studies. An emphasis on specific tools in qualitative and mixed methods approaches is included.

Taught by: Drs. Fran Barg, Rinad Beidas and Meghan Lane-Fall
Course usually offered in spring term
Prerequisite: Permission needed from Instructor
Activity: Lecture
1 Course Unit

HPR 620 Community Based Participatory Research and Action
Community engagement is essential for interventional efforts, project development, as well as asking and answering health questions in a variety of settings. As in the use of any tool, community engagement requires both knowledge and skill. This class will focus on the use of community engagement to achieve community health goals through three integrated opportunities: collaboration/partnership, evidence-based principles and organizational development. The objectives of the course are to increase knowledge and skills in the following areas: delineating the types of methods used to establish and enhance collaboration/partnership with community stakeholders, learning the theories, principles, methods and best practices of collaborating with community stakeholders, developing and applying the skills needed to participate in community based collaborative activities and gaining an understanding of organizational development and infrastructure in the non-profit sector.

Taught by: Dr. Charmaine Smith-Wright
Course usually offered in fall term
Prerequisite: Permission needed from Instructor
Activity: Lecture
1 Course Unit

HPR 650 Systems Thinking and Patient Safety
This blended online/in-classroom graduate level course integrates principles of systems thinking with foundational concepts in patient safety. Utilizing complexity theories, students assess healthcare practices and identify factors that contribute to medical errors and impact patient safety. Using a clinical microsystem framework, learners assess a potential patient safety issue and create preventative systems. Lessons learned from the science of safety are utilized in developing strategies to enhance safe system redesign.

Taught by: Drs. Kathleen Burke, Susan Keim and Catherine Wildenberg
Course usually offered in spring term
Also Offered As: NURS 650
Activity: Lecture
1 Course Unit

HPR 799 Independent Study
This course is designed to provide the student with an opportunity to gain or enhance knowledge and to explore an area of interest related to health policy research under the guidance of a faculty member.

Taught by: Faculty
Course offered summer, fall and spring terms
Prerequisites: Permission of Program Director and Faculty Member
Activity: Independent Study
1 Course Unit

HPR 951 Health Policy Research Thesis I
Each student completes a mentored research project that includes a thesis proposal and a thesis committee and results in a publishable scholarly product.

Taught by: Faculty
Prerequisite: Course only open to Masters of Science in Health Policy Research students
Activity: Masters Thesis
1 Course Unit
HEBR 051 Elementary Modern Hebrew I
An introduction to the skills of reading, writing, and conversing in modern Hebrew. This course assumes no previous knowledge of Hebrew. A grade of B- or higher is needed to proceed to HEBR 052, Elementary Modern Hebrew II.
For BA Students: Language Course
One-term course offered either term
Also Offered As: HEBR 651, JWST 051
Activity: Lecture
1 Course Unit

HEBR 052 Elementary Modern Hebrew II
A continuation of HEBR 051, First Year Modern Hebrew, which assumes basic skills of reading and speaking and the use of the present tense. Open to all students who have completed one semester of Hebrew at Penn with a grade of B- or above and new students with equivalent competency.
For BA Students: Language Course
One-term course offered either term
Also Offered As: HEBR 652, JWST 052
Prerequisite: HEBR 051 or permission of instructor
Activity: Lecture
1 Course Unit

HEBR 053 Intermediate Modern Hebrew III
Development of the skills of reading, writing, and conversing in modern Hebrew on an intermediate level. Open to all students who have completed two semesters of Hebrew at Penn with a grade of B- or above and new students with equivalent competency.
For BA Students: Language Course
One-term course offered either term
Also Offered As: HEBR 653, JWST 053
Prerequisites: HEBR 052 or permission of the instructor.
Activity: Lecture
1 Course Unit

HEBR 054 Intermediate Modern Hebrew IV
This course constitutes the final semester of Intermediate Modern Hebrew. Hence, one of the main goals of the course is to prepare the students for the proficiency exam in Hebrew. Emphasis will be placed on grammar skills and ability to read literary texts. Open to all students who have completed three semesters of Hebrew at Penn with a grade of B- or above and new students with equivalent competency.
For BA Students: Last Language Course
One-term course offered either term
Also Offered As: HEBR 654, JWST 054
Prerequisite: HEBR 053 or permission of instructor
Activity: Lecture
1 Course Unit

HEBR 059 Advanced Modern Hebrew: Reading and Composition
After four semesters of language study, it's time to enter the vibrant world of contemporary Israeli culture. In this course students read some of the best plays, poems, short stories, and journalism published in Israel today. They also watch and analyze some of Israel's most popular films, TV programs, and videos. Themes include Jewish-Arab relations, the founding of the State, family ties and intergenerational conflict, war and society, and the recent dynamic changes in Israeli society. HEBR 054 or permission of instructor. Since the content of this course may change from year to year, students may take it more than once (but only once for credit).
For BA Students: Advanced Language Course
Taught by: Engel
One-term course offered either term
Also Offered As: HEBR 552, JWST 059
Prerequisite: HEBR 054 or permission of instructor
Activity: Lecture
1 Course Unit

HEBR 151 Elementary Biblical Hebrew I
This course is an introduction to Biblical Hebrew. It assumes no prior knowledge, but students who can begin to acquire a reading knowledge of the Hebrew alphabet before class starts will find it extremely helpful. The course is the 1st of a 4-semester sequence whose purpose is to prepare students to take courses in Bible that demand a familiarity with the original language of the text.
For BA Students: Language Course
Taught by: Carasik
Course usually offered in fall term
Also Offered As: HEBR 451, JWST 171, JWST 471
Activity: Lecture
1 Course Unit

HEBR 152 Elementary Biblical Hebrew II
A continued introduction to the grammar of Biblical Hebrew, focusing on the verbal system, with an emphasis on developing language skills in handling Biblical texts. A suitable entry point for students who have had some Modern Hebrew.
For BA Students: Language Course
Taught by: Carasik
Course usually offered in spring term
Also Offered As: HEBR 452, JWST 172, JWST 472
Prerequisites: Successful completion of HEBR 151 or permission of the instructor.
Activity: Lecture
1 Course Unit
HEBR 153 Intermediate Biblical Hebrew I
This course will focus on using the grammar and vocabulary learned at the introductory level to enable students to read Biblical texts independently and take advanced Bible exegesis courses. We will also work on getting comfortable with the standard dictionaries, concordances, and grammars used by scholars of the Bible. We will concentrate on prose this semester, closely reading Ruth, Jonah, and other prose selections. We will begin to translate from English into Biblical Hebrew, and there will also be a unit on the punctuation marks used in the Bible. This is a suitable entry point for students who already have strong Hebrew skills.
For BA Students: Language Course
Taught by: Carasik
Course usually offered in fall term
Also Offered As: HEBR 454, JWST 174, JWST 473
Prerequisites: Successful completion of HEBR 152 or permission of the instructor. This course is the prerequisite for HEBR 154 (no one is "permitted" into that semester; you must take the previous semester course).
Activity: Lecture
1 Course Unit

HEBR 154 Intermediate Biblical Hebrew II
This course is a continuation of the fall semester’s Intermediate Biblical Hebrew I. No one will be admitted into the course who has not taken the fall semester. It will continue to focus on using the grammar and vocabulary learned at the introductory level to enable students to read biblical texts independently and take advanced Bible exegesis courses. We will concentrate this semester on various selections of Biblical poetry, including Exodus 15 and Job 28. We will also continue to translate English prose into Biblical Hebrew.
For BA Students: Last Language Course
Taught by: Carasik
Course usually offered in spring term
Also Offered As: HEBR 454, JWST 174, JWST 474
Prerequisites: Successful completion of HEBR 153.
Activity: Lecture
1 Course Unit

HEBR 250 Studies in the Hebrew Bible
This course introduces students to the methods and resources used in the modern study of the Bible. To the extent possible, these methods will be illustrated as they apply to a single book of the Hebrew Bible that will serve as the main focus of the course. The course is designed for undergraduates who have previously studied the Bible in Hebrew either in high school or college. The course is designed for undergraduates who have previously studied the Bible in Hebrew either in high school or college. It presupposes fluency in reading and translating Biblical Hebrew and a working knowledge of Biblical Hebrew grammar.
Course usually offered in spring term
Also Offered As: COML 228, JWST 256, RELS 220
Prerequisites: Fluency in reading and translating Biblical Hebrew and a working knowledge of Biblical Hebrew grammar.
Activity: Lecture
1 Course Unit

HEBR 258 Studies in Medieval Jewish Literature
This course will introduce students to the modern academic study of the different genres of medieval Jewish literature—poetry, narrative, interpretation of the Bible, liturgy, historiography, philosophy, sermonic, mystical and pietistic writings. In addition to studying the primary texts, the course will also explore the historical, religious, and cultural contexts in which these texts were first produced and then studied, and the aspects of Jewish historical experience that these texts reflect. The specific topic of the course (e.g. Medieval Biblical Interpretation, Kabbalah) will vary from semester to semester. In some cases, the specific topic may also be the work of a specific author, like Maimonides. Primary sources will be read in their original Hebrew. While no previous experience in studying these texts is required, students should be able to read unpointed Hebrew texts. If there is a question as to whether the course is appropriate for you, please contact the professor.
Taught by: Fishman
One-term course offered either term
Also Offered As: FOLK 258, HEBR 558, JWST 258, RELS 228
Prerequisite: Reading knowledge of Hebrew
Activity: Seminar
1 Course Unit

HEBR 259 Introduction to Modern Hebrew Literature
The objective of this course is to develop an artistic appreciation for literature through in-depth class discussions and text analysis. Readings comprised of Israeli poetry and short stories. Students examine how literary language expresses psychological and cultural realms. The covers topics such as: the image of the Israeli city, the conflict between individual dreams and national/Zionist goals, etc. Because the content of this course changes from year to year, students may take it for credit more than once.
For BA Students: Arts and Letters Sector
Taught by: Gold
Course usually offered in fall term
Also Offered As: COML 266, HEBR 559, JWST 259
Activity: Seminar
1 Course Unit
Notes: This course is conducted in Hebrew and all readings are in Hebrew. Grading is based primarily on participation and students’ literary understanding. (HEBR 054 or equivalent required)

HEBR 350 A Book of the Bible
In-depth textual study of a book of the Hebrew Bible studied in the light of modern scholarship (including archaeology and ancient Near Eastern literature) as well as ancient and medieval commentaries. The book varies each semester and the course may be repeated for credit. Prerequisite(s): Thorough command of Biblical Hebrew and prior experience studying the Bible in the original in high school, college, or a comparable setting. Language of instruction is in English.
Course usually offered in fall term
Also Offered As: HEBR 550, JWST 351, RELS 322
Prerequisites: Thorough command of Biblical Hebrew and prior experience studying the Bible in the original in high school, college, or a comparable setting. Language of instruction is in English.
Activity: Seminar
1 Course Unit
Notes: The course is designed primarily for undergraduates who have previously studied the Bible in Hebrew either in high school or college. It presupposes fluency in reading Biblical Hebrew, including a working knowledge of Biblical Hebrew grammar.
HEBR 356 Talmudic Midrashic Literature
An introduction to the reading of classical Rabbinic literature. The topic will vary ranging from Talmudic to Siddur. Readings will be in Hebrew with supplemental English works.
Course not offered every year
Also Offered As: HEBR 656
Prerequisites: Two years of Hebrew or equivalent required.
Activity: Lecture
1 Course Unit

HEBR 357 Classical Midrash & Aggadah
Readings in Rabbinic lore from classical Midrashic texts.
Two terms. Student may enter either term.
Also Offered As: HEBR 657, JWST 352, JWST 552
Prerequisites: Students must be able to read an unpointed Hebrew text.
Activity: Lecture
1 Course Unit

HEBR 358 Siddur and Piyyut
A study of the institution of Jewish prayer, its literature, and synagogue poetry. Texts will be read in Hebrew with supplementary English readings.
Course not offered every year
Also Offered As: HEBR 658, JWST 355
Prerequisite: HEBR 052 or equivalent
Activity: Lecture
1 Course Unit

HEBR 359 Seminar Modern Hebrew Literature
This course introduces students to selections from the best literary works written in Hebrew over the last hundred years in a relaxed seminar environment. The goal of the course is to develop skills in critical reading of literature in general, and to examine how Hebrew authors grapple with crucial questions of human existence and national identity. Topics include how writers speak of their own lives, how classical Hebrew texts live in contemporary Israel and how literature reflects conflicts between generations, ethnicities and belief systems. Because the content of this course changes from year to year, students may take it for credit more than once. Note: This course is conducted in Hebrew and all readings are in Hebrew. Grading is based primarily on participation and students' literary understanding. (HEBR 054 or equivalent required).
For BA Students: Arts and Letters Sector
Taught by: Gold
Course usually offered in spring term
Also Offered As: CIMS 359, COLL 227, COML 359, HEBR 659, JWST 359
Activity: Seminar
1 Course Unit
Notes: This course is conducted in Hebrew and all readings are in Hebrew. Grading is based primarily on participation and students' literary understanding. (HEBR 054 or equivalent required).

HEBR 451 Elementary Biblical Hebrew I
This course is an introduction to Biblical Hebrew. It assumes no prior knowledge, but students who can begin to acquire a reading knowledge of the Hebrew alphabet before class starts will find it extremely helpful. The course is the 1st of a 4-semester sequence whose purpose is to prepare students to take courses in Bible that demand a familiarity with the original language of the text.
For BA Students: Language Course
Taught by: Carasik
Course usually offered in fall term
Also Offered As: HEBR 151, JWST 171, JWST 471
Activity: Lecture
1 Course Unit

HEBR 452 Elementary Biblical Hebrew II
A continued introduction to the grammar of Biblical Hebrew, focusing on the verbal system, with an emphasis on developing language skills in handling Biblical texts. A suitable entry point for students who have had some Modern Hebrew.
For BA Students: Language Course
Taught by: Carasik
Course usually offered in spring term
Also Offered As: HEBR 152, JWST 172, JWST 472
Prerequisites: Successful completion of HEBR 451 or permission of the instructor.
Activity: Lecture
1 Course Unit

HEBR 453 Intermediate Biblical Hebrew I
This course will focus on using the grammar and vocabulary learned at the introductory level to enable students to read Biblical texts independently and take advanced Bible exegesis courses. We will also work on getting comfortable with the standard dictionaries, concordances, and grammars used by scholars of the Bible. We will concentrate on prose this semester, closely reading Ruth, Jonah, and other prose selections. We will begin to translate from English into Biblical Hebrew, and there will also be a unit on the punctuation marks used in the Bible. This is a suitable entry point for students who already have strong Hebrew skills.
For BA Students: Language Course
Taught by: Carasik
Course usually offered in fall term
Also Offered As: HEBR 153, JWST 173, JWST 473
Prerequisites: Successful completion of HEBR 452 or permission of the instructor. This course is the prerequisite for HEBR 454 (no one is "permitted" into that semester; you must take the previous semester course).
Activity: Lecture
1 Course Unit

HEBR 454 Intermediate Biblical Hebrew II
This course is a continuation of the fall semester's Intermediate Biblical Hebrew I. No one will be admitted into the course who has not taken the fall semester. It will continue to focus on using the grammar and vocabulary learned at the introductory level to enable students to read biblical texts independently and take advanced Bible exegesis courses. We will concentrate this semester on various selections of Biblical poetry, including Exodus 15 and Job 28. We will also continue to translate English prose into Biblical Hebrew.
For BA Students: Last Language Course
Taught by: Carasik
Course usually offered in spring term
Also Offered As: HEBR 154, JWST 174, JWST 474
Prerequisites: Successful completion of HEBR 453.
Activity: Lecture
1 Course Unit

HEBR 455 Post-Baccalaureate Hebrew Texts
Course not offered every year
Activity: Lecture
1 Course Unit
HEBR 486 Rabbinic Writers on Rabbinic Culture
This course traces reflections on rabbinic culture produced within Jewish legal literature of the classic rabbinic period - Midrash, Mishna, and Talmud - and in later juridical genres - Talmudic commentary, codes and responses. Attention will be paid to the mechanics of different genres, the role of the underlying proof text, the inclusion or exclusion of variant opinions, the presence of non-legal information, the balance between precedent and innovation. Reading knowledge of Hebrew is required.
Taught by: Fishman
Course not offered every year
Also Offered As: JWST 426, RELS 426
Prerequisite: Reading knowledge of Hebrew
Activity: Seminar
1 Course Unit

HEBR 550 A Book of the Bible
In-depth textual study of a book of the Hebrew Bible studied in the light of modern scholarship (including archaeology and ancient Near Eastern literature) as well as ancient and medieval commentaries. The book varies each semester and the course may be repeated for credit. Prerequisite(s): Thorough command of Biblical Hebrew and prior experience studying the Bible in the original in high school, college, or a comparable setting. Language of instruction is in English.
Course usually offered in fall term
Also Offered As: HEBR 350, JWST 351, RELS 322
Prerequisites: Thorough command of Biblical Hebrew and prior experience studying the Bible in the original in high school, college, or a comparable setting. Language of instruction is in English.
Activity: Seminar
1 Course Unit
Notes: The course is designed primarily for undergraduates who have previously studied the Bible in Hebrew either in high school or college. It presupposes fluency in reading Biblical Hebrew, including a working knowledge of Biblical Hebrew grammar.

HEBR 552 Advanced Modern Hebrew: Reading and Composition
After four semesters of language study, it’s time to enter the vibrant world of contemporary Israeli culture. In this course students read some of the best plays, poems, short stories, and journalism published in Israel today. They also watch and analyze some of Israel's most popular films. Themes include Jewish-Arab relations, the founding of the State, family ties and intergenerational conflict, war and society, and the recent dynamic changes in Israel society. HEBR 054 or permission of instructor. Since the content of this course may change from year to year, students may take it for credit more than once. Note: This course is conducted in Hebrew and all readings are in Hebrew. Grading is based primarily on participation and students' literary understanding. (HEBR 054 or equivalent required) The content of this course changes from year to year, students may take it for credit more than once.
Taught by: Fishman
One-term course offered either term
Also Offered As: FOLK 258, HEBR 258, JWST 258, RELS 228
Prerequisites: FOLK 258, HEBR 258, JWST 258, RELS 228
Activity: Undergraduates need permission from the instructor.
1 Course Unit

HEBR 558 Studies in Medieval Jewish Literature
This course will introduce students to the modern academic study of the different genres of medieval Jewish literature—poetry, narrative, interpretation of the Bible, liturgy, historiography, philosophy, sermonic, mystical and pietistic writings. In addition to studying the primary texts, the course will also explore the historical, religious, and cultural contexts in which these texts were first produced and then studied, and the aspects of Jewish historical experience that these texts reflect. The specific topic of the course (eg. Medieval Biblical Interpretation, Kabbalah) will vary from semester to semester. In some cases, the specific topic may also be the work of a specific author, like Maimonides. Primary sources will be read in their original Hebrew. While no previous experience in studying these texts is required, students should be able to read unpointed Hebrew texts. If there is a question as to whether the course is appropriate for you, please contact the professor.
Taught by: Fishman
One-term course offered either term
Also Offered As: JWST 426, RELS 426
Prerequisite: Thorough command of Biblical Hebrew and prior experience studying the Bible in the original in high school, college, or a comparable setting. Language of instruction is in English.
Activity: Seminar
1 Course Unit

HEBR 559 Introduction to Modern Hebrew Literature
The objective of this course is to develop an artistic appreciation for literature through in-depth class discussions and text analysis. Readings comprised of Israeli poetry and short stories. Students examine how literary language expresses psychological and cultural realms. The covers topics such as: the image of the Israeli city, the conflict between individual dreams and national/Zionist goals, etc. Because the content of this course changes from year to year, students may take it for credit more than once. Note: This course is conducted in Hebrew and all readings are in Hebrew. Grading is based primarily on participation and students' literary understanding. (HEBR 054 or equivalent required) The content of this course changes from year to year, thus students may take it for credit more than once.
Taught by: Gold
One-term course offered in fall term
Also Offered As: COLL 227, COML 266, HEBR 259, JWST 259
Prerequisites: HEBR 059 or equivalent.
Activity: Seminar
1 Course Unit
Notes: The class will be conducted in Hebrew and the texts read in the original dents There will be 3-4 short papers and a final exam.

HEBR 583 Studies in Medieval Jewish Culture
Primary sources include readings from ancient, medieval and early modern Jewish texts. Students must be able to read unvocalized Hebrew. Open to undergraduates only with instructor's permission.
Taught by: Fishman
Course usually offered in fall term
Also Offered As: HIST 523, JWST 523, RELS 523
Prerequisites: Reading knowledge of Hebrew.
Activity: Seminar
1 Course Unit

HEBR 651 Elementary Modern Hebrew I
An introduction to the skills of reading, writing, and conversing in Modern Hebrew. This course assumes no previous knowledge of Hebrew.
For BA Students: Language Course
One-term course offered either term
Also Offered As: HEBR 051, JWST 051
Activity: Lecture
1 Course Unit
HEBR 652 Elementary Modern Hebrew II
A continuation of HEBR 051, First Year Modern Hebrew, which assumes basic skills of reading and speaking and the use of the present tense. Open to all students who have completed one semester of Hebrew at Penn with a grade of B- or above and new students with equivalent competency.
For BA Students: Language Course
Also Offered As: HEBR 052, JWST 052
Prerequisite: HEBR 651 or permission of instructor
Activity: Lecture
1 Course Unit

HEBR 653 Intermediate Modern Hebrew III
Development of the skills of reading, writing, and conversing in Modern Hebrew on an intermediate level. Open to all students who have completed two semesters of Hebrew at Penn with a grade of B- or above and new students with equivalent competency.
For BA Students: Language Course
One-term course offered either term
Also Offered As: HEBR 053, JWST 053
Prerequisites: HEBR 652 or permission of the instructor.
Activity: Lecture
1 Course Unit

HEBR 654 Intermediate Modern Hebrew IV
This course constitutes the final semester of Intermediate Modern Hebrew. Hence, one of the main goals of the course is to prepare the students for the proficiency exam in Hebrew. Emphasis will be placed on grammar skills and ability to read literary texts. Open to all students who have completed three semesters of Hebrew at Penn with a grade of B- or above and new students with equivalent competency.
For BA Students: Last Language Course
One-term course offered either term
Also Offered As: HEBR 054, JWST 054
Prerequisite: HEBR 653 or permission of instructor.
Activity: Lecture
1 Course Unit

HEBR 656 Talmudic Midrashic Literature
An introduction to the reading of classical Rabbinic literature. The topic will vary ranging from Talmudic to Siddur. Readings will be in Hebrew with supplementary English works.
Course not offered every year
Also Offered As: HEBR 356
Prerequisites: Two years of Hebrew or equivalent required.
Activity: Lecture
1 Course Unit

HEBR 657 Classical Midrash & Aggadah
Readings in Rabbinic lore from classical Midrashic texts.
Two terms. student may enter either term.
Also Offered As: HEBR 357, JWST 352, JWST 552
Prerequisites: Students must be able to read an unpointed Hebrew text.
Activity: Lecture
1 Course Unit

HEBR 658 Siddur & Piyyut
A study of the institution of Jewish prayer, its literature, and synagogue poetry. Texts will be read in Hebrew with supplementary English readings.
Also Offered As: HEBR 358, JWST 355, JWST 655
Prerequisite: HEBR 054 or equivalent
Activity: Lecture
1 Course Unit

HEBR 659 Seminar Modern Hebrew Literature
This course introduces students to selections from the best literary works written in Hebrew over the last hundred years in a relaxed seminar environment. The goal of the course is to develop skills in critical reading of literature in general, and to examine how Hebrew authors grapple with crucial questions of human existence and national identity. Topics include how writers speak of their own lives, how classical Hebrew texts live in contemporary Israel and how literature reflects conflicts between generations, ethnicities and belief systems. Because the content of this course changes from year to year, students may take it for credit more than once.
Taught by: Gold
Course not offered every year
Also Offered As: CIMS 359, COLL 227, COML 359, HEBR 359, JWST 359
Prerequisites: HEBR 059 or HEBR 259 or permission of the instructor.
Activity: Seminar
1 Course Unit
Notes: The content of this course changes from year to year; and, therefore, students may take it for credit more than once.

Hindi (HIND)

HIND 400 Beginning Hindi-Urdu Part I
This introductory course core proficiency in Hindi-Urdu up to the intermediate level. It is designed for students with little or no prior exposure to Hindi or Urdu. The course covers all four language skills (speaking, listening, reading, and writing) and all three models of communication (interpersonal, presentational, interpretive). Students will develop literacy skills in the primary script of their choice (Hindi or Urdu script). All written materials will be provided in both scripts. All meetings are interactive and students acquire the language by using it in realistic contexts. Culture is embedded in the activities and is also introduced through various authentic materials.
For BA Students: Language Course
Taught by: Pien
Course usually offered in fall term
Also Offered As: NELC 401, URDU 401
Activity: Lecture
1 Course Unit
HIND 401 Beginning Hindi-Urdu Part II

This introductory course core proficiency in Hindi-Urdu up to the intermediate level. It is designed for students with little or no prior exposure to Hindi or Urdu. The course covers all four language skills (speaking, listening, reading, and writing) and all three models of communication (interpersonal, presentational, interpretive). Students will develop literacy skills in the primary script of their choice (Hindi or Urdu script). All written materials will be provided in both scripts. All meetings are interactive and students acquire the language by using it in realistic contexts. Culture is embedded in the activities and is also introduced through various authentic materials.

For BA Students: Language Course
Taught by: Pien
Course usually offered in spring term
Also Offered As: NELC 402, URDU 402
Prerequisites: Beginning Hindi or Urdu Part I or equivalent ascertained through placement test or permission of instructor.
Activity: Lecture
1 Course Unit

HIND 420 Intermediate Hindi Part I

In Intermediate Hindi the student continues to develop the four language skills, with an emphasis on real-life situations–through hearing and practicing conversation on everyday topics, reading a variety of authentic texts ranging from advertisements to short stories, watching segments of current films, and carrying out short research projects using Hindi sources. There is a strong emphasis on vocabulary development and on using contextually appropriate styles of spoken and written Hindi.

For BA Students: Language Course
Taught by: Pien
Two terms. student must enter first term.
Activity: Lecture
1 Course Unit

HIND 421 Intermediate Hindi Part II

In Intermediate Hindi the student continues to develop the four language skills, with an emphasis on real-life situations–through hearing and practicing conversation on everyday topics, reading a variety of authentic texts ranging from advertisements to short stories, watching segments of current films, and carrying out short research projects using Hindi sources. There is a strong emphasis on vocabulary development and on using contextually appropriate styles of spoken and written Hindi.

For BA Students: Language Course
Taught by: Pien
Course usually offered in spring term
Prerequisites: Intermediate Hindi Part I or equivalent ascertained through placement test or permission of instructor.
Activity: Lecture
1 Course Unit

HIND 430 Advanced Hindi

Advanced Hindi aims at systematically developing higher level linguistic functions and cultural nuances. Students learn to describe, narrate and support opinions in informal and formal styles. The objective of the course is to promote a meaningful interaction with written literature and with native speakers in a socially acceptable manner in a variety of simple and complicated situations. A variety of authentic materials are used, such as short stories, plays, newspapers, magazines, videos, television and radio broadcasts, and interviews. Every semester the course materials and foci vary depending on the needs and interests of students in the class.

For BA Students: Advanced Language Course
Taught by: Pien
Course usually offered in fall term
Activity: Lecture
1 Course Unit

HIND 500 Beginning Hindi-Urdu, For Graduate Students ONLY

Beginning in the fall semester of 2014 Beginning Hindi and Beginning Urdu will be merged into a single course, Beginning Hindi-Urdu. At the beginning level spoken Urdu and Hindi are identical except for a few minor points. The broad outline of the course will thus remain the same as that of the current Beginning Hindi and Urdu courses. Students will learn to communicate with the language in a variety of everyday culturally authentic situations. Additional Urdu and Hindi culture will be integrated through authentic materials such as Bollywood film and music clips, and simple written texts. There will be equal emphasis on both scripts and cultures, and parallel written materials will be provided in both scripts. Students will be expected to develop first-year proficiency in one script of their choice, and will be encouraged to learn both. By merging the two courses students will be exposed to a broader range of linguistic and cultural styles, and students will thus have the opportunity to develop a deeper understanding that more closely resembles that of Hindi and Urdu native speakers. Please direct further inquiries to Josh Pien at jpien@sas.upenn.edu See schedule and classroom for HIND400/401

Activity: Lecture
1 Course Unit

HIND 520 Intermediate Hindi I for Graduate Students Only

In Intermediate Hindi the student continues to develop the four language skills, with an emphasis on real-life situations–through hearing and practicing conversation on everyday topics, reading a variety of authentic texts ranging from advertisements to short stories, watching segments of current films, and carrying out short research projects using Hindi sources. There is a strong emphasis on vocabulary development and on using contextually appropriate styles of spoken and written Hindi.

Activity: Lecture
1 Course Unit

HIND 530 Advanced Hindi for Graduate Students Only

Activity: Lecture
1 Course Unit
## Historic Preservation (HSPV)

### HSPV 521 American Architecture
This course is a survey of architecture in the United States. The organization, while broadly chronological, emphasizes themes around which important scholarship has gathered. The central purpose is to acquaint you with major cultural, economic, technological, and environmental forces that have shaped buildings and settlements in North America for the last 400 years. To that end, we will study a mix of "high-style" and "vernacular" architectures while encouraging you to think critically about these categories. Throughout the semester, you will be asked to grapple with both the content of assigned readings (the subject) and the manner in which authors present their arguments (the method). Louis Sullivan, for instance, gives us the tall office building "artistically considered" while Carol Willis presents it as a financial and legal artifact. What do you make of the difference? Finally, you will learn how to describe buildings. While mastery of architectural vocabulary is a necessary part of that endeavor, it is only a starting point. Rich or "thick" description is more than accurate prose. It is integral to understanding the built environment - indeed, to seeing it at all.

Taught by: Wunsch
Course usually offered in fall term
Activity: Lecture
1 Course Unit

### HSPV 528 American Vernacular Architecture
This course explores the form and development of America's built landscape—its houses, farm buildings, churches, factories, and fields—as a source of information on folk history, vernacular culture, and architectural practice.

Taught by: St. George
Course not offered every year
Also Offered As: HIST 528
Activity: Seminar
1 Course Unit

### HSPV 530 American Domestic Interiors Before 1850
The American domestic interior from the early British and French settlements in North America until 1850. Emphasis will be on the social, economic, and technological forces as well as the European influences that determined household decoration ranging from the decorative arts to floor, wall, and window treatments.

Taught by: Winkler
One-term course offered either term
Activity: Lecture
1 Course Unit

### HSPV 531 American Domestic Interiors
This course will examine the American domestic interior from the seventeenth century through the twentieth century with emphasis on the cultural, economic, and technological forces that determined the decoration and furnishing of the American home. Topics to be covered include the decorative arts; floor, wall and window treatments; and developments in lighting, heating, plumbing, food preparation and service, and communication technologies. In addition to the identification of period forms and materials, the course will give special emphasis to historical finishes. The final project will involve re-creation of an historic interior based on in-depth household inventory analysis and study.

Several class periods will be devoted to off-site field trips.

Taught by: Stutman
Course usually offered in spring term
Activity: Lecture
1 Course Unit

### HSPV 538 Cultural Landscapes and Landscape Preservation
The course introduces the history and understanding of common American landscapes and surveys the field of cultural landscape studies. Methods of Methods of landscape preservation are also surveyed. The cultural-landscape perspective is a unique lens for understanding the evolution of the built environment, the experience of landscapes, and the abstract economic, political and social processes that shape the places where most Americans spend most of their time. The course will focus on the forces and patterns (natural and cultural) behind the shaping of recognizably "American" landscapes, whether urban, suburban, or rural. Methods for documenting and preserving cultural landscapes will be surveyed. Class discussions, readings, and projects will draw on several disciplines—cultural geography, vernacular architecture, environmental history, historic preservation, ecology, art, and more.

Taught by: Mason
Course not offered every year
Activity: Lecture
1 Course Unit

### HSPV 540 American Building Technology I
Much architectural writing—from Vitruvius to Le Corbusier—has drawn analogous comparisons between buildings and the human body. Like the skeleton, skin, and internal metabolic systems of the human corpus, buildings are comprised of a structure, infrastructure, and outer surface which are all connected and through which liquids, gases and solids pass. Traditionally, form depended in large part on systems of construction and the selection and manipulation of individual materials. Understanding architecture's materiality in terms of form and fabric, structure and skin, and mechanical systems is essential in understanding not only what a building is, but how it evolves over time. American Building Technology will be divided into two discreet six week modules conceived in succession and taught during the second half of the first semester and first half of the second semester respectively. Module 1: Building Technology will examine traditional construction methods through a typological analysis of construction systems. Module 2: Building Building Archaeology will address the morphological evolution of a structure and its physical setting, sometimes known as "above ground archaeology." Since the physical fabric and its evidences of cultural alteration present one primary mode of inquiry, archaeological theory and method provide an excellent means to recover, read, and interpret material evidence, especially in association with documentary and archival sources. The course is intended to introduce students in Historic Preservation to the physical realities of built form and its analysis through careful observation and description. Note: This course continues in the first half of the spring semester for another 0.5 CU.

Taught by: Matero
Course usually offered in fall term
Activity: Lecture
0.5 Course Units
**HSPV 541 American Building Technology II: Building Archaeology**

Built works—be they barns or bridges, gardens or corn fields, palaces or pit houses—all embody something of their makers and users, and the prevailing social and cultural norms of the day. As a form of material culture, things—buildings and landscapes—are made and modified consciously and unconsciously, reflecting individual and societal forces at play. Since the physical fabric and its alteration present one primary mode of evidence, their investigation provides a critical form of research, especially in association (and often in contest) with archival documentary sources and oral histories. This course will examine the theories and techniques used to investigate the morphological evolution of built works, sometimes known as "above ground archaeology". Students will learn and apply methods relevant to the reading of architectural fabric. Methods of investigation will include absolute and relative dating techniques such as dendrochronology, finishes stratigraphy, mortar analysis, and various typological - seriation studies including framing, molding, fastener (nails and screws), and hardware analyses. Students are expected to use this knowledge in combination with the recording skills of HSPV 601 to record their assigned sites.

Taught by: Matero  
Course usually offered in spring term  
Activity: Lecture  
0.5 Course Units

**HSPV 545 Mechanical Systems of Historic Buildings**

Mechanical systems will be examined topically from the late 17th through the early 20th centuries, including lighting, water systems, drainage, heating, ventilation, kitchens, and security systems. The course equally divides between understanding historic systems and problems of introducing modern mechanical systems into historic buildings.

Taught by: Moss  
Course offered spring; odd-numbered years  
Activity: Lecture  
1 Course Unit

**HSPV 551 Building Pathology**

This course addresses the subject of deterioration of buildings, their materials, assemblies and systems, with the emphasis on the technical aspects of the mechanisms of deterioration and their enabling factors, material durability and longevity of assemblies. Details of construction and assemblies are analyzed relative to functional and performance characteristics. Lectures cover: concepts in durability; climate; psychrometric, soils & hydrologic; conditions; physics of moisture in buildings; enclosure, wall and roof systems; structural systems; and building services systems with attention to performance, deterioration, and approaches to evaluation of remedial interventions.

Taught by: Henry  
Course usually offered in spring term  
Prerequisites: HSPV 555 or one technical course in architecture.  
Activity: Seminar  
1 Course Unit

**HSPV 552 Building Diagnostics and Monitoring**

Building diagnostics pertain to the determination of the nature of a building's condition or performance and the identification of the corresponding causative pathologies by a careful observation and investigation of its history, context and use, resulting in a formal opinion by the professional. Monitoring, a building diagnostic tool, is the consistent observation and recordation of a selected condition or attribute, by qualitative and/or quantitative measures over a period of time in order to generate useful information or data for analysis and presentation. Building diagnostics and monitoring allow the building professional to identify the causes and enabling factors of past or potential pathologies in a building and building systems, thus informing the development appropriate interventions or corrective measures. In the case of heritage buildings, the process informs the selection of interventions that satisfy the stewardship goals for the cultural resource. In the case of recently constructed buildings, the process informs the identification of envelope and systems interventions for improved performance and energy efficiency.

Taught by: Henry  
Course usually offered in fall term  
Activity: Lecture  
1 Course Unit

**HSPV 555 Conservation Science**

This course provides an introduction to architectural conservation and the technical study of traditional building materials. Lectures and accompanying laboratory sessions introduce the nature and composition of these materials, their properties, and mechanisms of deterioration, and the general laboratory skills necessary for field and laboratory characterization. Knowledge of basic college level chemistry is required.

Taught by: Matero  
Course usually offered in spring term  
Activity: Seminar  
1 Course Unit  
Notes: $30 Lab Fee

**HSPV 556 Documentation and Conservation of the Historic Landscape**

"Landscape conservation" is a growing concern in contemporary preservation circles. It is a multi-faceted issue, drawing on the fields of landscape architecture, horticulture, architectural history, regional planning, and archaeology. This course aims to provide a comprehensive overview, a look at the state-of-the-art, including philosophical issues, attempts at international and national guidelines, evaluative/survey systems, technical investigation techniques, and selected case studies. Students will be asked to analyze and develop a preliminary conservation plan for a selected site in the Philadelphia area.

Course not offered every year  
Activity: Lecture  
1 Course Unit
HSPV 572 Preservation Through Public Policy
This course explores the intersection between historic preservation, design and public policy, as it exists and as it is evolving. That exploration is based on the recognition that a network of law and policy at the federal, state and local level has direct and profound impact on the ability to manage cultural resources, and that the pieces of that network, while interconnected, are not necessarily mutually supportive. The fundamental assumption of the course is that the preservation professional must understand the capabilities, deficiencies, and ongoing evolution of this network in order to be effective. The course will look at a range of relevant and exemplary laws and policies existing at all levels of government, examining them through case studies and in-depth analyses of pertinent programs and agencies at the local, state and federal level.
Taught by: Hollenberg
Course usually offered in spring term
Activity: Lecture
1 Course Unit

HSPV 600 Documentation, Research, Recording 1
The goal of this course is to help students learn to contextualize the history of buildings and sites. In order to gain first-hand exposure to the actual materials of building histories, we will visit a half-dozen key archival repositories. Students will work directly with historical evidence, including maps, deeds, the census, city directories, insurance surveys, photographs, and many other kinds of archival materials. After discussing each type of document in terms of its nature and the motives for its creation, students will complete a series of projects that develop their facility for putting these materials to effective use. Philadelphia is more our laboratory than a primary focus in terms of content, as the city is rich in institutions that hold over three centuries of such materials; students will find here both an exposure to primary documents of most of the types they might find elsewhere, as well as a sense of the culture of such institutions and of the kinds of research strategies that can be most effective. The final project is the completion of an historic register nomination.
Taught by: Ammon/Wunsch
Course usually offered in fall term
Activity: Lecture
1 Course Unit

HSPV 601 Documentation, Research, Recording II
Documentation, Research, Recording II. This course provides an introduction to the survey and recording of historic buildings and sites. Techniques of recording include traditional as well as digitally-based methods including field survey, measured drawings, photography and rectified photography. Emphasis is placed on the use of appropriate recording tools in the context of a thorough understanding of the historical significance, form and function of sites. Required for first-year MSHP students; others by permission.
Taught by: Matero/Mason/Faculty
Course usually offered in spring term
Activity: Studio
1 Course Unit

HSPV 606 Historic Site Management
The course focuses on management, planning, and decision-making for all types of heritage sites from individual buildings to historic sites to whole landscapes. Course material will draw on model approaches to management, as well as a series of domestic and international case studies, with the goal of understanding the practicalities of site management. Particular topics to be examined in greater detail might include conservation policy, interpretation, tourism, or economic development strategies.
Taught by: Faculty
Course usually offered in spring term
Activity: Lecture
1 Course Unit

This course explores the literal and literary landscapes of 19th-century Paris and Philadelphia, with particular attention to the ways in which the built environment is shaped by and shapes shifting ideologies in the modern age. Although today the luxury and excesses of the "City of Light" may seem worlds apart from the Quaker simplicity of the "City of Brotherly Love", Paris and Philadelphia saw themselves as partners and mutual referents during the 1800s in many areas, from urban planning to politics, prisons to paleontology. This interdisciplinary seminar will include readings from the realms of literature, historical geography, architectural history, and cultural studies as well as site visits to Philadelphia landmarks, with a view to uncovering overlaps and and resonances among different ways of reading the City. We will facilitate indepth research by students on topics relating to both French and American architectural history, literature, and cultural thought.
Taught by: Goulet/Wunsch
Course usually offered in spring term
Also Offered As: COML 625, FREN 620
Activity: Seminar
1 Course Unit

HSPV 621 Social Justice Seminar
How do historic preservation and other design professionals contribute to more equitable and just societies? How can our work be organized to result in greater equity, access and social justice? This seminar will explore connections between historic preservation (and related design, planning and artistic practices) and the pursuit of social justice. Our investigations will focus on both conceptual and theoretical constructions (how we think about social justice) and practical examples of advancing social outcomes through preservation and design. We'll draw on work by: geographers, anthropologists and other social scientists and theorists; historians; design practitioners; heritage organizations; artists; and more. Subjects will include public interest design, creative placemaking, public art, memorialization, and methods of practice and institutional organization. The course will progress through a series of weekly topics, often including guest practitioners and scholars. Students will bear significant responsibility for helping flesh out the topics and cases we study; final projects (individual and at group) will be envisioned as a statement (in the form of a book or exhibit) of how social justice concerns have reshaped practice and how they could reshape our fields in the future.
Taught by: Mason
Course usually offered in spring term
Activity: Seminar
1 Course Unit
HSPV 624 Digital Media for Historic Preservation
A required praxis course designed to introduce students to the techniques and application of digital media for visual and textual communication. Techniques will be discussed for preservation use including survey, documentation, relational databases, and digital imaging and modeling.
Taught by: Hinchman
Course usually offered in fall term
Activity: Lecture
1 Course Unit

HSPV 625 Preservation Economics
The primary objective is to prepare the student, as a practicing preservationist, to understand the language of the development community, to make the case through feasibility analysis why a preservation project should be undertaken, and to be able to quantify the need for public/non-profit intervention in the development process. A second objective is to acquaint the student with the measurements of the economic impact of historic preservation and to critically evaluate "economic hardship" claims made to regulatory bodies by private owners.
Taught by: Ryekema
Course usually offered in spring term
Activity: Lecture
1 Course Unit

HSPV 637 Landscape Preservation Seminar
The seminar on the Common American Landscape concentrates on a selected topic which illuminates a typical land/or significant aspect of the American landscape in a particular time and place.
Course not offered every year
Activity: Seminar
1 Course Unit

HSPV 638 Topics in Historic Preservation
Spring 2016: This seminar will examine the role of sound in shaping modern urban spaces and life. While music plays a large part in the sounds of the city, we will focus on soundscapes more broadly. From the late 19th century through the present, and in geographies spanning from Paris to Philadelphia, we will explore the making, meaning, and experience of sound for varied populations; the politics of sound as an instrument of power; and the policies of noise regulation. As an interdisciplinary seminar supported by the Mellon Humanities+Urbanism +Design Initiative, the course will bring together students and faculty from diverse fields to probe the subject of urban sound through the lenses of both theory and practice. We will read across a wide variety of disciplines, including urban and environmental history, sound studies, urban geography, the history of sensation, musicology, anthropology and critical theory. We will engage with sound archives, installations, films, and photographs, and also have an opportunity to make field recordings of our own. The format of the final project is flexible and could include a research paper, theoretical essay, visualizations, GIS mapping, sonic compositions, short film, or other types of media. Instructors: Francesca Ammon and Naomi Waltham-Smith.
Taught by: HSPV Faculty
Course usually offered in spring term
Activity: Seminar
1 Course Unit

HSPV 640 Contemporary Design in Historic Settings
Thoughtful contemporary design can add value and meaning to historic settings of any scale. Rigorous dialogue with history and context enriches contemporary design. This seminar immerses students in the rewarding yet challenging realm of design with landmarks and existing structures. It will encourage participants to create their own models for design and preservation planning through discussion of source materials that illustrate the political, cultural and aesthetic environments that have shaped regulation and design with heritage throughout the past century. Sketch problems set in Philadelphia and analysis of case studies from around the world will enable students to critique and communicate a range of responses to landmarks and historic contexts, and to explore the roles of significance, physical and intangible conditions in shaping appropriate responses.
Taught by: Hawkes
Course usually offered in fall term
Activity: Seminar
1 Course Unit

HSPV 650 European Conservation
A three to four week summer course offered in different locations in Europe to teach international theories and methodologies of conservation as practiced there. Lectures, documentation, field work, and field trips will be involved. Past course locations included Italy, England and Turkey. Travel and residence fees may be extra. Offered every year.
Taught by: Mason
Activity: Lecture
1 Course Unit

HSPV 656 Advanced Conservation Science
A methodological approach to the examination and analysis of historic building materials is introduced. Experimental design for conducting conservation research plus statistical analysis and modeling of research data will further complete the discussion. Practical analytical techniques appropriate for conservation practice including: classical and advanced instrumental techniques for qualitative and quantitative analysis of organic and inorganic materials will be discussed. Theoretical and practical applications of advanced surface techniques for both elemental and molecular/composition analysis as well as applications of nanotechnology and nanomaterials in conservation will be covered. Students will also learn about deterioration processes and long term effects of conservation treatments through accelerated aging techniques. Course materials will be taught through lectures, invited speakers, lab visits and laboratory sessions by practicing learned techniques and procedures on related masonry samples, along with provided course readings and literature.
Taught by: Vatankhah
One-term course offered either term
Prerequisites: HSPV 555, Conservation Science or Permission of the Instructor
Activity: Lecture
1 Course Unit
HSPV 660 Theories of Historic Preservation
Theories of historic preservation serve as models for practice, integrating the humanistic, artistic, design, scientific and political understandings of the field. This course examines the historical evolution of historic preservation, reviews theoretical frameworks and issues, and explores current modes of practice. Emphasis is placed on literacy in the standard preservation works and critical assessment of common preservation concepts. In addition to readings and lectures, case studies from contemporary practice will form the basis for short assignments. Professional ethics are reviewed and debated. The instructor’s permission is required for any student not registered in the Graduate Program in Historic Preservation. Note that the course is organized in two parts; the first half, on the basics of preservation theory, is taught in the fall semester while the second half takes place in the spring semester and engages advanced topics. Note: this course continues in the second half of the spring semester for another 0.5 CU.
Taught by: Mason
Course usually offered in fall term
Prerequisites: Instructor’s permission required for any student not registered in the Graduate Program in Historic Preservation.
Activity: Lecture
0.5 Course Units

HSPV 661 Theories of Historic Preservation II
Theories of historic preservation serve as models for practice, integrating the humanistic, artistic, design, scientific and political understandings of the field. HSPV 661 builds on HSPV 660, which examines the historical evolution of historic preservation, reviews theoretical frameworks and issues, and explores current modes of practice. HSPV 661 engages advanced topics such as cultural landscape theory, economics of preservation, sustainability and environmental conservation, social justice, and urban design. In addition to readings and lectures, case studies from contemporary practice will be used to examine theories in practice. The principal assignment will be a term research paper. The instructor’s permission is required for any student not registered in the Graduate Program in Historic Preservation. (Note that the course is the second of two parts; the first half, on the basics of preservation theory is taught in the fall semester while the second half takes place in the spring semester.)
Taught by: Mason
Course usually offered in spring term
Activity: Seminar
0.5 Course Units

HSPV 671 Historic Preservation Law
Introduction to the legal framework of urban planning and historic preservation, with special emphasis on key constitutional issues, zoning, historic districts, growth management, and state and local laws for conserving historic buildings.
Taught by: Michael
Course usually offered in spring term
Activity: Lecture
1 Course Unit

HSPV 701 Historic Preservation Studio
The studio is a practical course in planning architectural, urban and regional conservation interventions, bringing to bear the wide range of skills and ideas at play in the field of historic preservation. Recognizing that historical areas are complex entities where cultural and socio-economic realities, land use, building types, and the legal and institutional setting are all closely interrelated, the main focus of the studio is understanding the cultural significance of the built environment, and the relation of this significance to other economic, social, political and aesthetic values. Through the documentation and analysis of a selected study area, studio teams undertake planning exercises for an historical area, consult with communities and other stakeholders, carry out documentation and historical research, and create policies and projects. The studio seeks to demonstrate how, through careful evaluation of problems and potentials, preservation planning can respond to common conflicts between the conservation of cultural and architectural values and the pressure of social forces, economic interest, and politics. The studio focuses on a specific site in need of comprehensive preservation effort, most often in Philadelphia proper. Students work in teams as well as on individual projects. Consultation with local preservation and planning groups, community representatives, and faculty advisors informs research and analyze the study area, helping to define major preservation planning problems and opportunities, formulate policies, and propose preservation plans and actions.
Taught by: Mason/Wang/Hawkes
Course usually offered in fall term
Activity: Studio
2 Course Units

HSPV 703 Pienza Studio/Seminar
This hybrid seminar-studio course will explore advanced topics in urban conservation and landscape preservation through application to the challenges Italian case studies, principally Pienza. This Tuscan town possesses several highly significant layers of urban history, a rich set of connections to the regional landscape, and significant challenges from tourism. Planning, design and preservation interventions in this context will be a practical focus of the studio aspects of the course. (Other case studies in Italy will also be presented, including Rome’s Centro and the archaeological site of Cosa.) The seminar components of the course will delve into the literature on urban conservation in Italy and elsewhere. The course will run in parallel to-and collaboration with - a Landscape Architecture studio led by Laurie Olin. Travel to Italy during March’s spring break is planned. Permission of department required to enroll. Please email Program Coordinator Amanda Bloomfield: amab@design.upenn.edu.
Taught by: Mason
Course usually offered in spring term
Activity: Seminar
1 Course Unit
HSPV 710 Thesis I
Students are admitted to thesis after completion of two semesters or their equivalent in the graduate program. Theses should be based on original research and relate to each student’s elected concentration in history, theory, technology, planning or design. Thesis proposals are required at the time of fall enrollment, and during the fall semester thesis students are required to defend their topics before preservation faculty and students. Thesis guidelines, available in the Historic Preservation office, describe other details.
Taught by: Faculty
Course usually offered in fall term
Activity: Independent Study
1 Course Unit

HSPV 711 Thesis II
Students are admitted to thesis after completion of three semesters or their equivalent in the graduate program. Theses should be based on original research and relate to each student’s elected concentration in history, theory, technology, planning, or design. Thesis proposals are required at the time of fall enrollment, and during the fall semester thesis students are required to defend their topics before preservation faculty and students. Thesis guidelines, available in the Historic Preservation office, describe other details.
Taught by: Faculty
Course usually offered in spring term
Activity: Independent Study
1 Course Unit

HSPV 713 TOPICAL STUDIO/SEMINAR: PROFESSIONAL PRACTICE & ARCHITECTURAL CONSERVATION
This course is intended to introduce students to the professional practice of architectural conservation and illustrate how the technical knowledge gained through their academic studies is applied in the real world. It will include a discussion of the role of the architectural conservator within the larger preservation and restoration fields, as well as the concept of professional leadership. A significant portion of the course will be dedicated to project management—from writing a proposal to developing and implementing a work plan for a conservation project. The project management portion of the course will also review the typical progression of a project through design and construction phases, highlighting the role that the conservator plays in both. The course will include: lectures; site visits to current or recently completed conservation projects; in-class discussions and assignments related to typical tasks and challenges faced by architectural conservators in their daily professional life; and guest lecturers discussing the importance of inter-disciplinary collaboration. Permission of department required to enroll. Please email Program Coordinator Amanda Bloomfield: amab@design.upenn.edu
Taught by: Krotzer
Course usually offered in spring term
Prerequisites: Permission of the department is required to enroll.
Activity: Seminar
1 Course Unit

HSPV 739 Conservation Seminar: Masonry/Wood
Module 1: Masonry - Roy Ingraffia. This seminar will offer an in-depth study of the conservation of masonry buildings and monuments with a particular focus on American building stone. Technical and aesthetic issues will be discussed as they pertain to the understanding required for conservation practice. Part 1 will address a broad range of building stone, masonry construction technologies, and deterioration phenomenon; Part 2 will concentrate on conservation methodology as well as past and current approaches for the treatment of stone masonry structures. The subject will be examined through published literature and case studies. Students will gain practical experience through lab and field exercises and demonstrations. The subject matter is relevant to interested students of conservation and preservation, architecture, landscape architecture, architectural history, and archaeology. Module 2: Wood - Andrew Fearon. Prior to the twentieth century, most structures found in the built environment relied upon wood as a primary material for both structural members and decorative features. An understanding of the physical properties as well as the historic application of this organic material provides the basis for formulating solutions for a wide spectrum of conservation issues. As the scope of preserving wooden structures and wooden architectural elements is continually broadened, new methods and technology available to the conservator together allow for an evolving program - one that is dependent upon both consistent review of treatments and more in depth study of craft traditions. This course seeks to illustrate and address material problems typically encountered by stewards of wooden cultural heritage -among them structural assessment, bio-deterioration, stabilization and replication techniques. Through a series of lectures and hands-on workshops given by representative professionals from the fields of wood science, conservation, entomology, engineering, and archeology, theoretical and practical approaches to retaining wooden materials will be examined with the goal to inform the decision making process of future practicing professionals.
Taught by: Ingraffia/Fearon
Course usually offered in fall term
Prerequisites: Pre-requisite: HSPV 555 Conservation Science and permission needed from department.
Activity: Seminar
1 Course Unit
HSPV 740 Conservation Seminar: Wood/Masonry
Module 1: Masonry - Roy Ingraffia
This seminar will offer an in-depth study of the conservation of masonry buildings and monuments with a particular focus on American building stone. Technical and aesthetic issues will be discussed and they pertain to the understanding required for conservation practice. Part 1 will address a broad range of building stone, masonry construction technologies and deterioration phenomenon; Part 2 will concentrate on conservation methodology as well as past and current approaches for the treatment of stone masonry structures. The subject will be examined through published literature and case studies. Students will gain practical experience through lab and field exercises and demonstrations. The subject matter is relevant to interested students of conservation and preservation, architecture, landscape architecture, architectural history, and archaeology.

Module 2: Wood - Andrew Fearon. Prior to the twentieth century, most structures found in the built environment relied upon wood as a primary material for both structural members and decorative features. An understanding of the physical properties as well as the historic application of this organic material provides the basis for formulating solutions for a wide spectrum of conservation issues. As the scope of preserving wooden structures and wooden architectural elements is continually broadened, new methods and technology available to the conservator together allow for an evolving program - one that is dependent upon both consistent review of treatments and more in depth study of craft traditions. This course seeks to illustrate and address material problems typically encountered by stewards of wooden cultural heritage - among them structural assessment, bio-deterioration, stabilization and replication techniques. Through a series of lectures and hands-on workshops given by representative professionals from the fields of wood science, conservation, entomology, engineering, and archeology, theoretical and practical approaches to retaining wooden materials will be examined with the goal to inform the decision making process of future practicing professionals.

Taught by: Fearon/Ingraffia
Course usually offered in spring term
Prerequisite: HSPV 555 Conservation Science
Activity: Seminar
1 Course Unit

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HSPV 741 Special Topics: Feats of Clay- Brick and Terra Cotta
Fall 2017- Of the major construction materials and systems employed since the earliest known traditions of architectural building, few display the temporal and geographical extent or the metaphysical alchemy of transforming loose unconsolidated sediment into a hard fused solid as fired brick and terra cotta. Born of clay, water, and fire, brick and its kin-terra cotta and structural, roof, and ornamental tile-have long been employed to construct, protect, and ornament buildings in an unbroken tradition stretching from the towers of the Old Testament to the contemporary rain screens of today's high rise buildings. Given this unique context, our focus will be a cross-disciplinary study of structural clay products-namely brick and terra cotta. We will consider these building materials and their use in terms of: (1) historical technology and design, (2) material characterization and analysis, (3) performance and construction and (4) conservation issues. The class will conduct individual research on a range of topics and present that research generally every other week. Topical lectures will complement each presentation/discussion week. Brick and structural clay tile will be the medium by which we, as a class, will study nothing less than American architecture, craft and labor, applied science, economics, and preservation.

Taught by: MATERO
Two terms. student may enter either term.
Prerequisite: HSPV 555
Activity: Seminar
1 Course Unit
HSPV 743 Conservation Studio/Seminar
Pit and Quarry: The Cement and Slate Industries of Lehigh Valley 2013 marked the 50th anniversary of Kenneth Hudson’s groundbreaking book and manifesto on “industrial archaeology,” the “mongrel” field he first named as the bastard offspring of industry and archaeology. Today the remains of industry past dominate the global landscape. Urban and rural America are littered with the evidence of the last two centuries of the country’s former industrial prowess and many of these places, now abandoned, hold latent value for their transformation and reuse. Despite the recent popularity of industrial chic, critics now question whether this form of “adhocism”—that is, the improvisation of new, unrelated uses devoid of meaning and interpretation—has led to, at best, a polite taming of industrial heritage, and, at worst, its disfigurement in the name of gentrification and short-sighted corporate marketing. A shift in thinking is now required for more sustainable preservation: thematic approaches that examine the problems and potential based on the original industrial processes; consideration and interventions at the landscape scale, ecological as well as architectural thinking, and finally, human connections through past and current associations. Slate World: The Pennsylvania “Slate Belt,” an area of only 22 square miles, lies approximately 50 miles to the northwest of Philadelphia and just south of Blue (Kittanning) Mountain between the Delaware and Lehigh Rivers. The first quarries opened in the 1830s, but significant growth followed in the first decade of the twentieth century when Lehigh Valley accounted for approximately half the slate produced in the United States, eventually the greatest slate producing region in the world. Cement Age: Reinforced concrete would prove to be the modern material of the new century and in the United States, the creation of the first Portland cement plants in the Lehigh Valley in 1871 at Coplay, would give rise to an industry that would forever change the face of America and the world. By 1901 the Atlas Portland Cement Co. in Northampton, PA was the largest cement company in the United States—more than twice the size and probably five to ten times the size of most firms in the industry. Today the valley is still the country’s center of cement production but automation has rendered the old plants nearly vacant, their historic mills and kilns, though still impressive, largely abandoned.

HSPV 744 Architectural Archaeology: Building Lives
Time, like space, is all around us. Its evidence is visible in the natural world as physical change. In our own fabricated material works, time exerts its presence through the tell-tale signs of stylistic and technological anachronism and material degradation. It is through these indicators that we confront time indirectly and attempt to position a thing or place in relation to the present. How buildings and landscapes are received by each generation depends on the specific conditions of time and place. Built works, be they barns or bridges, gardens or corn fields, palaces or pit houses, all reflect something of their maker and user as well as the prevailing social and cultural norms. Such trajectories are dependent on many diverse factors; however once consciously examined, all creative works under consideration for their ability to communicate to us; to have relevance in ways consistent or new to their original authorship and to contemporary society. In our efforts to relate to buildings and places from the past, we use time as the primary measure from the present and historical narrative to describe what we know. As a form of material culture, buildings and landscapes are made and modified both consciously and unconsciously, directly and indirectly, thus reflecting individual and societal forces at play. Since the physical fabric and its evidences of alteration present one primary mode of inquiry, archaeological theory and methodology provide an excellent means to recover, read, and interpret that evidence in association with documentary and archival sources.

HSPV 746 Conservation & Mgmt
1 Course Unit
HSPV 747 Conservation of Archaeological Sites and Landscapes
Archaeological sites and landscapes have long been considered places of historical and cultural significance and symbols of national and ethnic identity. More recently they have offered new opportunities for economic and touristic development in both urban and rural settings. With a unique set of physical conditions including fragmentation, illegibility, extreme environmental exposure and material deterioration, as well as contested ownership and control, their conservation, management, and interpretation as heritage places require special knowledge and methodologies for both heritage specialists and archaeologists. This seminar will address the history, theories, principles, and practices of the preservation and interpretation of archaeological sites and landscapes. The course will draw from a wide range of published material and experiences representing both national and international contexts. Topics will include site and landscape documentation and recording; site formation and degradation; intervention strategies including interpretation and display, legislation, policy, and contemporary issues of descendent community ownership. The course will be organized as a seminar incorporating readings, lectures and discussions on major themes defining the subject of ruins and archaeological site conservation. Readings have been selected to provide exposure to seminal works in the development of theory and method as well as current expressions of contemporary practice. This will set the background for the selected case study site which will provide students the opportunity to work with primary and secondary materials related to archaeological and ruin sites: excavation reports, stabilization work, conservation and interpretation plans, etc. Depending on the site, students will study specific issues leading toward the critique or development of a conservation and management program in accordance with guidelines established by ICOMOS/ ICAHM and other official agencies (e.g., national legislation such as NPS-28).

Taught by: Erickson/Matero
One-term course offered either term
Also Offered As: ANTH 508
Activity: Seminar
1 Course Unit

HSPV 748 Preservation Case Studies: Advanced Theory
Preservation Case Studies will bring cutting-edge theoretical debates, current issues and the latest work of faculty and guests into the HSPV curriculum. Coordinated by the Chair, but populated with a number of other faculty, practitioners and guest scholars, the course will sample and explore current theoretical, conceptual, political and practical issues facing the historic preservation field. The course will serve two main purposes: First, to present critical and cutting-edge cases and issues in preservation in to the preservation curriculum and the discourse of PennDesign; second, present an opportunity for second-year master’s and PhD to devote an elective CU to the advanced study of preservation theory. It will revolve around a series of curated, public talks - scheduled at an hour enabling the entire HSPV Program to attend the talks - as well as course-centered roundtable discussions. The course will be offered for credit as an "Advanced Theory” seminar for second-years or PhD students; attendance by all Program students will be expected at the public talks. The schedule of topics and talks will be finalized in August, and will likely include: recent social-scientific studies of historic preservation impacts; new architectural works incorporating preservation; systems research and its implications for historic preservation theory; and the politics of preservation advocacy.

Taught by: Mason
Course usually offered in fall term
Activity: Lecture
1 Course Unit

HSPV 750 Architectural Conservation Praxis: Traditional Buildings / Traditional Practice
Summer 2017: Grand Teton National Park Travel dates: June 19, 2017 - July 8, 2017 Architectural Conservation Praxis is an intensive 3-week summer course designed for students pursuing studies in architectural conservation and builds on Penn Preservation's core curriculum and the first-year conservation courses. The syllabus is organized around project fieldwork supplemented by lectures, demonstrations, exercises, and site visits that will allow students to experience firsthand the design and construction of vernacular buildings and the application of traditional craft-based methods to preserve them. Through a partnership with the National Park Service and the Vanishing Treasures Program, students will engage in the recording, survey, and treatment of timber and masonry structures under the supervision of Penn, NPS, and guest faculty. For Summer 2017, the course will again be based at Bar BC Dude Ranch in Grand Teton National Park. Students will work with instructors on traditional construction methods including log, timber, and stone masonry. The course will also examine preservation issues related to the rich vernacular landscape and National Park heritage with visits to other sites in the area. This year participants will be able to attend the NPS "Guiding Principles for Historic Resources” workshop offered by the Western Center for Historic Preservation at White Grass Training Center within the park. Accommodation will be shared rooms at 4 Lazy F, a restored early 20th century family dude ranch with a full kitchen, bathrooms, and laundry facility. Students are requested to bring laptops, cameras, sleeping bags and all personal items. More information is available at http://www.conlab.org/acl/edtr/Praxis/edtr praxis.html.

Course enrollment is by permit only. Please contact Amanda Bloomfield (HSPV Dept.) at amab@design.upenn.edu.

Taught by: Matero & Guest Faculty
Course usually offered summer term only
Prerequisites: HSPV 540, 541 and 555.
Activity: Studio
1 Course Unit

Notes: Travel Dates: 6/19/17 to 7/8/17
HSPV 760 Preservation Planning Praxis
This course is designed to meet two broad learning outcomes: first, solidify student's knowledge of basic city and regional planning concepts, systems and methods as applied to historic cities; second, and more extensively, apply this knowledge in a practical situation relevant to contemporary preservation planning practice. The course will be conducted over three weeks in the early summer and will have two distinct components: a short, first part of the course will be held in Philadelphia over three days in late May. It will focus on readings, lectures, and workshops about preservation planning in general; Randy Mason will lead this part of the course. The second, international part of the course will take place in Galway, Ireland. Most if not all travel and lodging will be paid by the course budget - details to come. This two-to-three-week praxis course is designed to give students an intense and concentrated "hands-on" experience in preservation planning methods, practice, research, communication and collaboration; these experiences are heightened by pursuing heritage conservation planning in a non-US setting. This year’s class will be from June 4 through June 16 and will include up to 10 students. Professor Rypkema will lead the field portion of the course, aided by a Teaching Assistant. The focus of the class will be identifying and recommending ways that a municipality can implement the commitments in the New Urban Agenda (https://habitat3.org/the-new-urban-agenda) that include cultural heritage references. In October 2016 190 nations meeting in Quito, Ecuador, committed to the implementation of the New Urban Agenda. The reality is, however, that the real implementation will be at the city level - and this will vary given the resources, governance, markets and professional capacity of each municipality. The first week on-site will be primarily lectures, including importantly from lectures from local officials and experts, tours, and formal and informal discussions with local heritage advocates, public officials, and other stakeholders. The second week will be spent identifying and documenting policy areas currently in operation that could be modified to include the NUA comments and in developing and recommending new policies that might be adopted. These findings will be prepared in both written and oral reports, and on Thursday giving a public presentation of the findings. It is anticipated that the students and other participants will be divided into six teams, each addressing one of the germane NUA commitments. Each team would be composed of Penn students and local and/or regional participants. Course
Taught by: Rypkema/Mason
Course usually offered summer term only
Prerequisites: HSPV 540, 541, 600, 601, 660, 661; HSPV 572 or 625 or other planning-centered coursework.
Activity: Studio
1 Course Unit
Notes: Travel Dates: 5/30/17 to 6/16/17

HSPV 770 Site Management, Interpretation and Conservation Praxis
This course is designed to meet two broad learning outcomes: first, solidify graduate students' basic knowledge of site management and interpretation issues and process; second, document and interpret complex sites using historical research, landscape reading and architectural archaeology methods. The course will be conducted over three weeks in the early summer focused on the site of Powderham in Devon, England – in partnership with Prof Daniel Maudlin, University of Plymouth, and the Earl of Devon. While the course will deal with the whole of the Powderham Estate, student projects will focus on several particular features requiring investigation and interpretation. Overall, the course will focus on a site management framework for the estate, a complex of several historic buildings and landscapes. Extensive background documentation will be available for analysis. Students will also work in smaller groups to pursue specific on-site projects and investigations; these will relate to architectural archaeology of the Great Hall and Library, investigation and interpretation of a derelict American Garden, and other elements of the estate to be determined. Accommodations will be provided in a restored stable on the grounds. Course enrollment is by permit only. Please contact Amanda Bloomfield (HSPV Dept.) at amab@design.upenn.edu.
Taught by: Hawkes, Keim, Mason and guest faculty
Course usually offered summer term only
Prerequisites: HSPV 540, 541, 660 and 601; 606 preferred; 551 and 555 for conservation-focused students.
Activity: Studio
1 Course Unit
Notes: Travel Dates: 5/20/17 to 6/12/17

HSPV 780 Architectural Conservation Advanced Praxis
Offering training beyond the classroom, this advanced praxis in architectural conservation focuses on the integration of theory and practice. A written project proposal must be submitted for consideration and approval by faculty, and a written defense of the work must be presented after the completion of the project. Students must have completed the conservation emphasis within the Master of Science program in Historic Preservation at the University of Pennsylvania. Taught by: Matero
One-term course offered either term
Activity: Independent Study
2 Course Units

HSPV 790 HSPV Summer Institute: First-year Historic Preservation Workshop
The Workshop is an orientation course designed to prepare incoming, first-year graduate students for the intense coursework of their first semester. Generally, the Workshop orients students to the issues and methods of the core MSHP curriculum, begins familiarizing students to the resources of Philadelphia, and begins skill-building exercises. The workshop employs lectures, exercises, and fieldtrips to introduce some of the important skills, questions, and issues that will be at the center of first year’s work in the Program. Documentation, descriptive analysis of buildings and places, and critical historiography are particular emphases. The Workshop also constitutes an extended introduction to the Program’s faculty and the students in first-year and second-year cohorts. Course enrollment is by permit only. Please contact Amanda Bloomfield (HSPV Dept.) at amab@design.upenn.edu.
Taught by: Mason
Course usually offered summer term only
Activity: Lecture
0 Course Units
HSPV 999 Independent Study
An opportunity for a student to work on a special project under the
guidance of a faculty member.
Taught by: Faculty
One-term course offered either term
Activity: Independent Study
2 Course Units

History & Sociology of Science (HSSC)

HSSC 502 Public History
Taught by: Barnes
Course not offered every year
Activity: Seminar
1 Course Unit

HSSC 503 Current Issues in the History of Medicine
This seminar surveys a variety of popular and scholarly approaches
to the study of medicine and its history, ranging from traditional
physician-centered narratives to more recent cultural and epistemological
methodologies. The potential values of journalistic, sociological,
anthropological, geographical and other approaches to the historical
study of health, disease, and health care will be explored.
Taught by: Barnes
Course not offered every year
Activity: Seminar
1 Course Unit

HSSC 504 Reading Seminar in History of Science
Survey of major themes and figures in the history of western science,
technology, and medicine since the Renaissance, through reading and
discussion of selected primary and secondary sources. Topics include:
Kepler, Galileo, Bacon, Newtonainism, Pasteur, the Industrial Revolution,
the rise of German science, etc. Concurrent attendance at STSC 1
lectures is recommended.
Taught by: Adams
Course usually offered in fall term
Activity: Seminar
1 Course Unit

HSSC 505 Seminar in the History and Sociology of Science
Seminar for first-year graduate students, undergraduate majors, and
advanced undergraduates. Reading will introduce the student to current
work concerning the effects of social context on science, technology, and
medicine.
Taught by: Linker/Benson
Course usually offered in fall term
Activity: Seminar
1 Course Unit

HSSC 506 Readings in Race and Science
What accounts for the persistence and resilience of racial conceptions
in science? In this course we will look for answers to these and other
questions by examining the historiography of race, colonialism, and
science. The standard historiography has focused on the rise and
fall of racial typologies in the north Atlantic and their contributions to
troublesome political projects such as the Atlantic slave trade, Jim
Crow policies, the eugenics movement, and the Holocaust. More recent
histories have taken inspiration from postcolonial studies, standpoint
theories, and indigenous studies to insist on a more global reckoning of
race and science. If we focus on the southern hemisphere, for instance,
we can see scientific racial conceptions enrolled for a different though
not necessarily less innocent set of projects: the dispossession of
indigenous lands and effacement of indigenous peoples, the glorification
of race-mixing as a tool of nation building, and the cultivation of
whiteness as a means to modernity. By examining classic and recent
approaches to race and science we will grapple with the following
questions: Is race a product of 18th century French and English science?
Or can we find earlier iterations in the idioms of conquest of Spanish
America during the early modern period? Do the standard narratives
concerning the history of racial conceptions in science change when
looked at from the frame of the global south? Does race get buried alive
after WWII? And do recent developments in human genomics bring race
back from the dead, albeit in an anti-racist form?
Taught by: Gil-Riano, Sebastian
Course usually offered in fall term
Activity: Seminar
1 Course Unit

HSSC 508 Knowledge in Motion
Taught by: Kucuk
Course not offered every year
Activity: Seminar
1 Course Unit

HSSC 509 Oral History
Course not offered every year
Activity: Seminar
1 Course Unit
HSSC 510 Science and Popular Culture
This course will review major developments in biomolecular sciences and many historians of science, technology and medicine have embraced the study of popular culture in recent years. They have drawn on a rich literature in mainstream history, on the history of reading, of the book, of museums, of oral culture, journalism, theater, and of the mass media including radio and television. Some have even proposed that popular culture provides insights into elite knowledge systems that are not accessible in other kinds of sources, thus privileging what is publicly known over the traditional private textual, visual and material records of the archive or museum. In this graduate research seminar we will be exploring the relevance of the study of popular culture to the history of science, technology and medicine. Participants will write an original research paper in which they draw on popular culture as a resource for the interpretation of practices, theories and material resources in natural knowledge systems. Readings will generally focus on surveys that explicitly discuss methods, though we will also read some primary sources possibly including science fiction texts, memoirs of patients, engineers, physicians and scientists, gee-whiz popular science books, and didactic books intended for children.
Taught by: Lindee
One-term course offered either term
Activity: Seminar
1 Course Unit

HSSC 519 Topics in the Social History of Knowledge
This reading seminar will cover writings on the social history of knowledge that are often mentioned by historians of science but less often read; it will give students a chance to read and discuss authors who are neglected, trendy, difficult, and/or foundational in this field. We will begin with Lovejoy's Great Chain of Being and critiques brought against it, moving to classic histories of scientific ideas with a focus on "mechanical philosophy" followed by recent rethinking of "the Scientific Revolution." We will then visit major schools of historical interpretation: Foucault's genealogies of knowledge and power, Marxist criticism and the Frankfurt School, Max Weber's analysis of rationalization and the values of science, along with philosophical approaches to technoscience, biopower, the state of exception and artificial life. Throughout, our guiding questions will be the relationship between scientific knowledge and institutions, practices, technologies and values, and as well as the connection between local case studies and the "big picture" of science and technology in the modern world. The seminar is open to graduate students from any discipline who want to engage critically with these works.
Taught by: Tresch
Course not offered every year
Activity: Seminar
1 Course Unit

HSSC 524 Histories of the Cosmos
Taught by: Tresch, J
Course not offered every year
Activity: Seminar
1 Course Unit

HSSC 528 Gender and Science
With a special focus on methods, this course explores the rich literature on gender and technical knowledge.
Taught by: Lindee
Course not offered every year
Also Offered As: GSWS 528
Activity: Seminar
1 Course Unit

HSSC 529 Readings in Genetics and Genomics
Taught by: Lindee
Course not offered every year
Activity: Seminar
1 Course Unit

HSSC 536 Imperial Medicine in the British World
Taught by: Mukharji
Course not offered every year
Also Offered As: SAST 536
Activity: Seminar
1 Course Unit

HSSC 542 History and Sociology of Surgery
Taught by: Linker
Course not offered every year
Activity: Seminar
1 Course Unit

HSSC 546 Making India Modern
Taught by: Mukharji
One-term course offered either term
Activity: Seminar
1 Course Unit

HSSC 548 Current Issues in the History of Medicine
This seminar surveys a variety of popular and scholarly approaches to the study of medicine and its history, ranging from traditional physician-centered narratives to more recent cultural and epistemological methodologies. The potential value of journalistic, sociological, anthropological, geographical, and other approaches to the historical study of health, disease and health care will be explored.
Taught by: Barnes
Course not offered every year
Also Offered As: ANTH 614
Activity: Seminar
1 Course Unit

HSSC 550 The Information Sciences
This course will explore the emergence and widespread adoption in the early Cold War-period of a set of interrelated tools, techniques, and discourses organized around the concept of "information." These emerging information sciences included not only new disciplines such as cybernetics, information theory, operations research, and ecology, but also some traditional physical sciences - such as biology and chemistry - as well as a broad range of social sciences, including economics, political science, sociology and urban planning. The focus of the course will be on tracing the important structural changes in post-war science that encouraged the adoption of the rhetoric of information (if not its substance), as well as on extending the relevance of these developments to a wide range of topics in the history of science, medicine, and technology.
Course not offered every year
Activity: Seminar
1 Course Unit

HSSC 561 Disability: History and Theory
Taught by: Linker
Course not offered every year
Activity: Seminar
1 Course Unit
HSSC 564 History of Technology
In this course we read influential classic and recent works in the history and the philosophy of technology, tackling the ways in which the fields are analytically structured as well as their relation to each other. We also discuss approaches and methodological questions in general history and general philosophy. We start with Karl Marx, arguably the most influential historian and philosopher of technology of the modern era, and discuss him in relation to what has been one of the most visible debates in the historiography of technology - the question of technological determinism. We then travel in a roughly chronological order through key periods and methodological issues in the fields. During our journey we encounter the Middle Ages and historical theoreticians of the Annales School, the early modern period and questions about gender and microhistory, and the so-called Industrial Revolution and the questions it raises about what's modern about modern technology. Mid-way through the class, we discuss two classics in the philosophy of technology, Martin Heidegger and Jürgen Habermas, who grapple precisely with the question about the modern element in industrial technology. As we enter the nineteenth and twentieth centuries, we expand our methodological horizon to include examples from the cultural history of technology and applications of the social constructivism debate to the history of technology. We end the class with works on the recently emerging fields of biotechnology and nanotechnology and with a set of monographs written in the nascent sub-discipline in the history and philosophy of technology, engineering studies.
Taught by: VOSKUHL,A
Course not offered every year
Activity: Seminar
1 Course Unit

HSSC 565 Environmental History
A survey of recent and influential works in environmental history, including works from both within and outside the American environmental history canon. The focus is on situating emerging historiographical trends within the long-term development of the field and in relation to other closely allied fields, including the history of science, technology, and medicine, social and cultural history, urban history, agricultural history, world history, historical ecology, environmental anthropology, and ecocriticism.
Course not offered every year
Activity: Seminar
1 Course Unit

HSSC 567 Industrial and Post Industrial Ages
Taught by: Voskuhl
Course not offered every year
Activity: Seminar
1 Course Unit

HSSC 588 Humanities Beyond the Human
Taught by: Benson
Course not offered every year
Activity: Seminar
1 Course Unit

HSSC 594 The Trouble with Freud
Also Offered As: COML 523, GRMN 526, GSWS 525
Activity: Seminar
1 Course Unit

HSSC 597 Other Reasons: Interrogating Postcolonial Disenchantments
Postcolonial Theories, building largely on Frankfurt School theorists, have critiqued the totalizing aspirations of what it calls 'Enlightenment Rationality'. Such critiques have also fed a range of critiques of Science. At the heart of such critiques is a rather restricted and plastic idea of Science as a singular, homogenous body of knowledge that has steadily promoted the disenchantment of the world. In this course we seek to destabilize this monolithic vision of science by revisiting its plural, heterogeneous histories. The course is particularly interested in exploring the historical entanglements between the sciences and the enchanted world of intangible entities such as spirits, ghosts and gods. The course will be divided into three broad sections. The first will deal with the theoretical critiques of 'Enlightenment Rationality' and 'Science' in postcolonial theory. The second will undertake a detailed and loosely chronological examination of the multifaceted entanglements of science and technology with the paranormal in the 19th and 20th centuries. Finally, the last section will explore the performative aspects of scientific rationality in colonial and postcolonial contexts in a bid to understand the background that led to the postcolonial theorization.
Taught by: Mukharji,P
Course not offered every year
Activity: Seminar
1 Course Unit

HSSC 611 Reading Seminar History of Medicine
A survey of key issues in the development of Western medicine during the past two centuries. Historiographically oriented, it will emphasize areas of recent historical concern such as the role of the patient, the institutionalization of medical care, and shifting conceptions of disease. The course itself will include some lecture as well as discussion. A paper will be required.
Course not offered every year
Activity: Seminar
1 Course Unit

HSSC 620 Colloquium in European History
This course will focus on problems in European political, social, cultural, and economic development from 1750 to the close of the second World War. Readings will be major works in the different fields of European historical scholarship, ranging from family to diplomatic history and covering a wide variety of methodological approaches.
Course not offered every year
Also Offered As: HIST 620, JWST 620
Activity: Seminar
1 Course Unit

HSSC 622 Darwin
Taught by: Adams
Course not offered every year
Activity: Seminar
1 Course Unit

HSSC 626 Research Seminar in History of Technology
This graduate seminar provides a structured environment in which each student executes an independent research project. Early class meetings focus on the craft of researching and writing scholarly articles. Later meetings are devoted to discussion of students progress on their research projects. Each student defines their own research topic in the history of technology, subject to the Professor's approval.
One-term course offered either term
Activity: Seminar
1 Course Unit
HSSC 629 Readings in Genetics and Genomics
Taught by: Lindee, S
One-term course offered either term
Activity: Seminar
1 Course Unit

HSSC 661 Cold War Technical Knowledge
Taught by: Lindee
Course not offered every year
Activity: Seminar
1 Course Unit

HSSC 665 Research Seminar in the History of Medicine
Taught by: Aronowitz, R; McKay, R
Course not offered every year
Activity: Seminar
1 Course Unit

HSSC 999 Graduate Independent Study
Available to doctoral students only.
One-term course offered either term
Activity: Independent Study
1 Course Unit

History (HIST)

HIST 001 Making of the Modern World
How did the world we now live in come to be? Is globalization a recent development or does it have a history of its own? At what point can we say that a world economy emerged and what sort of relations of production and distribution linked it together? When did people start thinking and acting as citizens of nations rather than as subjects of rulers or members of religious or ethnic communities, and what were the consequences? How should we conceptualize the great revolutions (French, American, Russian, Chinese) that would determine the landscapes of modern global politics? This course is designed to help us think about the "making of the modern," not by means of an exhaustive survey but by exploring a range of topics from unusual perspectives: piracy, patriotism, prophecy; global struggles for political and human rights; drivers of war and peace, capitalism, nationalism, socialism, fascism, fundamentalism; communication and culture.
For BA Students: History and Tradition Sector
Taught by: Cassanelli/Dickinson
Course usually offered in fall term
Activity: Recitation
1 Course Unit

HIST 011 Deciphering America
This course examines American history from the first contacts of the indigenous peoples of North America with European settlers to our own times by focusing on a few telling moments in this history. The course treats twelve of these moments. Each unit begins with a specific primary document, historical figure, image, location, year, or cultural artifact to commence the delving into the American past. Some of these icons are familiar, but the ensuing deciphering will render them as more complicated; some are unfamiliar, but they will emerge as absolutely telling. The course meets each week for two 50-minute team-taught lectures and once recitation session. Course requirements include: in-class midterm and final exams; three short paper assignments; and punctual attendance and participation in recitations.
For BA Students: History and Tradition Sector
Taught by: Brown/Licht
One-term course offered either term
Activity: Recitation
1 Course Unit

HIST 023 Intro to Middle East
Also Offered As: NELC 102
Activity: Lecture
1 Course Unit

HIST 024 Introduction to the Ancient Near East
See primary department (NELC) for a complete course description.
For BA Students: History and Tradition Sector
Taught by: Frame
Two terms; student may enter either term.
Also Offered As: ANCH 025, NELC 101
Activity: Lecture
1 Course Unit

HIST 030 The Emergence of Modern Europe
This course traces the formation of European society, politics and culture from its earliest days through the era of the Reformation, ca. 1000-1600 CE. Major themes will include: politics and power; law and the state; economics and trade; religion; learning and the rise of universities; social organization; everyday life. The reading and analysis of primary sources from each era will be important in understanding Europe's key features and development.
For BA Students: History and Tradition Sector
Taught by: Moyer
One-term course offered either term
Activity: Recitation
1 Course Unit
HIST 031 Making and Breaking European Hegemony
HIST 031 will trace the dramatic rise and fall of Europe's global hegemony during the period roughly from 1450 to 1950. Among the major themes we will examine are: states and power, borders and resistance, race and genocide, economies and oppression, ideas and revolution, the building and change of hierarchies of gender and power. Truly, a dramatic story. The objectives of the course are: 1) To serve as an introduction to the study of history for majors and non-majors alike, and to teach the critical analysis of historical sources; 2) to teach substantive knowledge of European history; 3) to provide a foundation for further study of the European past. No previous background in European or World history is required.
For BA Students: History and Tradition Sector
Taught by: Holquist/Nathans/Safley
One-term course offered either term
Activity: Lecture
1 Course Unit

HIST 040 Early Modern Europe, 1450-1750
This course examines those European developments which contributed to the world we understand as modern. Special emphasis will be placed on the transformation of Europe through the advent of new technologies, the creation of a global economy, the consolidation of territorial states, the rise of effective, central governments, the dissolution of religious unity, and the dialect between modern and traditional world views.
For BA Students: History and Tradition Sector
Taught by: Safley
One-term course offered either term
Activity: Lecture
1 Course Unit

HIST 048 The Rise and Fall of the Russian Empire, 1552-1917
How and why did Russia become the center of the world's largest empire, a single state encompassing eleven time zones and over a hundred ethnic groups? To answer this question, we will explore the rise of a distinct political culture beginning in medieval Muscovy, its transformation under the impact of a prolonged encounter with European civilization, and the various attempts to re-form Russia from above and below prior to the Revolution of 1917. Main themes include the facade vs. the reality of central authority, the intersection of foreign and domestic issues, the development of a radical intelligentsia, and the tension between empire and nation.
For BA Students: History and Tradition Sector
Taught by: Nathans/Holquist
One-term course offered either term
Also Offered As: RUSS 048
Activity: Lecture
1 Course Unit

Out of an obscure, backward empire, the Soviet Union emerged to become the great political laboratory of the twentieth century. This course will trace the roots of the world's first socialist society and its attempts to recast human relations and human nature itself. Topics include the origins of the Revolution of 1917, the role of ideology in state policy and everyday life, the Soviet Union as the center of world communism, the challenge of ethnic diversity, and the reasons for the USSR's sudden implosion at the end of the century. Focusing on politics, society, culture, and their interaction, we will examine the rulers (from Lenin to Gorbachev) as well as the ruled (peasants, workers, intellectuals; Russians and non-Russians). The course will feature discussions of selected texts, including primary sources in translation.
For BA Students: History and Tradition Sector
Taught by: Nathans/Holquist
One-term course offered either term
Also Offered As: RUSS 049
Activity: Recitation
1 Course Unit

HIST 050 England and the British Isles to 1707
The subject of this course is the history of the British Isles from the Roman Conquest in 43AD to the creation of the United Kingdom in 1707. Between these two dates the various societies and cultures in the British Isles were brought into the orbit of the Roman Empire, converted to Latin Christianity, and developed distinctive cultures and strong ties with the Continent. From the twelfth century on, the kingdom of England began to exert its power over Wales, Ireland, and Scotland, although English power waxed and waned in these areas between the twelfth and the seventeenth centuries. The Anglo-Norman continental empire of the Plantagenet dynasty also played a large part in shaping the English monarchy, as did the playing out of the Hundred Years War, the internal divisions in fifteenth-century English society, and the rise of the Tudor-Stuart dynasty.
For BA Students: History and Tradition Sector
Taught by: Todd
One-term course offered either term
Activity: Lecture
1 Course Unit

HIST 051 Modern Britain, 1783-2000: Empire, Expansion and Democracy
This course surveys British history from the eighteenth century to the present. In two centuries, Britain built an empire that ruled over a quarter of the globe and became the world's leading economy. In 2015, the Empire is gone, but coincident with its loss, Britain gained a welfare state and retained the a role as a powerhouse of culture and finance. Themes emphasized in the course include national identity, class, political reform, war, and imperial interaction. How did Britain come to dominate the world economy and what did this dominance look like? How should we understand its role in the world today? Do the Beatles, the Royal Family, and Amy Winehouse add up to a "Cool Britannia" that has somehow "made up" for the loss of the Empire? Using written and visual primary sources, we'll look at all of these questions as we study the birth and development of modern Britain.
For BA Students: History and Tradition Sector
Taught by: Chase-Levenson
One-term course offered either term
Activity: Lecture
1 Course Unit
HIST 054 Books that Made History
It is often said that books reflect the society in which they were written. Yet many books—and their authors—shaped society, and changed how people understood the world around them. In this course we will focus on a variety of texts from the world of Rome to 1600, the era in which European society took form. In each case, we will seek not only to understand the work itself, but also how it affected the lives and the thought of its readers. Works will range from Cicero and the Biblical New Testament to Luther and Machiavelli.
Taught by: Moyer
Also Offered As: COML 052
Activity: Lecture
1 Course Unit

HIST 055 Reading the Classics
In this course we will study the early roots of Western culture—the Biblical, Greek and Roman traditions—as well as how sixteenth- and seventeenth-century European authors reproduced, rethought and reshaped these early traditions. Instead of reading and discussing the required texts according to the date when they were written (first the early traditions and ending with the Renaissance views), we will focus our attention on a few themes that were central concerns to those living in Classic and Renaissance times, and that continue to influence modern ways of thinking and acting in Western societies: conceptions of God and the place of religion in society; nature of power and authority, and individuals' rights and duties; good, evil, and ethical philosophy; views on women, their nature and roles in society; ethnography and the perception of other cultures and societies. In addition to reading and discussing several of the biblical books—Genesis, Exodus, the Book on Revelation—we will study other seminal classical works—Sophocles' Antigone, Aristotle's Politics and Ethics, Herodotus' The Histories; Plato's Apology— and works by Michel de Montaigne, Maria de Zayas y Sotomayor, Marie de Gournay, Christopher Marlowe, William Shakespeare, and several others. We will also work with books published in the last decades, analyzing the classics and and their reception in various periods of history, but also books that analyze what the classics tell us today—Dreyfus and Kelly's All things shining, Reading the Western Classics to find meaning in a secular Age; Anthony Grafton's Bring Out Your Dead: the Past as Revelation; James Miller, Examined Lives, from Socrates to Nietzsche; and Sarah Bakewell, How to Live: Or a Life of Montaigne in One Question and Twenty Attempts at an Answer.
Taught by: Feros
Activity: Lecture
1 Course Unit

HIST 070 Colonial Latin America
This course provides an introduction to the broad literature on Latin America's rich colonial history. We will begin by tracing some of the early origins of - and points of contact between - the Indian, Iberian, and African men and women who formed the basis of colonial society. As the course progresses, we will explore the variety of ways in which colonial subjects lived, worked, ate, worshipped, and socialized. Lectures and reading assignments will draw upon a variety of sources, including court cases, artistic renderings, city maps and street plans, travel accounts of visits to the regions, and the material, cultural, and intellectual products made possible by the wealth and dynamism of the seventeenth and eighteenth centuries. The course will conclude with an analysis of the Age of Revolutions, a period of dramatic upheaval that remains at the center of lively scholarly debates. By the end of the semester, students will be able to engage the key questions driving these debates, the most important of which, perhaps, is: what is Latin America's colonial legacy?
For BA Students: History and Tradition Sector
Taught by: Farnsworth-Alvear
Course usually offered in fall term
Also Offered As: AFRC 070, LALS 070
Activity: Lecture
1 Course Unit
Notes: Fulfills History Tradition Distribution Requirement

HIST 071 Latin American Survey 1782-Present
Surveys Latin American and Caribbean history from the Tupac Amaru Revolt to the present. We will examine the legacy of Spanish colonialism and slavery, movements for national and cultural independence, twentieth-century radicalism, and the politics of race in contemporary Latin America. Readings include fictional as well as analytical representations, and a film series will accompany the course.
For BA Students: History and Tradition Sector
Taught by: Farnsworth-Alvear
Course usually offered in spring term
Also Offered As: LALS 071
Activity: Lecture
1 Course Unit

HIST 072 Introduction to Latin American and Latino Studies
Designed to introduce students to the interdisciplinary field of Latin American and Latino Studies, this is a seminar oriented toward first and second year students. Readings will range widely, from scholarly work on the colonial world that followed from and pushed back against the "conquest"; to literary and artistic explorations of Latin American identities; to social scientists' explorations of how Latinos are changing the United States in the current generation.
Taught by: Farnsworth-Alvear
Course usually offered in fall term
Also Offered As: LALS 072
Activity: Lecture
1 Course Unit
HIST 075 Africa Before 1800
Survey of major themes and issues in African history before 1800. Topics include: early civilizations, African kingdoms and empires, population movements, the spread of Islam, and the slave trade. Also, emphasis on how historians use archaeology, linguistics, and oral traditions to reconstruct Africa's early history.
For BA Students: History and Tradition Sector
Taught by: Babou
Course usually offered in spring term
Also Offered As: AFRC 075, AFST 075
Activity: Recitation
1 Course Unit

HIST 076 Africa Since 1800
Survey of major themes, events, and personalities in African history from the early nineteenth century through the 1960s. Topics include: abolition of the slave trade, European imperialism, impact of colonial rule, African resistance, religious and cultural movements, rise of naturalism and pan-Africanism, issues of ethnicity and “tribalism” in modern Africa.
For BA Students: History and Tradition Sector
Taught by: Cassanelli
Course usually offered in fall term
Also Offered As: AFRC 076, AFST 076
Activity: Recitation
1 Course Unit

HIST 081 History of the Middle East Since 1800
A survey of the modern Middle East with special emphasis on the experiences of ordinary men and women as articulated in biographies, novels, and regional case studies. Issues covered include the collapse of empires and the rise of a new state system following WWI, and the roots and consequences of the Palestinian-Israeli conflict, the Iranian revolution and the U.S.-Iraq War. Themes include: the colonial encounter with Europe and the emergence of nationalist movements, the relationship between state and society, economic development and international relations, and religion and cultural identity.
For BA Students: History and Tradition Sector
Taught by: Kashani-Sabet/Troutt-Powell
Course usually offered in fall term
Also Offered As: NELC 031
Activity: Recitation
1 Course Unit

HIST 084 Topics in 20th C. Middle East
If “the clash of civilizations” is the first image that jumps to mind when thinking about the modern Middle East, then this is the course for you. From the familiar narratives about the creation of modern nation-states to the oft-neglected accounts of cultural life, this course surveys the multi-faceted societies of the twentieth-century Middle East. Although inclusive of the military battles and conflicts that have affected the region, this course will move beyond the cliches of war and conflict in the Middle East to show the range of issues and ideas with which intellectuals and governments grappled throughout the century. The cultural politics and economic value of oil as well as the formation of a vibrant literary life will be among the topics covered in the course. By considering illustrative cultural moments that shed light on the political history of the period, this course will adopt a nuanced framework to approach the Arab/Israeli conflict, the history of the Gulf States, the Iran-Iraq War, and U.S. involvement in the region.
Taught by: Kashani-Sabet
One-term course offered either term
Also Offered As: NELC 032
Activity: Lecture
1 Course Unit

Sugar and Spices. Tea and Coffee. Opium and Cocaine. Hop aboard the Indian Ocean dhows, Chinese junks, Dutch schooners, and British and American clipper ships that made possible the rise of global capitalism, new colonial relationships, and the intensified forms of cultural change. How have the desires to possess and consume particular commodities shaped cultures and the course of modern history? This class introduces students to the cultural history of the modern world through an interdisciplinary analysis of connections between East and West, South and North. Following the circulation of commodities and the development of modern capitalism, the course examines the impact of global exchange on interactions and relationships between regions, nations, cultures, and peoples and the influences on cultural practices and meanings. The role of slavery and labor migrations, colonial and imperial relations, and struggles for economic and political independence are also considered.
For BA Students: Humanities and Social Science S
Taught by: Mitchell
One-term course offered either term
Also Offered As: ANTH 063, SAST 063
Activity: Lecture
1 Course Unit

HIST 091 Modern Japanese History
This course will survey the major political, economic, social and intellectual trends in the making of modern Japan. Special emphasis will be given to the turbulent relationship between state and society from 1800 to the present.
For BA Students: History and Tradition Sector
Taught by: Dickinson
One-term course offered either term
Also Offered As: EALC 071
Activity: Lecture
1 Course Unit
HIST 093 Performing History
From medieval processions to the Mummers Parade, from military reenactments to Mardi Gras, communities do more than "write" or "read" history in order to feel its power and shape their futures. Drawing upon traditions in theater, spectacle, religion, and marketing, they also perform their history—by replaying particular characters, restaging pivotal events and sometimes even changing their outcomes—in order to test its relevance to contemporary life and to both mark and contest ritual points in the annual cycle. This course will explore diverse ways of "performing history" in different cultures, including royal passages, civic parades, historical reenactments, community festivals, and film.
Taught by: St. George
One-term course offered either term
Also Offered As: COML 103, FOLK 103, THAR 103
Activity: Lecture
1 Course Unit

HIST 096 Late Imperial China
This lecture course—the first of a two-part sequence—examines the history of late imperial China through the early 19th century. We begin with the Song dynasty transformation: the rise of gentry society and imperial absolutism, the institution of Confucian orthodoxy, the shift of the population and the economic center of gravity to the south, the commercialization of the economy, and change in the relative status of women and men. We then trace China's subsequent political and social history, including the following themes: inner vs. outer court politics; law, government, and society; intellectuals and political dissent; gender, family, and kinship practices; patterns of peasant life and rebellion; traditional foreign relations and first contacts with the West; internal sources of the decline of imperial order.
Taught by: Fei
One-term course offered either term
Also Offered As: EALC 041
Activity: Lecture
1 Course Unit

HIST 097 History of Modern China
From an empire to a republic, from communism to socialist-style capitalism, few countries have ever witnessed so much change in a hundred year period as China during the twentieth century. How are we to make sense out of this seeming chaos? This course will offer an overview of the upheavals that China has experienced from the late Qing to the Post-Mao era, interspersed with personal perspectives revealed in primary source readings such as memoirs, novels, and oral accounts. We will start with an analysis of the painful transition from the last empire, the Qing Dynasty (1644-1911), to a modern nation state, followed by exploration of a century-long tale of incessant reform and revolution. The survey will focus on three main themes: 1) the repositioning of China in the new East Asian and world orders; 2) the emergence of a modern Chinese state and nationalistic identity shaped and reshaped by a series of cultural crises; and finally, 3) the development and transformation of Chinese modernity. Major historical developments include: the Opium War and drug trade in the age of imperialism, reform and revolution, the Nationalist regime, Mao's China, the Cultural Revolution, and the ongoing efforts of post-Mao China to move beyond Communism. We will conclude with a critical review of the concept of "Greater China" that takes into account Taiwan, Hong Kong, and the Chinese diaspora in order to attain a more comprehensive understanding of modern China, however defined, at the end of the last century.
For BA Students: History and Tradition Sector
Taught by: Fei
One-term course offered either term
Also Offered As: EALC 047
Activity: Lecture
1 Course Unit

HIST 098 Introduction to Korean Civilization
This gateway course surveys the history of Korea from early times to the present. We will study the establishment of various sociopolitical orders and their characteristics alongside major cultural developments. Covered topics include: state formation and dissolution; the role of ideology and how it changes; religious beliefs and values; agriculture, commerce, and industry; changing family relations; responses to Western imperialism; and Korea's increasing presence in the modern world as well as its future prospects. Students will also be introduced to various interpretive approaches in the historiography. No prior knowledge of Korea or Korean language is presumed.
For BA Students: History and Tradition Sector
Taught by: Park
One-term course offered either term
Also Offered As: EALC 003
Activity: Recitation
1 Course Unit

HIST 101 Freshman Seminar: Europe before 1800
One-term course offered either term
Also Offered As: JWST 103
Activity: Seminar
1 Course Unit

HIST 102 Freshman Seminar: Europe after 1800
One-term course offered either term
Activity: Seminar
1 Course Unit

HIST 103 Freshman Seminar: America before 1800
One-term course offered either term
Activity: Seminar
1 Course Unit
HIST 104 Freshman Seminar: America after 1800
One-term course offered either term
Also Offered As: AFRC 015, ASAM 013
Activity: Seminar
1 Course Unit

HIST 105 Freshman Seminar: The World before 1800
One-term course offered either term
Also Offered As: ANCH 190, CLST 190, EALC 073
Activity: Seminar
1 Course Unit

HIST 106 Freshman Seminar: The World After 1800
One-term course offered either term
Also Offered As: LALS 107
Activity: Seminar
1 Course Unit

HIST 107 Comparative Capitalist Systems
The course follows the evolution of industrial capitalism since the beginning of the English industrial revolution in the late 18th century. It ranges from the problems of the industrial revolution in England to problems of building a market economy in eastern Europe today. In particular, it examines industrialization and explores the sources of sustained economic growth from a comparative perspective. Most of the world, especially in so-called emerging economies, is still confronted with the challenge, and often pain, of creating a modern industrial capitalist society. The course attempts to build a conceptual apparatus for understanding models of industrialization and is built around issues such as law, anti-trust, corporate forms, banking institutions, industrial relations, etc. By definition, the course tends to concentrate on successful industrializers around the world, but questions regarding continuing underdevelopment will be addressed.
For BA Students: Humanities and Social Science S
Taught by: Drew
One-term course offered either term
Activity: Lecture
1 Course Unit

HIST 108 American Origins
The United States was not inevitable. With that assumption as its starting point, this course surveys North American history from about 1500 to about 1850, with the continent’s many peoples and cultures in view. The unpredictable emergence of the U.S. as a nation is a focus, but always in the context of wider developments: global struggles among European empires; conflicts between indigenous peoples and settler-colonists; exploitation of enslaved African labor; evolution of distinctive colonial societies; and, finally, independence movements inspired by a transatlantic revolutionary age.
For BA Students: History and Tradition Sector
Taught by: Richter
One-term course offered either term
Activity: Recitation
1 Course Unit

HIST 109 History of the Modern Business Corporation
Over the last two centuries, the modern corporation has emerged as the dominant form of doing business throughout the world. As such, it not only affects people’s daily lives, but also influences government policies and larger trends in society. This course looks at the history of the international corporation from the industrial revolution to the present, to consider how corporations have evolved and the varying ways in which they have influenced the history of our times. We will consider the fundamental debates surrounding the responsibility between shareholders, managers, workers, customers, and most importantly, society as a whole. Much of the course will involve an examination of case studies of individual companies, industries or issues, to understand how corporations have functioned in specific instances.
Taught by: Drew
One-term course offered either term
Activity: Lecture
1 Course Unit

HIST 110 American Origins
The United States was not inevitable. With that assumption as its starting point, this course surveys North American history from about 1500 to about 1850, with the continent’s many peoples and cultures in view. The unpredictable emergence of the U.S. as a nation is a focus, but always in the context of wider developments: global struggles among European empires; conflicts between indigenous peoples and settler-colonists; exploitation of enslaved African labor; evolution of distinctive colonial societies; and, finally, independence movements inspired by a transatlantic revolutionary age.
For BA Students: History and Tradition Sector
Taught by: Richter
One-term course offered either term
Activity: Recitation
1 Course Unit

HIST 111 Europe before 1800: Benjamin Franklin Seminar
One-term course offered either term
Activity: Seminar
1 Course Unit

HIST 112 Europe after 1800: Benjamin Franklin Seminar
One-term course offered either term
Activity: Seminar
1 Course Unit

HIST 113 America before 1800: Benjamin Franklin Seminar
One-term course offered either term
Activity: Seminar
1 Course Unit

HIST 114 America after 1800: Benjamin Franklin Seminar
One-term course offered either term
Activity: Seminar
1 Course Unit

HIST 115 The World before 1800: Benjamin Franklin Seminar
One-term course offered either term
Activity: Seminar
1 Course Unit

HIST 116 The World after 1800: Benjamin Franklin Seminar
One-term course offered either term
Activity: Seminar
1 Course Unit

HIST 117 Witchcraft and Possession
This course explores world witchcraft and possession from the persecutions of the early seventeenth century through the rise of Wicca in the twentieth century. The mere mention of these terms, or of such close cousins as demonology, sorcery, exorcism, magic, and the witches Sabbath, raises clear ethnographic and historical challenges. How can the analysis of witchcraft— including beliefs, patterns of accusation, the general social position of victims, the intensity and timing of witch hunts, and its relation to religious practice, law, language, gender, social marginalization, and property—lead us to a more humane understanding of belief and action? Films such as The Exorcist, The Blair Witch Project, The Crucible, and Three Sovereigns for Sarah will focus discussion.
For BA Students: Humanities and Social Science S
Taught by: St.George
One-term course offered either term
Also Offered As: ANTH 118, GSWS 119, RELS 109
Activity: Lecture
1 Course Unit
HIST 123 Economic History of Europe I
This course concentrates on the economy of Europe in the Early Modern Period, 1450-1750. It was a time of great transition. Europe developed from an agriculturally-based to an industrially-based economy, with attendant changes in society and culture. From subsistence-level productivity, the European economy expanded to create great surfeits of goods, with attendant changes in consumption and expectation. Europe grew from a regional economic system to become part--some would say the heart--of a global economy, with attendant changes in worldview and identity. Economic intensification, expansion, globalization, and industrialization are our topics, therefore. Beginning with economic organizations and practices, we will consider how these changed over time and influenced society and culture. The course takes as its point of departure the experience of individual, working men and women: peasants and artisans, merchants and landlords, entrepreneurs and financiers. Yet, it argues outward: from the particular to the general, from the individual to the social, from the local to the global. It will suggest ways in which the economy influenced developments or changes that were not in themselves economic, shaped, and deflected economic life and practice.
For BA Students: Humanities and Social Science S
Taught by: Drew
One-term course offered either term
Activity: Lecture
1 Course Unit

HIST 124 Economic History, 1600 to present
Economic affairs dominate much of our daily lives and an appreciation of how our economic world evolved is essential for an intelligent understanding of today's society. This course will survey the world's economic history from 1600 to the present. It will consider the evolution of government policies, the growth of trade, business and industry, the economic inter-relationship between regions, governments and business, and, of course, their effect on ordinary people's economic lives.
Taught by: Drew
One-term course offered either term
Activity: Lecture
1 Course Unit

HIST 125 Modern Europe, 1789-1919
It's old, it's new. It's unfamiliar, it's recognizable. This course investigates the collapse of the "old regime" and the birth of something like the Europe we recognize. The long nineteenth century witnessed the development of political, economic, and cultural phenomena we often see as characteristic of modern society. Topics considered include political revolution, industrialization, liberalism, imperialism, and new ideologies of gender, race, and class. Our focus will be consistently transnational. Where did Europe begin and end? How did borders and boundaries operate at the edge of nations, but also within societies? We will investigate these questions as we follow European history from the violence and optimism of the French Revolution to the chaos of the First World War.
Taught by: Chase-Levenson
One-term course offered either term
Activity: Lecture
1 Course Unit

HIST 126 Modern Europe, 1789-1919
It's old, it's new. It's unfamiliar, it's recognizable. This course investigates the collapse of the "old regime" and the birth of something like the Europe we recognize. The long nineteenth century witnessed the development of political, economic, and cultural phenomena we often see as characteristic of modern society. Topics considered include political revolution, industrialization, liberalism, imperialism, and new ideologies of gender, race, and class. Our focus will be consistently transnational. Where did Europe begin and end? How did borders and boundaries operate at the edge of nations, but also within societies? We will investigate these questions as we follow European history from the violence and optimism of the French Revolution to the chaos of the First World War.
Taught by: Chase-Levenson
One-term course offered either term
Activity: Lecture
1 Course Unit

HIST 127 The Material Past in a Digital World
The material remains of the human past-objects and spaces-provide tangible evidence of past people's lives. Today's information technologies improve our ability to document, study, and present these materials. But what does it mean to deal with material evidence in virtual context? In this class, students will learn basic digital methods for studying the past while working with the collections of the Penn Museum. As we learn about acquiring and managing data, we will gain valuable experience in the evaluation and use of digital tools. The digital humanities are a platform both for learning the basic digital literacy students need to succeed in today's world and for discussing the human consequences of these new technologies and data. We will discuss information technology's impact on the study and presentation of the past, including topics such as public participation in archaeological projects, educational technologies in museum galleries, and the issues raised by digitizing and disseminating historic texts and objects. Finally, we will touch on technology's role in the preservation of the past in today's turbulent world. No prior technical experience is required, but we hope students will share an enthusiasm for the past.
Taught by: Peter Cobb
One-term course offered either term
Also Offered As: ANTH 127, ARTH 127, CLST 127, NELC 187
Activity: Lecture
1 Course Unit

HIST 128 From Complete Destruction to Superpower: Europe 1945-2013
This course offers a survey of European history, including both eastern and western Europe since World War II until the present. The course examines how Europe in all its complexity and cultures lived under the shadow of the Cold War. It examines the origins and nature of the cold war, not just in its diplomatic and political dimensions, but also its effects on the culture and people of Europe. It explores the reasons for the phenomenon of anti-Americanism and the series of revolts exploding throughout eastern Europe until the fall of the Berlin Wall. Finally, the course examines a number of thematic areas about European political culture, immigration, decolonization, the 1960s revolts and the 1970s terrorism, the resurgence of nationalism, but also the growth of the European community. The course explores the question: what does it mean to be European?
One-term course offered either term
Activity: Lecture
1 Course Unit

HIST 130 History of Globalization
Globalization seems the essence of modernity, but it is not a new phenomena. The world has already witnessed several eras of globalization, each of which transformed and changed the world in often similar but sometime unique fashions. This course will look at continuing trends towards globalization and consider its rich history and the contentious arguments that it has always provoked. Although the focus of the course will be on globalization during the 19th and 20th centuries, we will also consider earlier episodes of globalization, to fully appreciate its evolution and importance.
For BA Students: Humanities and Social Science S
Taught by: Drew
One-term course offered either term
Activity: Lecture
1 Course Unit
HIST 131 Financial Meltdown, Past and Present
Economic history is increasingly recognized as a crucial source of policy advice and is invoked with growing frequency in public debates. In particular, the subprime crisis in 2008 and after has generated a demand for "historical perspective" that would improve the understanding of the causes of financial turmoil and facilitate the prevention of comparable catastrophes. This course begins with a review of the principal features of the subprime crisis of 2008 and asks, so to speak, "how did we get there?" It answers by providing historical insights that shed light on crucial aspects of financial disasters. This is a history course, engaging with topics pertaining to economics, law and politics (national and international). Students with diverse backgrounds are expected to benefit from this course through acquiring a concrete knowledge of the historical evolution of fundamental institutions of financial capitalism. Ultimately, students enrolling in this course are expected to achieve proficiency in historically informed discussion of the mechanisms that were played out in the subprime crisis and beyond.

Taught by: Flandreau
Course not offered every year
Also Offered As: ECON 028
Activity: Lecture
1 Course Unit

HIST 133 Free Speech and Censorship
This course will explore the idea of free speech - its justification, its relationship to various forms of censorship, and its proper limits - as a historical, philosophical, legal, and ultimately, political question. In the first half of the course, we will explore the long history across the West of the regulation of various kinds of ideas and their expression, from malicious gossip to heresies, and read classic arguments for and against censorship, copyright protections, and standards of taste and decency and of truth. In the second part of the seminar, after looking at how the idea of freedom of speech came to seem an existential prerequisite for democracy as well as individual liberty, we will take up the historical and philosophical questions posed by such recent dilemmas as whether or not hate speech deserves the protection of the First Amendment, the distinction between art and pornography from the perspective of freedom of expression, speech during wartime, and the transformative effects of the internet on the circulation and regulation of ideas. We will end the semester by thinking about the globalization of the idea of free speech as a human right and its implications, both positive and negative. Readings will range from Robert Darnton's The Forbidden Best-Sellers of Pre-Revolutionary France, to D. H. Lawrence's Lady Chatterley's Lover, to documents concerning the cartoons of Charlie Hebdo and law review articles about Citizens United v. FEC. We will also make considerable use of local resources, from museums to the library.

Taught by: Rosenfeld
One-term course offered either term
Activity: Lecture
1 Course Unit

HIST 135 Cold War: Global History
The cold War was more than simply a military confrontation between the United States and the Soviet Union; it was the frame within which the entire world developed (for better or worse) for nearly five decades. This course will examine the cold War as a global phenomenon, covering not only the military and diplomatic history of the period, but also examining the social and cultural impact of the superpower confrontation. We will cover the origins of the conflict, the interplay between periods of tension and detente, the relative significance of disagreements within the opposing blocs, and the relationship between the "center" of the conflict in the North Atlantic/European area and the global "periphery". For BA Students: Humanities and Social Science S

Taught by: Nathans
One-term course offered either term
Also Offered As: EEUR 135, RUSS 135
Activity: Recitation
1 Course Unit

HIST 137 International Society in the Twentieth Century
Is the world evolving toward a global civil society, and perhaps toward global government? The course explores this question across the 20th century, focusing on the origins and evolution of transnational organizations and movements. We will analyze a variety of actors above and below the level of the nation-state, from the League of Nations to Amnesty International. At the same time we will pay careful attention to the many countervailing forces that have resisted the process of globalization: various forms of nationalism, local ethnic and religious movements in places as far-flung as Central Africa and Northern Ireland, and struggles over territories and border control from Arizona to Kashmir. We will look at the long history of contention between these opposing trajectories, exploring such topics as Wilsonianism and its reception in Europe and beyond, transnational human rights norms, the environmentalist movement, institutions designed to deal with global threats such as the World Health Organization or the International Atomic Energy Agency, European integration, political Islam, and the War on Terror.

Taught by: Ogle
One-term course offered either term
Activity: Lecture
1 Course Unit

HIST 139 Jews and Judaism in Antiquity
A broad introduction to the history of Jewish civilization from its Biblical beginnings to the Middle Ages, with the main focus on the formative period of classical rabbinic Judaism and on the symbiotic relationship between Judaism, Christianity, and Islam. For BA Students: History and Tradition Sector

Taught by: Dohrmann
Course usually offered in spring term
Also Offered As: JWST 156, NELC 051, NELC 451, RELS 120
Activity: Lecture
1 Course Unit
HIST 140 Medieval and Early Modern Jewry
Exploration of intellectual, social, and cultural developments in Jewish civilization from the rise of Islam in the seventh century to the assault on established conceptions of faith and religious authority in 17th century Europe, that is, from the age of Mohammed to that of Spinoza. Particular attention will be paid to the interaction of Jewish culture with those of Christianity and Islam.
For BA Students: History and Tradition Sector
Taught by: Ruderman
Course usually offered in fall term
Also Offered As: JWST 157, NELC 052, RELS 121
Activity: Lecture
1 Course Unit

HIST 141 Jews in the Modern World
This course offers an intensive survey of the major currents in Jewish culture and society from the late middle ages to the present. Focusing upon the different societies in which Jews have lived, the course explores Jewish responses to the political, socio-economic, and cultural challenges of modernity. Topics to be covered include the political emancipation of Jews, the creation of new religious movements within Judaism, Jewish socialism, Zionism, the Holocaust, and the emergence of new Jewish communities in Israel and the United States. No prior background in Jewish history is expected.
For BA Students: History and Tradition Sector
Taught by: Wenger
Course usually offered in spring term
Also Offered As: JWST 158, NELC 053, RELS 122
Activity: Lecture
1 Course Unit

HIST 143 Foundations of European Thought: from Rome to the Renaissance
This course offers an introduction to the world of thought and learning at the heart of European culture, from the Romans through the Renaissance. We begin with the ancient Mediterranean and the formation of Christianity and trace its transformation into European society. Along the way we will examine the rise of universities and institutions for learning, and follow the humanist movement in rediscovering and redefining the ancients in the modern world.
Taught by: Moyer
One-term course offered either term
Also Offered As: COML 143
Activity: Lecture
1 Course Unit

HIST 146 Comparative Medicine
See primary department (HSOC) for a complete course description.
For BA Students: History and Tradition Sector
Taught by: Mukharji
One-term course offered either term
Also Offered As: HSOC 145, STSC 145
Activity: Lecture
1 Course Unit

HIST 150 American Jewish Experience
This course offers a comprehensive survey of American Jewish history from the colonial period to the present. It will cover the different waves of Jewish immigration to the United States and examine the construction of Jewish political, cultural, and religious life in America. Topics will include: American Judaism, the Jewish labor movement, Jewish politics and popular culture, and the responses of American Jews to the Holocaust and the State of Israel.
Taught by: Wenger
One-term course offered either term
Also Offered As: JWST 130, RELS 124
Activity: Lecture
1 Course Unit

HIST 153 Transformation of Urban America: From the Mid-Twentieth Century to the Present
The course traces the economic, social, and political history of American cities after World War II. It focuses on how the economic problems of the industrial city were compounded by the racial conflicts of the 1950s and 1960s and the fiscal crises of the 1970s. The last part of the course examines the forces that have led to the revitalization of cities in recent years.
For BA Students: Society Sector
Taught by: Fairbanks
One-term course offered either term
Also Offered As: URBS 104
Activity: Lecture
1 Course Unit

HIST 155 Introduction to Asian American History
This course will provide an introduction to the history of Asian Pacific Americans, focusing on the wide diversity of migrant experiences, as well as the continuing legacies of Orientalism on American-born APA’s. Issues of race, class, gender, and sexuality will also be examined.
For BA Students: History and Tradition Sector
Taught by: Azuma
One-term course offered either term
Also Offered As: ASAM 003
Activity: Lecture
1 Course Unit

HIST 159 Technology, Policy & War
Comparative and interdisciplinary examination of successful and failed uses of force in international relations, from ancient to modern times, using case studies. Readings will include Clausewitz, Sun Tzu, and a variety of primary and secondary sources for the wars considered each year. Issues of war’s fundamental origins, and its many impacts on society, will also be considered.
Taught by: Waldron
One-term course offered either term
Activity: Recitation
1 Course Unit
HIST 160 Strategy, Policy and War
Analysis of the political use of force, both in theory and in practice, through analytical readings and study of selected wars. Readings include Sun Zi, Kautiya, Machiavelli, Clausewitz and other strategists. Case studies vary but may include the Peloponnesian War, the Mongol conquests, the Crusades, the Crimean War, Russo-Japanese War, World War II, Korea, or the Falklands, among others, with focus on initiation, strategic alternatives, decision and termination. Some discussion of the law of war and international attempts to limit it.
Taught by: Waldron
One-term course offered either term
Activity: Lecture
1 Course Unit

HIST 161 American Capitalism
A broad overview of American economic history will be provided by focusing on the following topics: colonial trade patterns, the growth of the market economy, the political economy of slavery, industrial expansion, segmentation in the labor force and changes in work, technological and organizational innovations, business cycles, the rise of the corporate welfare state, the growth of monopoly capitalism, and current economic problems in historical perspective.
For BA Students: Society Sector
Taught by: Licht
One-term course offered either term
Also Offered As: ECON 014
Activity: Recitation
1 Course Unit

HIST 162 The American West
This course explores the social and cultural history and current views of the many Wests we think we know. In 1872, President Grant established Yellowstone National Park, only the first of many national and state nature reserves in the west. Even while the Parks were widely celebrated, in 1876 Grant allowed miners and land speculators into the Black Hills, or Paha Sapa, land long considered sacred by the Lakota peoples and ‘protected’ for them as recently as 1868 Treaty of Laramie. From this pairing of events in the 1870s spring the many overlapping themes this course will address: Native peoples, their beliefs and material cultures, pressured by the arrival of scattered industries (gold rushes, silver and copper mining); irregular sources of industrial and banking capital from England, New York, Chicago, and elsewhere; the arrival of the US Army in 1851, then a break removing troops for the Civil War, then their renewed and constant appearance from 1866 on and the making and breaking of other treaties; the irregular scattering of land speculators and dirt farmers, even while the US government insisted the Sioux and Cheyennes, among other peoples, not disturb the passage of planters on the Oregon Trail, even as their hunting grounds were enclosed by the Union Pacific and North Pacific railroads by 1870. Naturalists, hikers, and artists arrived by rail to the western parks: Yellowstone, Yosemite (1890), and the Grand Canyon (1919). By 1900, American tourists went west to see wild West Indian Shows and wonder at the new parks. They ate at restaurants serving western food, wore western ware and cowboy boots, and listened to western music that finally reached its high point when folklorist Hal Cannon founded the National Cowboy Poetry Gathering in Elko, Nevada, in 1984, still active today with offshoots in Durango, Montana, and Texas.
Taught by: St. George
One-term course offered either term
Activity: Lecture
1 Course Unit

HIST 163 Modern American Culture
Through the twentieth century, American culture took on new forms and meanings, spurred by technological innovation, commerce, and institutions, and shaped by an ever-changing population. In the process, American culture became self-consciously ‘modern’-embraced, contested, repudiated, and continually redefined. This course explores the history of American culture from the 1890s to the 1990s, with a focus on the following questions: Why did culture become such an important part of American economic, social, and political life in the twentieth century? How has culture been created, understood, and mobilized by different groups in American society at different times? What have been the politics of culture over the twentieth century? Topics include the rise of ‘culture industries’ and mass entertainment, including amusement parks, film, radio, and television; the growth of consumer culture; the impact of gender in such arenas as sports and fashion; the role of working-class peoples, African Americans, and immigrants in American culture; the cultural response to the Depression and World War II; and popular activism. The course emphasizes the study of primary documents-journalism, fiction, letters and diaries, music, photographs, and film-as a means of understanding the past.
For BA Students: History and Tradition Sector
Taught by: Peiss
One-term course offered either term
Activity: Recitation
1 Course Unit

HIST 164 Recent American History
This course examines major developments in United States history since the Great Depression, a tumultuous period that gave birth to many of our contemporary debates about the responsibilities of government, the possibility of radical social change, and the meaning of citizenship. Reading primary documents alongside historical accounts, we will address the building of the New Deal state; the emergence of the United States as a superpower; the domestic and international repercussions of the Cold War; the impact of mass consumption, suburbanization, and new technologies; the civil rights movement and other drives for social change; the cultural and political fallout of the Vietnam War; transformations in gender roles and the family; and the end of the "American century.”
Taught by: Licht
One-term course offered either term
Activity: Lecture
1 Course Unit

HIST 166 Arabic/Israeli Conflict in Literature and Film
This course will explore the origins, the history and, most importantly, the literary and cinematic art of the struggle that has endured for a century over the region that some call the Holy Land, some call Eretz Israel and others call Palestine. We will also consider religious motivations and interpretations that have inspired many involved in this conflict as well as the political consequences of world wars that contributed so greatly to the reconfiguration of the Middle East after the fall of the Ottoman Empire, and after the revelations of the Holocaust in Western Europe. While we will rely on a textbook for historical grounding, the most significant material we will use to learn this history will be films, novels, and short stories. Can the arts lead us to a different understanding of the lives lived through what seems like unending crisis?
Taught by: Troutt-Powell
One-term course offered either term
Also Offered As: CIMS 166, NELC 137
Activity: Recitation
1 Course Unit
HIST 176 The New African Diaspora
Course not offered every year
Also Offered As: AFRC 167, AFST 167, URBS 167
Activity: Seminar
1 Course Unit

HIST 168 History of American Law to 1877
The course surveys the development of law in the U.S. to 1877, including such subjects as: the evolution of the legal profession, the transformation of English law during the American Revolution, the making and implementation of the Constitution, and issues concerning business and economic development, the law of slavery, the status of women, and civil rights.
Taught by: Berry
Course usually offered in fall term
Also Offered As: AFRC 168
Activity: Lecture
1 Course Unit

HIST 169 History of American Law Since 1877
This course covers the development of legal rules and principles concerning individual and group conduct in the United States since 1877. Such subjects as regulation and deregulation, legal education and the legal profession, and the legal status of women and minorities will be discussed.
Taught by: Berry
Course usually offered in spring term
Also Offered As: AFRC 169
Activity: Lecture
1 Course Unit

HIST 170 The American South
Southern culture and history from 1607-1860, from Jamestown to secession. Traces the rise of slavery and plantation society, the growth of Southern sectionalism and its explosion into Civil War.
For BA Students: History and Tradition Sector
Two terms. student may enter either term.
Also Offered As: AFRC 172
Activity: Recitation
1 Course Unit

HIST 171 The American South 1860-Present
This course will trace the history of the American South from the end of the Civil War to the present. It will investigate Reconstruction, the New South, Populism, racial disfranchisement and the rise of Jim Crow, the politics of the One-Party South, the South in the Progressive era and its role in the New Deal and World War II, the Civil Rights Movement of the 1950s and 1960s, and the rise of the Republican South. While following the narrative of politics and economic development, we will pay particular attention to race relations and will be more than casually interested in gender roles. In addition, we will take frequent peeks at the evolving Southern identity as reflected in popular culture and literature as well as in other corners of the public sphere.
For BA Students: History and Tradition Sector
Two terms. student may enter either term.
Activity: Recitation
1 Course Unit

HIST 172 Native People of Eastern North America
This course surveys Native American life east of the Mississippi River from earliest times to the present. The diverse histories of Native peoples will be examined both on their own terms and as continuing elements of the continent's broader story. Topics to be addressed include 16th- and 17th-century demographic, economic, and social consequences of contact with European peoples, 18th century strategies of resistance and accommodation to colonial powers, 19th-century impacts of U.S. government removal and cultural assimilation policies, and 20th-century cultural and political developments among the region's surviving Native American communities.
Taught by: Richter
One-term course offered either term
Activity: Lecture
1 Course Unit

HIST 174 Reform and Revolution in the Americas
The United States and Latin America produced a remarkable series of revolutions and reforms during the postwar period. This course examines efforts in the United States, Guatemala, Cuba, and Brazil to define and address problems around land, labor, and property, nation, empire, and autonomy; and racism, democracy, and citizenship. In studying the US and Latin America together, the class invites students to explore central themes of both regions' histories as parts of global processes. We will explore exchanges between social movements in the US, Cuba and Africa, for instance, ask how ideas about poverty traversed national borders, and examine the global rise of human rights consciousness. The class, in other words, not only compares national histories but analyzes the relationships between national upheavals and the global significance of events in the hemisphere.
For BA Students: History and Tradition Sector
Taught by: Offner
One-term course offered either term
Also Offered As: LALS 174
Activity: Lecture
1 Course Unit

HIST 175 Society and Culture in Brazil
With its booming economy, the recent inauguration of its first female president, and its selection as host to the 2012 World Cup and Olympic games, Brazil is growing in global prestige. But amid all these exciting developments are devastating socioeconomic inequalities. Access to safe living conditions, livable wages, higher education, and overall social mobility remain painfully out of reach to many Brazilians, the majority of whom are the descendants of slaves. Why do these problems persist in a country that has had such an enduring and widespread reputation as a "racial democracy"? What are the possibilities of closing the equality gap in Brazil? To answer these and other questions, our course takes a long and expansive view of Brazilian history. We begin with an exploration of Brazil's early formation as a Portuguese colony in the sixteenth century before moving on to tracing its development as one of the largest and longest-lasting slaveholding societies in the world. From there we will examine the gradual process of abolition in the region, the transition to an independent republic in the nineteenth century, as well as the nation-building projects and political crises of the twentieth century. We will conclude with an analysis of the major issues shaping modern Brazilian society and culture.
One-term course offered either term
Also Offered As: AFRC 175, LALS 175
Activity: Lecture
1 Course Unit
HIST 176 Afro-American History 1550-1876
This course will study the history of Afro-Americans from their first encounter with Europeans in the 16th century to emancipation during the Civil War. The course will concentrate on the variety of black responses to capture, enslavement, and forced acculturation in the New World. The difference in the slave experience of various New World countries, and the methods of black resistance and rebellion to varied slave systems will be investigated. The nature and role of the free black communities in antebellum America will also be studied.
For BA Students: History and Tradition Sector
Two terms. student may enter either term.
Also Offered As: AFRC 176
Activity: Lecture
1 Course Unit

HIST 177 Afro-American History 1876 to Present
A study of the major events, issues, and personalities in Afro-American history from Reconstruction to the present. It will also examine the different slave experiences and the methods of black resistance and rebellion in the various slave systems.
For BA Students: History and Tradition Sector
Taught by: Savage
Two terms. student may enter either term.
Also Offered As: AFRC 177
Activity: Lecture
1 Course Unit

HIST 178 The Foundations of the Early Modern Atlantic World 1450-1800
The purpose of this course is to provide students with a solid knowledge of Atlantic history during the early modern period (XV-XVIII centuries). Through readings of primary and secondary texts we will discuss the cultural, religious, intellectual, and economic developments of Europe, Africa, and the Americas, as well as the connections, struggles, and mutual influences between the peoples of these three continents. Throughout the semester we will study several important topics:
- medieval precedents of early modern expansion; theories of empire;
- ideologies and systems of conquest and colonization; the relevance of race and slavery to the understanding of the early modern Atlantic world;
- how different peoples perceived others and themselves; how European imperialism and colonization affected the internal development of Africa and America; the role played by religion in the Atlantic world;
- persistence and continuity of Native cultures and beliefs during an age of expansion; the creation of new identities; the role played by African nations in the creation of the Atlantic world; and the creation of an Atlantic economy.
Taught by: Feros
One-term course offered either term
Also Offered As: LALS 178
Activity: Lecture
1 Course Unit

HIST 179 The Rise and Fall of the Spanish Empire 1450-1700
This course will provide students with a solid knowledge of the history of early modern Spain (1450-1700). Through readings of primary and secondary texts that offer a complex vision of the cultural, religious, intellectual, and economic contexts and processes, students will be able to appreciate the intricacies of Spain's historical evolution. The course focuses on the rise and decline of the Spanish monarchy: the conditions that enabled Spain to become the most powerful monarchy in early modern times, and the conditions that led to its decline. This course also touches upon other important aspects critical to understanding early modern Spain: relationships among Christians, Muslims, and Jews in the Iberian Peninsula; the conquest and colonization of the New World; and early modern debates about Spain's rights to occupy America and the so-called "destruction of the Indies."
For BA Students: History and Tradition Sector
Taught by: Feros
One-term course offered either term
Also Offered As: LALS 179, ROML 250
Activity: Lecture
1 Course Unit

HIST 188 Civilizations at odds? The United States and the Middle East
Foe or friend, Satan or saint - America has often been depicted in the Middle East either as a benevolent superpower or an ill-meaning enemy. In America, too, stereotypes of the Middle East abound as the home of terrorists, falafels, and fanatics. This undergraduate lecture course will explore the relationship between the United States and the Middle East by moving beyond such facile stereotypes. Our goal is to understand why a century of interaction has done little to foster greater understanding between these two societies. By reading novels, memoirs, and historical accounts, we will examine the origins of this cultural and diplomatic encounter in the twentieth century. The readings will shed light on America's political and economic involvement in the Middle East after the Second World War. We will consider the impact of oil diplomacy on U.S.-Middle East relations, as well as the role of ideology and religion, in our effort to comprehend the current challenges that face these societies.
Taught by: Kashani-Sabet
One-term course offered either term
Also Offered As: NELC 188
Activity: Lecture
1 Course Unit

HIST 189 Modern Egypt
This course will seek to explore how Egyptian culture has dealt with its many pasts by investigating early modern and modern Egyptian history. With an emphasis on the 18th century to the present we will explore the culture of Egypt under the Ottoman Empire, slavery in Egypt, the unsuccessful French attempt to colonize Egypt and the successful British occupation of the country.
Taught by: Troutt-Powell
One-term course offered either term
Activity: Lecture
1 Course Unit

HIST 201 Major Seminar in History: Europe Before 1800
One-term course offered either term
Activity: Seminar
1 Course Unit

HIST 202 Major Seminar in History: Europe After 1800
One-term course offered either term
Activity: Seminar
1 Course Unit
HIST 203 Major Seminar in History: America Before 1800
One-term course offered either term
Activity: Seminar
1 Course Unit

HIST 204 Major Seminar in History: America After 1800
One-term course offered either term
Also Offered As: GSWS 204, JWST 204, LALS 204
Activity: Seminar
1 Course Unit

HIST 205 Major Seminar in History: The World before 1800
One-term course offered either term
Also Offered As: LALS 205, NELC 235
Activity: Seminar
1 Course Unit

HIST 206 Major Seminar of the World after 1800
One-term course offered either term
Activity: Seminar
1 Course Unit

HIST 209 Industrial Metropolis
Although we no longer think of most U.S. cities as industrial cities, metropolitan areas today are all products of industrial economies, technologies, and social systems. This course explores the industrialization and deindustrialization of American cities within their evolving global context from the era of European colonization to the present. It includes weekly readings and discussion, regular response papers and walking tours, in-class exercises, and a research paper using primary sources. Themes include energy and ecology, labor and production, inner city and suburban development, globalization, and economic restructuring. Ultimately, the class aims to give students a broad knowledge of 1) the history of industrial capitalism, 2) its effects on cities and regions over the past three centuries, and 3) analytical tools for understanding the past, present, and future of metropolitan economies, geography, and society.
For BA Students: History and Tradition Sector
Taught by: Vitiello
Course usually offered in fall term
Also Offered As: URBS 103
Activity: Seminar
1 Course Unit

HIST 211 Europe before 1800: Advanced Benjamin Franklin Seminar
One-term course offered either term
Also Offered As: FREN 360, JWST 201
Activity: Seminar
1 Course Unit

HIST 212 Europe after 1800: Advanced Benjamin Franklin Seminar
One-term course offered either term
Also Offered As: ITAL 200
Activity: Seminar
1 Course Unit

HIST 213 America before 1800: Advanced Benjamin Franklin Seminar
One-term course offered either term
Activity: Seminar
1 Course Unit

HIST 214 America after 1800: Advanced Benjamin Franklin Seminar
One-term course offered either term
Also Offered As: AFRC 215, JWST 214
Activity: Seminar
1 Course Unit

HIST 215 The World before 1800: Advanced Benjamin Franklin Seminar
One-term course offered either term
Activity: Seminar
1 Course Unit

HIST 216 The World after 1800: Advanced Benjamin Franklin Seminar
One-term course offered either term
Also Offered As: AFRC 215, NELC 286
Activity: Seminar
1 Course Unit

HIST 219 Medieval Russia: Origins of Russian Cultural Identity
This course offers an overview of the cultural history of Rus from its origins to the eighteenth century, a period which laid the foundation for the Russian Empire. The course takes an interdisciplinary approach to the evolution of the main cultural paradigms of Russian Orthodoxy viewed in a broader European context. Although this course is historical in content, it is also about modern Russia. The legacy of Medieval Rus is still referenced, often allegorically, in contemporary social and cultural discourse as the Russian, Ukrainian and Belarusian societies attempt to reconstruct and reinterpret their histories. In this course, students learn that the study of the medieval cultural and political history explains many aspects of modern Russian society, its culture and mentality.
Taught by: Verkholantsev
Course not offered every year
Also Offered As: COML 235, RUSS 234, SLAV 517
Activity: Lecture
1 Course Unit

HIST 220 Russia and the West
For BA Students: Humanities and Social Science S
Course not offered every year
Also Offered As: COML 220, RUSS 220
Activity: Seminar
1 Course Unit

HIST 227 Topics in S. Asian Hist
One-term course offered either term
Activity: Seminar
1 Course Unit

HIST 230 Topics in European History
Topics vary
One-term course offered either term
Also Offered As: CLST 230, COML 248, GRMN 232, ITAL 230, JWST 230
Activity: Seminar
1 Course Unit

HIST 231 Topics in US History
Topics in US History
One-term course offered either term
Also Offered As: AFRC 229, ASAM 203, ENGL 253, JWST 215, RELS 209
Activity: Seminar
1 Course Unit

HIST 232 World History: Africa or the Middle East
Topics vary
Course usually offered in fall term
Also Offered As: AFRC 233, AFST 232, CIMS 233, GSWS 232, NELC 282
Activity: Seminar
1 Course Unit
HIST 233 World History: East Asia or Latin America
Topics Vary
Course usually offered in fall term
Also Offered As: AFRC 234, ARTH 369, EALC 141, GSWS 233, LALS 233
Activity: Seminar
1 Course Unit

HIST 234 Topics in Transnational History
Topics vary
One-term course offered either term
Also Offered As: URBS 234
Activity: Seminar
1 Course Unit

HIST 277 Topics in Premod Jap History
Also Offered As: EALC 270
Activity: Lecture
1 Course Unit

HIST 274 African American Life and Culture in Slavery
This course will examine the lives of enslaved African Americans in the United States, both in the North and the South. We will engage with a variety of sources, including literature, music, and visual art, to explore the experiences of enslaved people. We will consider the ways in which enslaved people resisted and coped with slavery, as well as the legacies of slavery in the modern United States.
Taught by: Babou
One-term course offered either term
Also Offered As: AFRC 276
Activity: Lecture
1 Course Unit

HIST 275 Islam and Society in Africa
This course is designed to provide the students with a broad understanding of the history of Islam in Africa. The focus will be mostly on West Africa, but we will also look at developments in other regions of the continent. We will examine the process of Islamization in Africa and the interplay between Islam and the African traditional religions and customs. Topics include conversion, Islamic education and literacy, the status of women, Muslim response to European colonial domination, Islamic mysticism, and the contemporary development of Sunni movements.
Taught by: Moyer
One-term course offered either term
Also Offered As: AFRC 274, AFST 274
Activity: Lecture
1 Course Unit

HIST 276 Japan: The Age of the Samurai
This course deals with the samurai in Japanese history and culture and will focus on the period of samurai political dominance from 1185 to 1868, but it will in fact range over the whole of Japanese history from the development of early forms of warfare to the disappearance of the samurai after the Meiji Restoration of the 19th century. The course will conclude with a discussion of the legacy of the samurai in modern Japanese culture and the image of the samurai in foreign perceptions of Japan.
Taught by: Hurst
One-term course offered either term
Also Offered As: EALC 176
Activity: Lecture
1 Course Unit

HIST 277 Topics in Premod Jap History
Also Offered As: EALC 270
Activity: Lecture
1 Course Unit

HIST 308 Renaissance Europe
This course will examine the cultural and intellectual movement known as the Renaissance, from its origins in fourteenth-century Italy to its diffusion into the rest of Europe in the sixteenth century. We will trace the great changes in the world of learning and letters, the visual arts, and music, along with those taking place in politics, economics, and social organization. We will be reading primary sources as well as modern works.
Taught by: Moyer
One-term course offered either term
Activity: Lecture
1 Course Unit

HIST 309 Age of Reformation
The Protestant Reformation of the 16th century was a watershed in European history. It marked the culmination of centuries of religious, political and social change and had profound institutional and intellectual consequences. We will examine the central teachings and activities of the Protestant reformers against this broad background. Topics will include: medieval traditions of religious protest and reform; social and political changes in the period of the Reformation; the changing role of the Papacy; and the impact of the new technology of printing. Readings will be both primary texts and secondary sources and discussions will be an integral part of the class.
Taught by: Safley
One-term course offered either term
Activity: Lecture
1 Course Unit

HIST 310 Europe in the Age of Baroque
The baroque earns its name from a style of art and architecture, developed in Europe between 1550 and 1700 and typified by elaborate ornamentation and color. The term can be applied well to the history of the period, which was characterized by conflict and complexity. We will examine the political and social context of the period, the role of the state, the arts and literature of the period, and the role of the church and the papacy.
Taught by: Safley
One-term course offered either term
Activity: Lecture
1 Course Unit

HIST 311 The Tudors
This course examines the history of England from the accession of Henry VII Tudor in 1485 to the death of Elizabeth I in 1603, with emphases on the political and personal history of this colorful dynasty; the religious revolution known as the Protestant Reformation; the arts and literature known as the English Renaissance; imperial and trade ventures overseas, and aspects of popular culture including the witch craze. Unlike most English histories of the period, we will also look closely at the other realms of the British Isles, Scotland, Wales, and Ireland. Readings consist of a textbook with a British scope, and an array of primary sources, some in book form and others (marked with an asterisk on the syllabus) attached to Blackboard or distributed in class. Books are available at the Penn Book Center, except for biographies associated with film critiques. Most of the films noted in the syllabus will be available on PVN; otherwise, they can be viewed at the library or through Netflix. Assignments in square brackets are optional.
Taught by: Todd
Course usually offered in spring term
Activity: Lecture
1 Course Unit
HIST 312 Britain's Century of Revolution
England, Ireland, Wales and Scotland experienced revolutions in the first half of the seventeenth century that abolished monarchy and hereditary aristocracy, and carried out the first judicial execution of a monarch in European history. England was re-constructed as a republic, then with Scotland became the United Commonwealth of Great Britain, then declined into a military dictatorship, and finally invited the king back. In 1688, however, the Glorious Revolution deposed that king and declared Britain a strictly constitutional monarchy. This course will explore what motivated ordinarily obedient British subjects to take up arms against their rulers. The works of Milton and Marvell, Cromwell, Hobbes and Locke, and many lesser-known writers of diaries, autobiographies, sermons, statutes, and letters will illuminate the issues. The focus will be on how law, politics and religion interacted in the onset of war and defining of settlement, but with an eye to the larger social and cultural setting in which revolutions happened: this is also an era of both witchcraze and scientific revolution, puritanism and the slave trade, the near-destruction of London by fire and plague and its re-birth as the capital of a commercial empire.
Taught by: Todd
One-term course offered either term
Activity: Lecture
1 Course Unit

HIST 314 Victorian Britain: Spaces, Places, and Pests
In this course, we will examine the nooks and crannies of Victorian society. It was a period of squalor, but also innovation, devastating diseases, and crucial advances in public health and medical science. Its cities featured depressing slums and lurid crimes, but also new kinds of spectacles, entertainments, and commodities. It was, in many ways, as one of its greatest authors wrote, "the best of times, and the worst of times." Units under study will include "The Docks," "The Germs," "The Empire," "The Church," and "the Museum." We'll investigate killer diseases like cholera and typhus, dazzling buildings like the Crystal Palace, imperial wars and crises, and new scientific movements like Darwinism and mesmerism. Along the way, we will encounter proper and eminent Victorians as well as scandalous and marginalized ones. The aim will be to understand Victorian mentalities and ideas by looking at a diverse array of institutions and inventions. Readings will include novels, stories, pamphlets, essays, and cartoons as well as secondary literature. Classes will be a mixture of lecture and discussion, and no previous experience in British history is necessary.
Taught by: Chase-Levenson
Course not offered every year
Activity: Lecture
1 Course Unit

HIST 318 Italian History from Napoleon to Berlusconi
The seminar looks at the evolution of modern Italy from the Napoleonic Era through the unification of the Kingdom in 1861, through its crisis in the First World War and the subsequent struggle for control of the new mass society. It looks at the emergence of the first fascist regime and the first modern dictatorship under Benito Mussolini; the rise and consolidation of that dictatorship, its descent into anti-Semitism, defeat in war and the civil war of 1943-45.
Taught by: Holquist/Vinitsky
One-term course offered either term
Also Offered As: ITAL 318
Activity: Lecture
1 Course Unit

HIST 320 Nature's Nation: Americans and their Environment
Environmental history studies the interactions between humans and the natural world. In this kind of study, mosquitoes and rain are actors in history as well as humans and their impact. This course explores these interactions through case studies and topics nationally and globally, such as energy, disease, human migration and settlement, animals, technological changes, urban and suburban development, conservation and politics. This course is geared toward students who want to think about how history happens, in different places and over time.
Taught by: Greene
One-term course offered either term
Also Offered As: HSOC 279, STSC 279
Activity: Seminar
1 Course Unit

HIST 323 Material Life in America, 1600-1800
This course will explore the history of America's use and fascination with material goods between 1600 and 1860. We will examine such issues as the transferal of European traditions of material culture to the New World, the creation of American creolized forms, the impact of reformers in the late eighteenth and early nineteenth centuries, and the development of regional landscapes. Thematic issues will include consumerism, objects as symbolic communication and metaphor, and the complementary issues of archaeology and history of art in material culture study.
Taught by: St. George
One-term course offered either term
Also Offered As: FOLK 323
Activity: Lecture
1 Course Unit

HIST 331 American Diplomatic History Since 1776
Survey course tracing the origins and evolution of the great traditions of U.S. foreign policy, including Exceptionalism, Unilateralism, Manifest Destiny, Wilsonianism, etc., by which Americans have tried to define their place in the world. Three hours of lecture per week, extensive reading, no recitations.
Taught by: McDougall
One-term course offered either term
Activity: Lecture
1 Course Unit

HIST 333 Napoleonic Era & Tolstoy
In this course we will read what many consider to be the greatest book in world literature. This work, Tolstoy's War and Peace, is devoted to one of the most momentous periods in world history, the Napoleonic Era (1789-1815). We will study both the novel and the era of the Napoleonic Wars: the military campaigns of Napoleon and his opponents, the grand strategies of the age, political intrigues and diplomatic betrayals, the ideologies and human dramas, the relationship between art and history. How does literature help us to understand this era? How does history help us to understand this great novel? This semester marks the 200th anniversary of Napoleon's attempt to conquer Russia and achieve world domination, the campaign of 1812. Come celebrate this Bicentennial with us! Because we will read War and Peace over the course of the entire semester, readings will be manageable and very enjoyable.
Taught by: Holquist/Vinitsky
One-term course offered either term
Also Offered As: COML 236, RUSS 240
Activity: Lecture
1 Course Unit
HIST 342 European Intellectual History, 1300-1600
This course will examine the formation of European traditions of scholarship and letters, including medieval, Renaissance and early modern writings. Topics will include court literature and romance; scholastic thought and university scholarship; political thought; the humanist tradition. It will consider the rise of printing, the formation of the "republic of letters," and the development of popular literature.
Taught by: Moyer
One-term course offered either term
Also Offered As: COML 342
Activity: Lecture
1 Course Unit

HIST 343 Nineteenth Century European Intellectual History
Starting with the dual challenges of Enlightenment and Revolution at the close of the eighteenth century, this course examines the emergence of modern European thought and culture in the century from Kant to Nietzsche. Themes to be considered include Romanticism, Utopian Socialism, early Feminism, Marxism, Liberalism, and Aestheticism. Readings include Kant, Hegel, Burke, Marx, Mill, Wollstonecraft, Darwin, Schopenhauer, and Nietzsche.
Taught by: Breckman
One-term course offered either term
Also Offered As: COML 343
Activity: Lecture
1 Course Unit

HIST 344 Twentieth Century European Intellectual History
European intellectual and cultural history from 1870 to 1950. Themes to be considered include aesthetic modernism and the avant-garde, the rebellion against rationalism and positivism, Social Darwinism, Second International Socialism, the impact of World War One on European intellectuals, psychoanalysis, existentialism, and the ideological origins of fascism. Figures to be studied include Nietzsche, Freud, Woolf, Sartre, Camus, and Heidegger.
Taught by: Breckman
Course usually offered in spring term
Also Offered As: COML 344
Activity: Lecture
1 Course Unit

HIST 345 Sinners, Sex and Slaves: Race and Sex in Early America
This course explores the lost worlds of sinners, witches, sexual offenders, rebellious slaves, and Native American prophets from the seventeenth to nineteenth centuries. Using the life stories of unusual individuals from the past, we try to make sense of their contentious relationships with their societies. By following the careers of the trouble-makers, the criminals, and the rebels, we also learn about the foundations of social order and the impulse to reform that rocked American society during the nineteenth century.
Taught by: Brown
Course usually offered in fall term
Also Offered As: AFRC 345, GSWS 345
Activity: Recitation
1 Course Unit

HIST 346 Gender in Modern American History
This course explores how immigration, industrialization, racial segregation, and the growing authority of science transformed the fundamental conditions of women's lives in the late nineteenth and early twentieth centuries. Building on previous efforts by female reformers to perfect society, women at the turn of the century organized large social movements dedicated to improving the lives of women and children and gaining public access to political power. We will examine the fruits of this activism as well as the consequences of subsequent events for the rise of several important social movements in the latter half of the century -- including civil rights, women's liberation, and gay rights -- in which women played a vital role. The course concludes with an assessment of feminism in the present day, with special emphasis on the responses of younger women to its legacy.
Taught by: Brown
Course usually offered in spring term
Also Offered As: AFRC 346, GSWS 346
Activity: Recitation
1 Course Unit

HIST 347 History of Sexuality in the U.S.
This course introduces students to a relatively new field of inquiry, the history of sexuality in the U.S. It explores the past to consider why sexuality has been so central to American identities, culture, and politics. Primary documents and other readings focus on the history of sexual ideology and regulation; popular culture and changing sexual practices; the emergence of distinct sexual identities and communities; the politics of sexuality; and the relationship between sexual and other forms of social difference, such as gender, race, ethnicity, age, and class. Topics include many with continuing relevance to contemporary public debate: among them, sexual representation and censorship, sexual violence, adolescent sexuality, the politics of reproduction, gay and lesbian sexualities and sexually transmitted diseases.
Taught by: Peiss
One-term course offered either term
Also Offered As: GSWS 349
Activity: Recitation
1 Course Unit

HIST 354 American Expansion in the Pacific
This class will focus on America's expansion into the Pacific around the turn of the century with the acquisition of Hawaii and the Philippines. It can deal with various issues, including the meaning of "frontier," colonialism, development of capitalist economies in the region, diplomacy, racism, migration, an American brand of Orientalism in encountering the "natives" and "heathens," and histories of the West and the Pacific Islands in general.
Taught by: Azuma
One-term course offered either term
Also Offered As: ASAM 354
Activity: Lecture
1 Course Unit

HIST 362 Law in American Life
Taught by: Gordon
Activity: Lecture
1 Course Unit
HIST 367 Philadelphia, 1700-2000
Using Philadelphia as a lens, this course will examine the transformation of American cities from the colonial period to the present. Through readings, lectures, and tours, we will consider urbanization and suburbanization, race, class, and ethnicity, economic development, poverty and inequality, housing and neighborhood change, urban institutions, and politics and public policy.
One-term course offered either term
Also Offered As: URBS 367
Activity: Lecture
1 Course Unit

HIST 370 North Africa: History, Culture, Society
This interdisciplinary seminar aims to introduce students to the countries of North Africa, with a focus on the Maghreb and Libya (1830-present). It does so while examining the region's close economic and cultural connections to sub-Saharan Africa, Europe, and the Middle East. Readings will include histories, political analyses, anthropological studies, and novels, and will cover a wide range of topics such as colonial and postcolonial experiences, developments in Islamic thought and practice, and labor migration. This class is intended for juniors, seniors, and graduate students.
Taught by: Sharkey
Course usually offered in spring term
Also Offered As: AFST 332, AFST 533, NELC 332, NELC 632
Activity: Seminar
1 Course Unit

HIST 371 Africa and the Mid-East
This seminar will explore the historical relationship between these two regions from the early modern age to the present. We will examine the history of trade, particularly the slave trade, and its cultural and political legacy. We will compare the experiences of European imperialism--how the scramble for Africa dovetailed with the last decades of the Ottoman Empire--with an eye to how this shaped nationalist movements in both regions. The course will also explore the decades of independence with a special eye towards pan-Africanism and pan-Arabism. We will also study the ramifications of the Arab-Israeli conflict on the relationship between African and Middle-Eastern countries, from Uganda to Ethiopia, from OPEC to Darfur. The course will pay close attention to migrations through the regions, whether forced or economic or religious. Whenever possible we will explore, through film and literature, how people in Africa and the Middle East see their connections, and their differences.
Taught by: Troutt-Powell
One-term course offered either term
Also Offered As: AFRC 372, AFST 373, NELC 334
Activity: Seminar
1 Course Unit

HIST 372 The History of Foreign Aid to Africa
This course examines the history, politics, and significance of foreign aid to Africa since the late 19th century. While we do not typically think about the European colonial period in Africa in terms of 'foreign aid,' that era introduced ideas and institutions which formed the foundations for modern aid policies and practices. So we start there and move forward into more contemporary times. In addition to examining the objectives behind foreign assistance and the intentions of donors and recipients, we will look at some of the consequences (intended or unintended) of various forms of foreign aid to Africa over the past century. While not designed to be a comprehensive history of development theory, of African economics, or of international aid organizations, the course will touch on all of these topics. Previous course work on Africa is strongly advised.
Taught by: Cassanelli
One-term course offered either term
Also Offered As: AFST 372, HIST 542
Prerequisites: AFST/HIST 076, AFST 190, or AFST 256
Activity: Lecture
1 Course Unit

HIST 373 America in the 1960s
This course examines the political, cultural, and intellectual history of America between 1954 and 1974. It considers the civil rights movement, the New Frontier and Great Society, the Supreme Court and right politics, the rise of the New Right, the debate over Vietnam, student radicalism, sexual liberation movements, black power, the counterculture, the urban crisis, and white backlash. The course emphasizes the transformation of liberalism and the revitalization of conservatism, and the tensions between integration and separatism, between libertarianism and communitarianism that shaped the social movements of the sixties.
Course usually offered in fall term
Activity: Recitation
1 Course Unit

HIST 380 Modern Jewish Intellectual and Cultural History
An overview of Jewish intellectual and cultural history from the late 18th century until the present. The course considers the Jewish enlightenment Reform, Conservative and Neo-Orthodox Judaism, Zionist and Jewish Socialist thought, and Jewish thought in the 20th century, particularly in the context of the Holocaust. Readings of primary sources including Mendelsohn, Geiger, Hirsch, Herzl, Achad-ha-Am, Baeck, Buber, Kaplan, and others. No previous background is required.
Taught by: Ruderman
One-term course offered either term
Also Offered As: JWST 380, RELS 320
Activity: Lecture
1 Course Unit
HIST 390 China & USSR Compared
A comprehensive and multi-faceted survey of China and Russia, mostly in the twentieth century, through examining preludes and postludes, but focusing above all on their time as Communist states and sometimes quarreling Cold War allies. Of course we will cover the history, the geography, the economics, the leaders (Stalin, Mao), and the great events - not least the Second World War in each - always comparing, contrasting, and drawing linkages. We will also examine, however, daily life and work for ordinary people, developments in society, and not least their common attempts at revolution, at somehow creating new and unprecedented polities, having populations of radically transformed new people. This informative, fascinating quest will take us from folklore to literature and the arts to dissent and religion and ecology, among other topics. As far as possible we will let their people speak for themselves, by assigning mostly translations of original sources including novels and memoirs, even poetry. A comprehensive assessment of the strategically critical Asian heartland - which at over 14 million square miles is larger than Canada, the United States, and Western Europe combined. Lectures, readings, midterm, short paper, and in-class final.
Taught by: Waldron
Course usually offered in spring term
Also Offered As: RUSS 390
Activity: Lecture
1 Course Unit

HIST 391 The Vietnam War
A THOROUGH HISTORICAL, MILITARY, AND SOCIAL HISTORY OF THE VIETNAM WAR, WHICH LASTED IN ONE FORM OR ANOTHER FROM THE END OF WWII IN 1945 TO 1975, IN WHICH OCCURRED THE LONGEST AND MOST HUMILIATING DEFEAT IN OUR HISTORY. SINCE THAT TIME THE VIETNAMESE HAVE PUBLISHED HUNDREDS OF DOCUMENTS, SOME IN ENGLISH, THAT PROVIDE AN ENTIRELY NEW PERSPECTIVE ON WHAT WE BELIEVED DURING THE WAR. THESE, SUPPLEMENTED BY OTHER PRIMARY AND SECONDARY MATERIALS, AS MUCH AS POSSIBLE WRITTEN BY VIETNAMESE OR BY AMERICANS HAVING FIRST-HAND KNOWLEDGE, WILL FORM THE BACKBONE OF THE COURSE.
THE VARIOUS AMERICAN AND VIETNAMESE STRATEGIES WILL BE SCRUTINIZED CAREFULLY, AND A GOOD DEAL SAID ABOUT THE HOME FRONT IN AMERICA. THE ACTUAL FIGHTING, THAT DETERMINED THE OUTCOME, WILL NOT BE SLIGHTED. WE EXPECT AT LEAST SOME GUEST SPEAKERS HAVING LONG DIPLOMATIC OR MILITARY EXPERIENCE IN VIETNAM. THE PRESENT WILL BE OUR CONCLUSION. LECTURES TTH 12:1-30; MIDTERM IN CLASS, SHORT PAPER, AND REGULAR FINAL.
IF YOU WANT TO UNDERSTAND THE WORLD YOU NOW LIVE IN, THIS COURSE IS A GOOD PLACE TO START.
Taught by: Waldron
One-term course offered either term
Also Offered As: EALC 196
Activity: Lecture
1 Course Unit

HIST 394 China and the World: Modern Times
History 394 is a comprehensive introduction to the last hundred years of China's relations with the world, with emphasis on American-Chinese relations, but within the necessary context of China's relations with other countries from Asia to Europe to Africa and elsewhere (as well as Washington's changing relations with Beijing). China's role in the world can be understood only when the full background and international context is made clear. This course has no prerequisites: freshmen and others lacking background will find it manageable and interesting. Students who have successfully completed this course will be well positioned to understand some of the most important of current events, and if they like, pursue the topics as careers (there will be no shortage, I assure you). Although much will be said about diplomacy, and Chinese diplomatic strategy in particular, the mile-posts of the course will be a series of wars: World War I and its effects on China; the heroic Chinese war of resistance against Japan (1937-1945) in which, effectively without allies, the Chinese avoided defeat; the bitter Civil War that followed almost immediately (1946-1949) and brought Mao Zedong and his Communists to power while the predecessor Nationalist government fled to the island of Taiwan; then the Korean War (1950-1953) and the close Chinese-Soviet alliance that followed; The Taiwan Straits Crises (1954-1955, 1958, 1996); the Chinese-Indian war (1962) the origin of a situation now heating up; the Sino-Soviet border conflicts (1969); the Vietnam War (1955-1975) which changed the United States profoundly while reorientating China internationally; the (at the time) little noticed Chinese invasion of Vietnam (1979) - and finally the increasingly tense situation today, between Chine and India, and China and her maritime neighbors from Japan to Indonesia, many U.S. allies.
Taught by: Waldron
Also Offered As: EALC 044
Activity: Lecture
1 Course Unit

HIST 395 East Asian Diplomacy
This course will survey the history of relations among the great powers in East Asia from 1600 to the present. Special emphasis will be played upon the peculiarities of cross-national exchange in Asia (as compared to Europe), particularly the difficulties of relations among states possessing fundamentally different cultural traditions. We will explore the many informal, as well as formal, means of diplomacy in Asia over the past 400 years.
Taught by: Dickinson
Course usually offered in fall term
Also Offered As: EALC 105, EALC 505
Activity: Recitation
1 Course Unit

HIST 398 Junior Honors in History
Open to junior honors candidates in history. Introduction to the study and analysis of historical phenomena. Emphasis on theoretical approaches to historical knowledge, problems of methodology, and introduction to research design and strategy. Objective of this seminar is the development of honors thesis proposal.
Course usually offered in spring term
Activity: Seminar
1 Course Unit

HIST 400 Senior Honors in History I
Open to senior honors candidates in history who will begin writing their honors thesis during this seminar.
Two terms. student must enter first term.
Activity: Seminar
1 Course Unit
HIST 411 Introduction to Written Culture, 14th - 18th Centuries
Taught by: Chartier/Stallybrass
One-term course offered either term
Also Offered As: COML 411, ENGL 234
Activity: Seminar
1 Course Unit

HIST 412 Topics in World History
One-term course offered either term
Also Offered As: AFRC 372, EALC 442, INTR 290, NELC 334
Activity: Seminar
1 Course Unit

HIST 414 Human Rights and History
The idea of universal, inalienable rights—once dismissed by the philosopher Jeremy Bentham as "nonsense upon stilts"—has become the dominant moral language of our time, the self-evident truth par excellence of our age. Human rights have become a source of inspiration to oppressed individuals and groups across the world, the rallying cry for a global civil society, and not least, a controversial source of legitimation for American foreign policy. This seminar asks: how did all this come to be? We will investigate human rights not only as theories embodied in texts, but as practices embedded in specific historical contexts. Are human rights the product of a peculiarly European heritage, of the Enlightenment and Protestantism? How did Americans reconcile inalienable rights with the reality of slavery? Did human rights serve as a "civilizing" mask for colonialism? Can universal rights be reconciled with genuine cultural diversity? Through case studies and close readings, the seminar will work toward a genealogy of human rights.
Taught by: Nathans
One-term course offered either term
Activity: Seminar
1 Course Unit

HIST 415 European Intellectual History of the Seventeenth Century
A survey based solely on primary sources of the main currents of seventeenth-century European thought: the criticism of inherited systems and of the authority of the past; skepticism, rationalism; empiricism; and the rise of the new natural philosophy. We will study deep conceptual change as an historical phenomenon, examining works that were both profoundly influential in the seventeenth-century and that are of enduring historical significance. There are no prerequisites, and one of the goals of the course is to make seventeenth-century thought accessible in its context to the twenty-first century student.
Course usually offered in fall term
Also Offered As: COML 419
Activity: Lecture
1 Course Unit

HIST 416 European Intellectual History in the 18th Century
A survey based solely on primary sources of the main currents of eighteenth-century European thought: the "Enlightenment;" deism; natural religion; skepticism; evangelical revival; political reform; utilitarianism; naturalism; and materialism. The course will focus on works widely-read in the eighteenth century and of enduring historical significance. There are no prerequisites, and one of the goals of the course is to make eighteenth-century thought accessible in its context to the twenty-first century.
Course usually offered in spring term
Also Offered As: COML 416
Activity: Lecture
1 Course Unit

HIST 418 European Intellectual History since 1945
This course concentrates on French intellectual history after 1945, with some excursions into Germany. We will explore changing conceptions of the intellectual, from Sartre's concept of the 'engagement' to Foucault's idea of the 'specific intellectual'; the rise and fall of existentialism; structuralism and poststructuralism; and the debate over 'postmodernity.'
Taught by: Breckman
Course usually offered in spring term
Also Offered As: COML 418
Activity: Seminar
1 Course Unit

HIST 420 European International Relations from the Age of Enlightenment to the Great War
This course will examine the international politics of Europe in the 18th and 19th centuries, up to the outbreak of World War I. During these centuries, the European great powers experienced significant internal transformations and also a revolution in their relations, both of which reinforced and accelerated each other. In the process, Europe asserted a dominant position in world politics, but also sowed the seed for the terrible catastrophes of the 20th Century. The course will address this transformation of European diplomacy with special attention to the rivalries between the great powers, the impact of nationalism and emerging mass politics, the interplay between military and economic power, and the relationship between the European powers and the rest of the world.
Taught by: McDougall
Course usually offered in fall term
Activity: Lecture
1 Course Unit

HIST 421 Europe and the World since 1914
This course looks at Europe's interactions with other world regions throughout the twentieth century. Over the course of roughly a hundred years, Europeans have shaped the fates of peoples living beyond the western world, for instance through the impact of two world wars, European colonialism, and the global Cold War. At the same time, European societies 'at home' were not left unaffected by these interactions. Even today, Europeans are facing the legacies of some of these histories in immigration and the politics of religion and secularism for example. The past century also saw a dramatic shift in Europe's position in the world - from dominance to a loss of influence in the shadow of the United States and more recently, China. The course spends significant time covering the histories of world regions other than Europe. It furthermore considers some interactions and exchanges between world regions from a social and cultural point of view. Because the class spans roughly a century, the content has to remain introductory and general, although a very basic familiarity with 20th-century international history is helpful.
Taught by: Ogle
Two terms. student may enter either term.
Activity: Lecture
1 Course Unit
HIST 425 World War I
This survey course examines the outbreak, conduct, and aftermath of the First World War. The First World War put an end to the world of the 19th century and laid the foundations of the 20th century, the age of destruction and devastation. This course will examine the war in three components: the long-term and immediate causes of the First World War; the war's catastrophic conduct, on the battlefield and on the home front; and the war's devastating aftermath. While we will discuss military operations and certain battles, this course is not a military history of the war; it covers the social, economic, political and diplomatic aspects that contributed to the war's outbreak and made possible its execution over four devastating years. No preliminary knowledge or coursework is required.
Taught by: Holquist
Two terms. student may enter either term.
Activity: Recitation
1 Course Unit

HIST 430 Rise and Fall of the Third Reich
The meteoric rise of Hitler's NSDAP in Germany, the nature of Nazi rule, and the final collapse of the Third Reich. The first half of the semester analyzes the appeal of the NSDAP- who joined the party, who voted for it, and why. Nazi mobilization tactics, campaign strategy, and grass-roots techniques, the content of the party's social appeals. The second half of the course concentrates on the Nazis in power, their use of terror and propaganda, their ideological objective, everyday life in the Third Reich, the possibilities of resistance to the regime. Special attention will be devoted to Nazi Jewish policy and the step that led to the "Final Solution" and the Holocaust.
Course usually offered in fall term
Activity: Recitation
1 Course Unit

HIST 431 A World at War: World War II in Europe and Asia
This course will examine the diplomatic origins, military course and domestic implications of World War II.
Course usually offered in spring term
Activity: Recitation
1 Course Unit

HIST 440 Perspectives on Urban Poverty
This course provides an interdisciplinary introduction to 20th century urban poverty, and 20th century urban poverty knowledge. In addition to providing an historical overview of American poverty, the course is primarily concerned with the ways in which historical, cultural, political, racial, social, spatial/geographical, and economic forces have either shaped or been left out of contemporary debates on urban poverty. Of great importance, the course will evaluate competing analytic trends in the social sciences and their respective implications in terms of the question of what can be known about urban poverty in the contexts of social policy and practice, academic research, and the broader social imaginary. We will critically analyze a wide body of literature that theorizes and explains urban poverty. Course readings span the disciplines of sociology, anthropology, urban studies, history, and social welfare. Primacy will be granted to critical analysis and deconstruction of course texts, particularly with regard to the ways in which poverty knowledge creates, sustains, and constricts meaningful channels of action in urban poverty policy and practice interventions.
Taught by: Fairbanks
One-term course offered either term
Also Offered As: URBS 420
Activity: Seminar
1 Course Unit

HIST 441 North American Colonial History
A survey of the development of American colonial society, 1607-1750, with emphasis on the regional differences between life in early New England, the Mid-Atlantic, and the South, as well as the relationships between British colonists, Native Americans, and African Americans. Taught by: Brown
Course usually offered in fall term
Activity: Lecture
1 Course Unit

HIST 442 America in the Era of the Revolution, 1763-1800
As a number of historians have observed, the American Revolution now may seem to have been the inevitable culmination of political, economic, and cultural changes underway in the eighteenth century. But for many whose lives were altered by its disruptive contours, it was more improbable than inevitable. How, then, are we to make sense of the Revolution? What were its causes? Its progress? Its extended "settlement," or period of resolution and questions during the course of the semester, we will need to keep our eyes open to changes afoot in many social fields: the ascendency or democratic and egalitarian thought; the widespread development of consumerism and market capitalism; the linked forms processes of rebellion and nation-building; and the economic and strategic progress of the conflict itself. Taught by: St. George
Course usually offered in spring term
Activity: Lecture
1 Course Unit

HIST 449 God and Nature: Readings on the Encounter between Jewish Thought and Science
God and Nature examines the place of the natural world, medicine, and science in Jewish thought from antiquity to the modern era. It looks especially at a body of primary sources in Hebrew written during the age of the so-called "scientific revolution" and during its aftermath. The course is a seminar open to undergraduate and graduate students with a reading knowledge of classical Hebrew. Students without Hebrew with special interest in the subject might enroll with special permission from the instructor.
Taught by: Ruderman
One-term course offered either term
Also Offered As: JWST 449, RELS 422
Activity: Seminar
1 Course Unit

HIST 451 The U.S. and the World since 1898
This class examines the emergence of the U.S. as a world power since 1898, and considers both the international and domestic consequences of U.S. foreign relations. In one respect, the twentieth century was a strange time to become a global empire: it was the period when colonial systems centered in Europe, Russia, Japan, and Turkey collapsed, and new nations emerged throughout Africa and Asia. This class explores the changing strategies of military, economic, and political intervention that the U.S. pursued as colonization lost legitimacy. Within that framework, the class invites students to think about several questions: How did the idea and practice of empire change over the twentieth century? How did the United States relate to new visions of independence emerging in Africa, Asia, and Latin America? How did global interactions both inform and reflect racial ideology in the United States? Finally, how did international affairs transform U.S. politics and social movements? Taught by: Offner
One-term course offered either term
Activity: Lecture
1 Course Unit
HIST 452 Topics in International Relations
One-term course offered either term
Also Offered As: INTR 290
Activity: Lecture
1 Course Unit

HIST 455 Topics in American History
One-term course offered either term
Also Offered As: SOCI 450
Activity: Seminar
1 Course Unit

HIST 463 History of American Education
This course will examine the growth and development of American schools, from the birth of the republic into the present. By 1850, the United States sent a greater fraction of its children to school than any other nation on earth. Why? What did young people learn there? And, most of all, how did these institutions both reflect and shape our evolving conceptions of "America" itself? In an irreducibly diverse society, the answers were never simple. Americans have always defined their nation in a myriad of contrasting and often contradictory ways. So they have also clashed vehemently over their schools, which remain our central public vehicle for deliberating and disseminating the values that we wish to transmit to our young. Our course will pay close attention to these education-related debates, especially in the realms of race, class, and religion. When immigrants came here from other shores, would they have to relinquish their old cultures and languages? When African-Americans won their freedom from bondage, what status would they assume? And as different religious denominations fanned out across the country, how would they balance the uncompromising demands of faith with the pluralistic imperatives of democracy? All of these questions came into relief at school, where the answers changed dramatically over time. Early American teachers blithely assumed that newcomers would abandon their old-world habits and tongues; today, "multicultural education" seeks to preserve or even to celebrate these distinctive patterns. Post-emancipation white philanthropists designed vocational curricula for freed African-Americans, imagining blacks as loyal serfs; but blacks themselves demanded a more academic education, which
Taught by: Zimmerman
Course usually offered in spring term
Also Offered As: EDUC 599
Activity: Lecture
1 Course Unit

HIST 489 Africans Abroad: Emigrants, Refugees, and Citizens in the New African Diaspora
This seminar will examine the experiences of recent emigrants and refugees from Africa, including many now living in the city of Philadelphia and the surrounding region. In addition to reading some of the historical and comparative literature on migration, ethnic diasporas, and transnationalism, students will have the opportunity to conduct research on specific African communities in Philadelphia or elsewhere in North America, Europe, or the Middle East. African emigres’ relations with both their home and host societies will be explored and compared with the experience of other immigrant groups over the past century. Topics include reasons for leaving Africa, patterns of economic and educational adaptation abroad, changes in gender and generational roles, issues of cultural and political identity, and the impact of national immigration policies.
Taught by: Cassanelli
One-term course offered either term
Also Offered As: AFRC 488
Activity: Seminar
1 Course Unit

HIST 490 Topics in Jewish History
Reading and discussion course on selected topics in Jewish history.
One-term course offered either term
Also Offered As: GRMN 581, JWST 490, RELS 429
Activity: Seminar
1 Course Unit

HIST 501 The Nature of Sex
What is natural about sex, gender, sexuality and reproduction? This course examines a range of social science, feminist, and historical theories that try to make sense of some of the most intimate and seemingly timeless features of the human experience: the difference between the sexes, the relationship between gender and anatomical sex, and the emotional and social dynamics of reproduction. Among the topics we will consider are the relationship between public and private life; the historic connections between patriarchy and capitalism; reproduction as a social and cultural as well as a biological phenomenon; class, race, ethnicity, and religion as alternative sites of identity; citizenship, legal personhood and contract; the dynamics of empire and conquest; feminism; sexuality; the history of the body; visual culture; postmodernist, poststructuralist, and postfeminist ways of thinking about sex and gender; the current debates about the meaning of marriage; and the challenge presented by transgender lives. The course is designed for graduate students but open to undergraduates with the permission of the instructor.
Taught by: Brown
One-term course offered either term
Activity: Seminar
1 Course Unit

HIST 528 Amer Vernacular Architec
Also Offered As: HSPV 528
Activity: Seminar
1 Course Unit
HIST 530 20th Century Afro-American Historiography
This course will study major historical works on African American history for the post-1890 period. Emphasis on intellectual, political, and cultural history, and special attention to current debates about the relevance of this history and race generally to studies and students of United States history.
Course usually offered in fall term
Activity: Seminar
1 Course Unit

HIST 533 Topics in Ancient and Medieval Christianity
Topics vary.
Course usually offered in spring term
Also Offered As: RELS 533
Activity: Seminar
1 Course Unit

HIST 550 Topics in Jewish History
Reading and discussion course on selected topics in Jewish history.
One-term course offered either term
Activity: Seminar
1 Course Unit

HIST 590 Topics in Lang and Lit
Course usually offered in fall term
Also Offered As: COML 502, ENGL 501, GRMN 510
Activity: Seminar
1 Course Unit

HIST 608 Urban Studies Proseminar
Open to PhD students, this scholar-oriented seminar explores how academic researchers from different disciplines define researchable questions, craft research designs, and contribute to knowledge through an examination of important and/or recently published books and monographs with an urban focus. Required of all doctoral students enrolled in the Urban Studies Graduate Certificate Program. Enrollment is limited to 15 students. Other doctoral students may enroll on a space available basis. Course requirements include completion of a major research paper on a topic selected in consultation with the instructor.
Taught by: Stern
Course usually offered in spring term
Also Offered As: CPLN 800, SOCI 608, URBS 608
Activity: Seminar
1 Course Unit

HIST 610 Topics in American History
Reading and discussion course on selected topics in American history.
Course usually offered in fall term
Also Offered As: AFRC 610, GSWS 610, URBS 610
Activity: Seminar
1 Course Unit

HIST 620 Topics in European History
Reading and Discussion course on selected topics in European History.
Course usually offered in fall term
Also Offered As: COML 621, GRMN 630, JWST 620, RUSS 618, SLAV 623
Activity: Seminar
1 Course Unit

HIST 630 Topics in Asian History
Reading and discussion course on selected topics in Asian History.
One-term course offered either term
Also Offered As: EALC 541, EALC 726, EALC 774, SAST 512
Activity: Seminar
1 Course Unit

HIST 640 Topics in Middle Eastern History
Reading and discussion course on selected topics in Middle Eastern history.
One-term course offered either term
Also Offered As: NELC 686
Activity: Seminar
1 Course Unit

HIST 645 History and Culture
The aim of this course is to explore and test ways of (re)constructing past cultural practices. The exploration begins with some basic concepts of culture and cultural change and their relationship to social dynamics. Next we try to identify and apply the most appropriate sources and methods for analyzing cultural "languages" (myth or narrative, symbol, and ritual) and their "text." We will look especially at tools and insights that can be adapted from literary criticism and sociolinguistics, as well as from ethnography – always within the "discipline of historical context" (E.P. Thompson). Emphasis will be on documentary sources, published and unpublished, but visual imagery and the material record in general, as well as oral traditions, will be included. The principal interpretive questions will resolve around two clusters of issues. One cluster involves evidence and standards of verification; the other involves the ethics and rhetoric of cultural translation/representation.
Taught by: Farriss
Course usually offered in fall term
Also Offered As: AFRC 645
Activity: Seminar
1 Course Unit

HIST 650 Topics in African History
Reading and discussion course on selected topics in African history
One-term course offered either term
Also Offered As: AFRC 650, AFST 650
Activity: Seminar
1 Course Unit

HIST 660 Topics in Latin American and Caribbean History
Reading and discussion course on selected topics in Latin American and Caribbean history
One-term course offered either term
Also Offered As: AFRC 660
Activity: Seminar
1 Course Unit

HIST 668 Colloquium in the History of Law and Social Policy
This is a course in the history of law and policy-making with respect to selected social problems. Discussion of assigned readings and papers will elaborate the role, lawyers, judges, other public officials and policy advocates have played in proposing solutions to specific problems. The course will permit the evaluation of the importance of historical perspective and legal expertise in policy debates.
Taught by: Berry
Course usually offered in fall term
Also Offered As: AFRC 668
Activity: Seminar
1 Course Unit

HIST 670 Topics in Trans Regional History
Reading and discussion course on selected topics in Transregional History
One-term course offered either term
Also Offered As: AFRC 670, GSWS 670
Activity: Seminar
1 Course Unit
HIST 700 Proseminar in History
Weekly readings, discussions, and writing assignments to develop a global perspective within which to study human events in various regional/cultural milieus, c. 1400 to the present.
Two terms. student must enter first term.
Activity: Seminar
1 Course Unit

HIST 710 Research seminar in American history.
Research seminar on selected topics in American history.
One-term course offered either term
Also Offered As: AFRC 710, LAW 969
Activity: Seminar
1 Course Unit

HIST 720 Research in European History
Research seminar on selected topics in European history.
One-term course offered either term
Also Offered As: RELS 738
Activity: Seminar
1 Course Unit

HIST 730 Research Seminar in Asian History
Research seminar on selected topics in Asian history.
One-term course offered either term
Activity: Seminar
1 Course Unit

HIST 740 Research Seminar in Middle Eastern History
Research seminar on selected topics in Middle Eastern history.
One-term course offered either term
Also Offered As: AFRC 740, AFST 740, GSWS 740
Activity: Seminar
1 Course Unit

HIST 750 Research Seminar in African History
Research seminar on selected topics in African history.
One-term course offered either term
Also Offered As: AFRC 710
Activity: Seminar
1 Course Unit

HIST 760 Research Seminar in Latin American and Caribbean History
Research seminar on selected topics in Latin American and Caribbean history.
One-term course offered either term
Activity: Seminar
1 Course Unit

HIST 770 Res Sem: Transregional
Research seminar on selected topics in Transregional history.
One-term course offered either term
Also Offered As: LALS 771
Activity: Seminar
1 Course Unit

Immunology (IMUN)

IMUN 506 Immune Mechanisms
This is an introductory graduate course which surveys most areas of immunology. It is assumed that students have a background in biochemistry and molecular biology, and at least some familiarity with immunological concepts. Topics covered include the major histocompatibility complex, structure of antibodies and T cell receptors, antigen-antibody interactions, the generation of diversity of immunoglobulins and B cells, antigen presentation, and immunological tolerance.
Taught by: Michael May
Course usually offered in fall term
Prerequisite: Permission of instructor
Activity: Lecture
1 Course Unit
Notes: 4 h. 1 c.u. Monday/Wednesday/Friday

IMUN 507 Immunopathology
The relationship between basic immunology and clinical immunologic diseases is emphasized. Course lecturers represent University faculty who are established investigators in immunological research and established clinical immunologists. Course topics include plasma protein systems; B cell, T cell, macrophage immunology; immunohematology; tumor immunology; benign and malignant, immunoproliferative disorders; neuro-immunology; pulmonary immunology; renal immunology; immune complex disease and immunoregulatory abnormalities.
Taught by: Michael May and Erica Stone
Course usually offered in fall term
Prerequisites: IMUN 506 and permission of instructor
Activity: Lecture
1 Course Unit
Notes: 2 h. 1 c.u. Tuesday/Thursday

IMUN 508 Immune Responses
This course is designed to (1) extend the basic immunology principles addressed in 506, and (2) apply the fundamental principles of the mechanism of immune recognition and development presented in 506 to the immune response in health and disease in vivo. The course is designed as a series of minicourses which may change from year to year. Each minicourse will cover an important topic in immunology in detail. Students must take three minicourses over the Spring semester and must take at least one each from the basic and applied immunology categories (see below). The course will be taught as formal lectures on Monday and Wednesday and a diThe minicourses will be taught as a combination of formal lectures and seminar-format discussions of relevant literature. Each minicourse will have a slightly different format. The minicourses will consist of 6 hours/week for 4 weeks. The semester will be divided into 3 sessions with between 2 to 3 minicourses offered each session. Progress in the course will be evaluated by an exam/paper at the end of each minicourse and class participation. The exams will require students to incorporate the knowledge and thinking gained from the in depth analyses of these topics.
Taught by: Peter Felsburg, VMD., Ph.D. and Kate Sullivan, M.D., Ph.D.
Course usually offered in spring term
Prerequisites: IMUN 506 or equivalent and permission of instructor
Activity: Lecture
1 Course Unit
Notes: Taught Monday, Wednesday Friday, 9:00am-11:00am. 6 hours, 2 cu.
IMUN 520 Tutorials in Immunology
This tutorial course is designed to provide students with an in-depth knowledge of a specific branch of Immunology. The tutorial can be used to enable students to become more deeply acquainted with the literature related to their thesis projects or to expand on a topic that the student found interesting in one of their basic courses. The course is currently the only immunology elective and is, therefore, required for all Immunology Graduate Group students. It is also open as an elective to BGS students who meet the prerequisite. The tutorial course will be examined by the program director and the tutorial leader and the grade will be based on a written paper on the subject studied (5 to 10 typewritten pages) and by an oral presentation of the paper (15 to 20 minutes).
Taught by: Randy Cron, M.D., Ph.D.
Course usually offered in fall term
Prerequisites: A senior undergraduate, graduate or professional school course in Immunology.
Activity: Seminar
1 Course Unit

IMUN 599 Immunology Faculty Research Seminar
Mandatory attendance at weekly research presentations by graduate group faculty.
Taught by: Laura Su and Gregory Beatty
One-term course offered either term
Prerequisite: Permission of Graduate Group Chair
Activity: Independent Study
0.5 Course Units

IMUN 605 Current Topics in Cellular and Molecular Immunology
Recent developments in basic cellular and molecular immunology are discussed by students using the current literature as a resource. This course reinforces and expands upon concepts presented in immunology 506. Students gain experience in critically evaluating current literature and orally presenting and defending their ideas. In the first part of the course, students present one or two papers relevant to a current topic in immunology. In the second part, the students each select a research topic and write and defend orally a small research proposal. Course aims are to provide more in-depth knowledge in specific and timely areas of immunologic research. In addition, the course encourages the development of oral presentation skills and the ability to critically evaluate published research and the ideas of one’s peers.
Taught by: Philip Scott, Ph.D., and Laurence Turka, M.D.
Course usually offered in spring term
Prerequisite: IMUN 506 or permission of instructor
Activity: Lecture
1 Course Unit

IMUN 607 Grant Writing
This course will introduce the student to basic principles of grant writing. In this regard a primary objective of the course is to teach you how to describe your ideas and experimental objectives in a clear and concise manner within the standard NIH grant format. To accomplish this, you will be required to write an NIH, "RO1" type grant proposal based on your current laboratory project.
Taught by: Andrew Wells, Bruce Freedman, Michael Cancro
Course usually offered in spring term
Prerequisite: IMUN 506/507 and/or permission of instructor
Activity: Seminar
1 Course Unit

IMUN 609 Vaccines and Immune Therapeutics
The goal of the Vaccines course is to expand a student’s general understanding of the immune system and to focus this understanding towards the application of vaccination. Furthermore the course will give the student a sense of how these principles are applied to vaccine and immune therapeutic development. The course covers basic science as well as the Clinical, Ethical & Political implications of Modern Vaccines. Initial lectures will review immune mechanisms believed to be responsible for vaccine induced protection from disease. Subsequent lectures build on this background to explore the science of vaccines for diverse pathogens, including agents of bioterrorism as well as vaccines for cancer. An appreciation for the application of laboratory science to the clinical development of vaccines is provided in the next section of the course along with lectures that focus on the ethical implications of vaccines in different situations. The financial implications of specific vaccines and their impact on the global community, is a specific focus of the course.
Taught by: David Weiner, Ph.D., and Paul Offit, M.D.
Course usually offered in fall term
Also Offered As: CAMB 609
Prerequisites: The course is intended for graduate students or Medical Students in various MS, Ph.D. or MD/Ph.D. programs on the campus as well as local scientists and professionals in the community. As a prerequisite students should have taken biology, biochemistry or immunology courses at the advanced college level.
Activity: Lecture
1 Course Unit

IMUN 699 Laboratory Rotation
Laboratory research conducted under a faculty advisor. Three different rotations covering usually the fall semester of the first year through the fall semester of the second year are required of all Immunology Ph.D. students. Students will defend the rotation research in their Preliminary Exams.
Taught by: Immunology Graduate Group Faculty
One-term course offered either term
Prerequisites: Permission of Graduate Group Faculty
Activity: Laboratory
1 Course Unit

IMUN 799 Independent Study
Activity: Independent Study
1 Course Unit

IMUN 899 Predissertation Lab
Activity: Laboratory
1 Course Unit

Integrated Product Design (IPD)

IPD 500 Product Eng Basics
Activity: Lecture
1 Course Unit
IPD 501 Integrated Computer-Aided Design, Manufacturing and Analysis
The majority of today's engineered products move through an advanced computer-aided workflow which greatly speeds design and process time. This course will explore the fundamental components of this workflow through a combination of lectures, hands-on exercises, and a semester design project. General course topics include: fundamental design principles, project definition and needfinding, advanced computer-aided design, rapid prototyping techniques, computer-controlled machining, and an in-depth exploration of the modern analysis and simulation tools that have revolutionized the way in which products are designed. Enrollment is limited.
Course usually offered in spring term
Prerequisites: MEAM 101, MEAM 150, and MEAM 210, or graduate standing in the School of Engineering, Design, or Wharton with similar experience
Activity: Lecture
1 Course Unit

IPD 503 Ipd Fundamentals
Also Offered As: ARCH 303
Activity: Studio
1 Course Unit

IPD 504 Rehab Engineering and Design
Students will learn about problems faced by disabled persons and medical rehabilitation specialists, and how engineering design can be used to solve and ameliorate those problems. The course combines lectures, multiple design projects and exercises, and field trips to clinical rehabilitation facilities. Students will have substantial interaction with clinical faculty, as well as with patients.
One-term course offered either term
Also Offered As: BE 514
Prerequisite: Graduate students or permission of the instructor
Activity: Lecture
1 Course Unit

IPD 509 Needfinding
Needfinding is an approach that puts people and their needs at the center of product development and business strategy creation. Over 90% of new products introduced into the marketplace fail. A good portion of these failures are due to lack of understanding of end consumers and their needs. To develop truly successful new products, it’s not enough just to ask people what they need or want. Designers and engineers need tools and techniques to get beyond what people can explicitly state and determine their implicit needs. Needfinding is an approach for developing deep insights that provide strategic direction for corporations and open up new possibilities for product development. In this class students will gain a toolset from which to develop their own approaches to conducting research for design: learning how to think about other people, about culture, and about new perspectives. They will also learn tactical skills: how to define research questions, how to conduct observations and interviews, how to interpret results, how to synthesize them into fodder for design, and how to communicate their findings in a way that is compelling and actionable for designers, marketers, and business strategists. This class is designed for graduate students and upper level undergrads with a specific interest in product design or design thinking.
Course usually offered in spring term
Activity: Lecture
1 Course Unit

IPD 511 Creative Thinking and Design.
This is a creative & iterative problem solving course that uses a series of mechanical design challenge projects to move students into the broad realm of unpredictable often incalculable time-constrained problem solving. It explores a wide variety of problem definition, exploration and solving "tools," and a variety of surrounding "design thinking" topics, such as ethics and the design of experience. Drawing and prototyping are used in the projects for ideation, iteration, speculation and communication.
Course usually offered in fall term
Activity: Lecture
1 Course Unit
Notes: It is recommended that undergraduates take MEAM 101 prior to this course.

IPD 514 Design for Manufacturability
This course is aimed at providing current and future product design/development engineers, manufacturing engineers, and product development managers with an applied understanding of Design for Manufacturability (DFM) concepts and methods. The course content includes materials from multiple disciplines including: engineering design, manufacturing, marketing, finance, project management, and quality systems.
Course usually offered in spring term
Also Offered As: MEAM 514
Prerequisites: MEAM 101 or equivalent, MEAM 210 or equivalent, Senior or Graduate standing in the School of Design, Engineering, or Business with completed product development and/or design engineering core coursework or related experience
Activity: Lecture
1 Course Unit

IPD 515 Product Design.
This course provides tools and methods for creating new products. The course is intended for students with a strong career interest in new product development, entrepreneurship, and/or technology development. The course follows an overall product design methodology, including the identification of customer needs, generation of product concepts, prototyping, and design-for-manufacturing. Weekly student assignments are focused on the design of a new product and culminate in the creation of a prototype, which is launched at an end-of-semester public Design Fair. The course project is a physical good - but most of the tools and methods apply to services and software products.
One-term course offered either term
Also Offered As: MEAM 415, OIDD 415
Activity: Lecture
1 Course Unit
IPD 516 Advanced Mechatronic Reactive Systems
This course combines performance art and advanced mechatronics concepts that include the design and implementation of large-scale actuation, advanced sensing, actuation and control. This course pairs design school and engineering students to form interdisciplinary teams that together design and build electro-mechanical reactive spaces and scenic/architectural elements in the context of the performing arts. The two disciplinary groups will be treated separately and receive credit for different courses (ARCH746 will be taught concurrently and in some cases co-located) as they will be learning different things. Engineering students gain design sensibilities and advanced mechatronics in the form of networked embedded processing and protocols for large scale actuation and sensing. Design students learn elementary mechatronics and design reactive architectures and work with engineering students to build them. The class will culminate in a some artistic performance (typically with professional artists) such as a Shakespeare play, robotic ballet, a mechatronic opera.
Course usually offered in spring term
Also Offered As: MEAM 516
Prerequisite: MEAM 510 (Mechatronics) or equivalent
Activity: Lecture
1 Course Unit

IPD 517 Des & Dev Web-Based Prod
One-term course offered either term
Also Offered As: OIDD 416
Activity: Lecture
1 Course Unit

IPD 519 Real Time Embedded Sys
One-term course offered either term
Also Offered As: ESE 519
Activity: Lecture
1 Course Unit

IPD 521 Designing Smart Objects
One-term course offered either term
Also Offered As: ARCH 721
Activity: Seminar
1 Course Unit

IPD 525 Ergonomics/Human Factors Based Product Design
Human Factors and Ergonomics knowledge is a critical component of a product designer or design engineer's toolbox. This course teaches the direct application of existing human factors/ergonomic data to the creation of new product designs. Applying human factors knowledge to problem solving for product design happens throughout the design process. It is a useful input as initial ideas begin to ut and as a way to verify completed concepts through directly documented user testing and design iteration. The course would be a mini-lecture/studio style course in which the students will work in class on assigned projects, finding, analyzing, extrapolating and applying data to design solutions and creating mockups, modeland prototypes for user testing of their designs.
One-term course offered either term
Activity: Lecture
1 Course Unit

IPD 526 Contemporary Furniture Design
Course usually offered in spring term
Also Offered As: ARCH 726
Activity: Seminar
1 Course Unit

IPD 527 Industrial Design I.
This course provides an introduction to the ideas and techniques of Industrial Design, which operates between Engineering and Marketing as the design component of Integrated Product Development. The course is intended for students from engineering, design, or business with an interest in multi-disciplinary, needs-based product design methods. It will follow a workshop model, combining weekly lectures on design manufacturing, with a progressive set of design exercises.
Course usually offered in fall term
Also Offered As: ARCH 727
Activity: Lecture
1 Course Unit

IPD 528 Design of Contemporary Products
This course was designed to explore intersections of functionality and performance using an experimental platform to uncover opportunities within the built environment to create domestic products. Provides practical insights into the material manipulation and aesthetic experimentation that are essential for the design and fabrication of products. Lectures and case studies help students to learn from examples and develop their own designs. Through a series of exercises, students design and fabricate a prototype using actual materials. The course addresses problems unique to product design, such as scale, weight, cost and production.
Course usually offered in spring term
Also Offered As: ARCH 728
Activity: Seminar
1 Course Unit

IPD 530 Building Product Workshop: Transwall
As Craig Vogel notes in The Design of Things to Come, "we are in a new economic age that is in need of a new renaissance in product development, on that leverages multiple minds working in concert," With this mindset, this interdisciplinary workshop guides students through the product design process from design brief to concept generation in one semester, working firsthand with Transwall, a leading manufacturer of demountable wall systems, to focus on a specific product need. The design opportunity looks for the next generation of pre-manufactured wall systems; getting away from field constructed walls and looking at critical issues of mass-produced wall systems; flexibility, mobility, structural stability, acoustics, transparency/opacity, and operability. During the workshop, students will explore the context that creates the unique need for a new product and have an opportunity to conceptualize their design ideas through sketches, scale model studies and partial prototypes.
One-term course offered either term
Also Offered As: ARCH 733
Activity: Lecture
1 Course Unit

IPD 532 Surface Effects
Several sections are offered from which students make a selection. This year’s selections include: Space and Structure; Surface/Effects.
Course usually offered in spring term
Activity: Lecture
1 Course Unit
IPD 544 Digital Fabrication
A seminar and design workshop that explores associative and parametric CAD-CAM strategies, to enable an interactive continuity between conception and fabrication. Through parametric 3D constructions, students will explore how to link different aspects of the architectural projects, such as: (1) design intention; (2) control of variation and adaptation; (3) construction constraints; (4) digital fabrication processes. The course emphasizes the cross-fertilization of formal, technical and performative aspects of the design activity. 
Course usually offered in spring term
Also Offered As: ARCH 744
Activity: Seminar
1 Course Unit

IPD 545 Eng Entrepreneurship I
One-term course offered either term
Also Offered As: EAS 545
Activity: Lecture
1 Course Unit

IPD 549 Product Development in Entrepreneurial Ventures
A product is any artifact, service or experience for which a buyer is willing to pay. Product Design and Development is at the core of entrepreneurship. Though in the modern mythology it is a solitary effort by a passionate individual, entrepreneurship is frequently more successful when pursued in an interdisciplinary environment. Though it rarely requires the greatest time investment, concentration of personnel, the majority of the funding or even the greatest depth of expertise to accomplish, excellent product design can be the difference between a successful or failed venture. A poorly designed "product" can prevent a venture from being successful. An excellently designed product can make a competent business plan much more successful. A well defined and designed product solution will create differentiation, and cannot only meet customer expectation, but can create desirability. Through the review and discussion of case studies, lecture subjects, guest lecturers, field trips, and a semester long interdisciplinary team project, this class will provide insight into the problem identification and product design processes, user needs research, intellectual property research, experience design, Industrial Design, Interface Design, brand development and product centric fundraising processes. 
Course usually offered in spring term
Also Offered As: EAS 449
Prerequisites: Seniors and Graduate students from the School of Design, Engineering or Business that have an interest in product design and/or integrated product development in an entrepreneurial environment. 
Activity: Lecture
1 Course Unit

IPD 551 Design Processes
This studio is structured for IPD students as an intensive, interdisciplinary exploration of Design as purposeful for Integrated Product Design. The goal of the studio is to give students a firsthand experience of various processes involved in creating successful integrated product designs. This first semester of the four-semester studio sequence focuses on giving students experience developing designs based on a range of starting points: form, function, materiality and manufacturing process. Students will practice design through rigorous, consistent processes for thinking through the evolution of their ideas. In this course, they will go through an entire design process from conceptualization to design to producing prototypes. They will be taught to focus on the specifics of their designs, causing them to be conscious of what drives their choices as designers and providing them with a wider range of tools to design from in successive projects. Course work will involve readings, assignments, class participation, in-class exercises, a mid-term presentation and a final submission. 
One-term course offered either term
Activity: Lecture
1 Course Unit

IPD 552 Problem Framing
In the second semester of the four-semester studio sequence, we ask students to take a step back from what and how they are designing and ask the question of why they are designing it. We will teach them a rigorous process for understanding stakeholder needs and for translating those needs into implications for product design. They will begin to develop greater awareness of the personal, social, competitive and technological contexts that their products fit into, and to learn how to design for those contexts. They will develop the ability to dive into a topic and frame a design problem, and to understand the implications of how they frame the problem on what they design. Ideally, they will use this process to identify a problem or opportunity to work on for their final project. Course work will involve readings, assignments, class participation, in-class exercises, and a final submission. 
Course usually offered in spring term
Activity: Lecture
1 Course Unit

IPD 561 IPD Theories/Methods I
Activity: Seminar
0.5 Course Units

IPD 562 IPD Theories/Methods II
Course usually offered in spring term
Also Offered As: ARCH 562
Activity: Seminar
0.5 Course Units

IPD 568 Integration Design Studio: Biological Design
This course is a research-based design studio that introduces new materials, fabrication, and prototyping techniques to develop a series of design proposals in response to the theme: Biological Design. The studio introduces life sciences and biotechnologies to designers, artists, and non-specialists to develop creative and critical propositions that address the social, cultural, and environmental needs of the 21st century. The course will be a pilot study of the first biodesign challenge organized by CUT/PASTE/GROW. The final projects will be submitted to a competition and the winning entry will be featured at Biofabricate in Summer 2017. 
One-term course offered either term
Also Offered As: FNAR 268, FNAR 568
Activity: Studio
1 Course Unit
IPD 599 Master's Independent Study
One-term course offered either term
Activity: Independent Study
1 Course Unit

IPD 699 IPD Seminar.
One-term course offered either term
Activity: Seminar
1 Course Unit

IPD 799 Studio Project Thesis.
One-term course offered either term
Activity: Lecture
1 Course Unit

Integrated Studies (INTG)

INTG 201 Visualizing the Past
Course not offered every year
Activity: Lecture
1 Course Unit

INTG 301 The Evolving Self from Antiquity to Contemporary Biology
This course will examine ideas about human nature by considering the human being as an organism. Questions of what counts as life will unfold from a close scrutiny of the idea of agency. We will work through five main avenues: Agency & Causes, Genetic Self, Evolutionary Self, Ecological Self, and the Ethical Self. In each investigation we will pair ancient Greek ideas with those from contemporary philosophy of biology. The pairing will aim, to some extent, to expand our historical understanding of how such ideas change over time, and to a greater extent, to sharpen our own understanding of human nature itself. Taught by: Tuma, Struck
Activity: Seminar
1 Course Unit
Notes: BFS seminar designation (looping in Lauren Orr; BFS admin team)

International Relations (INTR)

INTR 101 Transnational Issues in Global Politics
This course is designed to provide students with an introduction to transnational issues and world politics and to acquaint them with some of the leading issues, theories, concepts and processes, and history that shape and define world events. It is suitable for students embarking on long-term study of international affairs as well as for students with other majors and intellectual interest who simply want to know more about how the world works and how the material covered in this class affects their lives. It is expected that students taking the course will gain an ability to analyze, understand objectively evaluate and appreciate the complex dynamics that affect “global politics” writ large, including issues relating to trade, diplomacy, people-to-people and business transactions, and shifts in demography, borders, international institutions and global governance. In addition to issues of diplomacy, statecraft, and security we will assess some of the major international issues of our time (i.e. climate change, proliferation of weapons of mass destruction, genocide and human trafficking) and debate the prospects for bringing peace and prosperity to a world that is rife with conflict and poverty. One-term course offered either term
Activity: Lecture
1 Course Unit

INTR 199 Independent Study
One-term course offered either term
Activity: Independent Study
1 Course Unit

INTR 250 Political Risk Analysis
This course teaches students to apply social science theories and concepts together with futures methodologies (e.g. Delphi method; country risk assessments used by ratings agencies) to the challenges of addressing international political risks to the continuity, effectiveness and operations of business, government and other organizations in their international transactions. Taught by: Frank Plantan
One-term course offered either term
Activity: Lecture
1 Course Unit

INTR 290 Topics in International Relations
Topics in International Relations focuses on specialized issues, practical or applied approaches, policy and other topics of contemporary relevance in modern study of international relations. These are experimental or occasionally offered classes. Past topics of included US Foreign Policy and the Arab Spring, the Iraq Wars, Secret Intelligence & American Democracy, Counterintelligence, Homeland Security, the US & South Asia Cold War and New Alignments, and Think Tanks and Global Governance. One-term course offered either term
Activity: Lecture
1 Course Unit

INTR 350 Research Methods/Practice in IR
International Relations is concerned with both theory and practice so we employ a range of analytical tools to examine actors and events in world politics. The purpose of this course is to introduce students to the various research methods utilized by students and scholars in the field of IR including: case studies, historical - comparative and archival research, survey research, interviewing techniques, simulations, quantitative and statistical analysis. One-term course offered either term
Prerequisite: PSCI 150
Activity: Lecture
1 Course Unit
Notes: MAJORS ONLY

INTR 390 Senior Seminar for Thesis Research
Seminar in International Relations. A two semester sequence including review of advanced International Relations theory and research methods for the preparation of the senior thesis. Course usually offered in fall term
Prerequisites: INTR 350 and PSCI 150
Activity: Seminar
1 Course Unit
Notes: MAJORS ONLY

INTR 391 Senior Seminar For Thesis Research
Seminar in international relations. Second semester of a two semester sequence including review of advanced international relations theory and research methods for the preparation of the senior thesis. Course usually offered in spring term
Prerequisite: INTR 390
Activity: Seminar
1 Course Unit
Notes: MAJORS ONLY
ITAL 101 Italian Survival Kit: The Language and Culture of getting around in Italy

The following course is delivered in a fully online format in order to allow more flexibility for LPS students. Class sessions are offered through a course website and include live lectures and interactive discussions through both direct messaging and voice-over internet. Between classes, the learning experience is extended through assignments, threaded discussions and office hours. For additional information, please visit http://www.sas.upenn.edu/lps/onlinelearning This online course provides the flexibility of distance-learning and content that is taught efficiently in order to be used practically. If you are going to Italy and questioning how you will survive your total immersion experience, this course will provide you with the linguistic and cultural survival skills you will need to effectively function in Italy and fully enjoy its wonders. In this course, you will learn and practice the language you need to talk about: yourself; others; travel; public transportation; housing; food; shopping; technology; health; money, etc. Class meetings combine original as well as online, authentic content. Adobe Connect allows students to engage in collaborative interaction under the instructor’s supervision. Students participate in conversations that replicate day-to-day life in Italy, thereby developing the skills needed for face-to-face and online situations.

Taught by: Veneziano Broccia
Activity: Lecture
0.5 Course Units

ITAL 105 Sicilian Language & Cltr

Occupied over the centuries by the Greeks, Romans, Arabs, Normans, French, and Spaniards, Sicily is a region of many histories and many traditions. Birthplace and crossroads of cultures and artistic movements, the Sicilian land has shaped the imagination of its inhabitants and has never ceased to fascinate its visitors. Its language and culture have also been exported abroad, through the many Sicilians who left the island and settled all over the world. This course is an introduction to Sicilian Language and Culture. We will study spoken Sicilian and cultural artifacts ranging from film to literature, to music and food, in order to learn to recognize and understand the unique sounds and features of "siciliano" and to converse in Sicilian with native speakers and with one another. This course is delivered in an online format, with occasional face-to-face meetings. Class sessions are offered through a course website and include live lectures and interactive discussions. Between classes, the learning experience is extended through assignments, lectures and discussions.

Prerequisites: There are no prerequisites for ITAL 105: Sicilian Language and Culture.
Activity: Seminar
0.5 Course Units

ITAL 110 Elementary Italian I

A first-semester elementary language course for students who have never studied Italian or who have had very little exposure to the language. Students who have previously studied Italian are required to take the placement test. Class work emphasizes the development of spontaneous discourse skills and interactional competence. Readings on topics in Italian culture as well as frequent writing practice are also included. Out-of-class homework requires work with Canvas, the Internet, as well as audio and video materials.

For BA Students: Language Course
One-term course offered either term
Activity: Seminar
1 Course Unit
ITAL 112 Accelerated Elementary Italian
An intensive two-credit course covering the first and second semester of the elementary year for students who have never studied Italian before but have already fulfilled the language requirement in another modern language, preferably a romance language. Students who have fulfilled the language requirement in a language other than a romance language will be considered on an individual basis. All students must have departmental permission to register. Class work emphasizes the development of spontaneous discourse skills and interactional competence. Readings on topics in Italian culture as well as frequent writing practice are also included. Out-of-class homework requires work with Canvas, the Internet, as well as audio and video materials.

For BA Students: Language Course
One-term course offered either term
Prerequisites: Proficiency in another foreign language.
Activity: Seminar
2 Course Units

ITAL 120 Elementary Italian II
This course is the continuation of the elementary-level sequence designed to develop functional competence in the four skills. Class work emphasizes the further development of spontaneous discourse skills and interactional competence. Readings on topics in Italian culture as well as frequent writing practice are also included. Out-of-class homework requires work with Canvas, the Internet, as well as audio and video materials.

For BA Students: Language Course
One-term course offered either term
Prerequisites: Completion of Italian 110 or placement into second-semester Italian.
Activity: Seminar
1 Course Unit

ITAL 130 Intermediate Italian I
Italian 130 is the first half of a two-semester intermediate sequence designed to help you attain a level of proficiency that will allow you to function comfortably in an Italian-speaking environment. The course will build on your existing skills in Italian, increase your confidence and your ability to read, write, speak and understand the language, and introduce you to more refined lexical items, more complex grammatical structures, and more challenging cultural material. You are expected to have already learned the most basic grammatical structures in elementary Italian and to review these on your own. The course will allow you to explore culturally relevant topics and to develop cross-cultural skills through the exploration of similarities and differences between your native culture and the Italian world.

For BA Students: Language Course
One-term course offered either term
Prerequisites: Italian 112 or departmental permit; proficiency in another foreign language.
Activity: Seminar
1 Course Unit

ITAL 134 Accelerated Intermediate Italian II
Italian 134 is the intensive and accelerated course that combines in one semester the intermediate sequence (130 and 140). It will build on your existing skills in Italian, increase your confidence and your ability to read, write, speak and understand the language, and introduce you to more refined lexical items, more complex grammatical structures, and more challenging cultural material. You are expected to have already learned the most basic grammatical structures in elementary Italian and to review these on your own. The course will allow you to explore culturally relevant topics and to develop cross-cultural skills through the exploration of similarities and differences between your native culture and the Italian world.

For BA Students: Last Language Course
One-term course offered either term
Prerequisites: Italian 112 or departmental permit; proficiency in another foreign language.
Activity: Seminar
2 Course Units

ITAL 140 Intermediate Italian II
Italian 140 is the second half of a two-semester intermediate sequence designed to help you attain a level of proficiency that will allow you to function comfortably in an Italian-speaking environment. The course will build on your existing skills in Italian, increase your confidence and your ability to read, write, speak and understand the language, and introduce you to more refined lexical items, more complex grammatical structures, and more challenging cultural material. You are expected to have already learned the most basic grammatical structures in elementary Italian and to review these on your own. The course will allow you to explore culturally relevant topics and to develop cross-cultural skills through the exploration of similarities and differences between your native culture and the Italian world. The course will move beyond stereotypical presentations of Italy and its people to concentrate on specific social issues together with cultural topics.

For BA Students: Last Language Course
One-term course offered either term
Prerequisites: Completion of Italian 130 at Penn or placement into Italian 140.
Activity: Seminar
1 Course Unit

ITAL 180 Italian Conversation in Residence
Two terms. student must enter first term.
Activity: Seminar
0.5 Course Units
Notes: Must be resident of the Modern Language House

ITAL 200 Medieval Culture
Please check the website for a current course description. http://www.sas.upenn.edu/italians/courses
Course not offered every year
Also Offered As: HIST 230
Activity: Seminar
1 Course Unit
ITAL 201 Advanced Italian I
Italian 201 will focus on a recent movie by Italian director Tullio Giordana, "La meglio gioventu" (2002), which will be used as a point of departure to explore contemporary Italian culture following its development since the 1960s. Another recent movie, "Mio fratello e figlio unico" (2007), will be viewed and analyzed at the conclusion of the course as compared to "La meglio gioventu." Pertinent literary texts, newspaper articles, as well as material in other media will complement the analysis of the film and allow an in-depth discussion of the most important topics. The cultural material explored in the course will be also used as a basis for a review of the most difficult grammar structures, with an emphasis on those necessary to express opinion and formulate hypothesis. Audiovisual materials and readings have been carefully chosen to develop student's comprehension and production in Italian, and to enable them to function in an academic setting in which competence at the advanced level is required. Class work will center primarily on conversation to improve students' fluency, vocabulary, and accuracy in speaking the formal register. Homework will consist primarily, but not exclusively, of paragraph-length blog entries and 1.5-2 page compositions to improve students' ability to express themselves correctly and elegantly in written Italian. Additionally, students will be required to prepare two five-minute in-class or video presentations on one or parts of an assigned sequence, and on a social or cultural issue. In place of a final exam, students will write a final essay of 5-6 pages comparing "La meglio gioventu" to another recent Italian movie, "Mio fratello e figlio unico," that will be introduced in class during the last week of the semester.

For BA Students: Advanced Language Course
One-term course offered either term
Prerequisites: Open to students who have satisfied the language requirement in Italian. ITAL 201 or equivalent is a prerequisite for all other courses taught in Italian at the 200/300 level.
Activity: Seminar
1 Course Unit

ITAL 202 Advanced Italian II
In Italian 202 (formerly 205), students will perfect their communication skills to function in the formal register appropriate for an academic setting, while continuing to explore significant aspects of contemporary Italian culture and history. Students will take further steps towards being able to understand in depth and to contextualize authentic Italian documents. Texts like films, songs, and a variety of readings, will be used as windows on particular historical periods, cultural movements, political issues, and social customs. They will serve as a tool to investigate the many facets of Italian identity and, at the same time, as a way to prepare those students who will continue their study of Italian literature and culture in higher-level courses. Students are expected to participate willingly in conversations and all other class activities in order to perfect their oral and written ability to narrate, express opinion, hypothesize, and discuss a variety of topics quite accurately, using rich, appropriate vocabulary and grammar, and organizing paragraphs into well structured discourses, be they oral presentations, weekly compositions (2-2.5 pages) or the final essay (6-7 pages). To reach these goals, speaking, listening, reading and writing activities -- role plays, discussions, oral presentations, journals, grammar reviews -- will be based on audio-visual material and written texts provided by the instructor, and purchased and/or proposed by the students themselves, based on their independent explorations and research.

For BA Students: Advanced Language Course
One-term course offered either term
Prerequisites: Open to students who have completed ITAL 201. Please see the Undergraduate Chair if you have any questions.
Activity: Seminar
1 Course Unit

ITAL 203 Masterpieces-Italian Literature
This course surveys the history of Italian literature through its major masterpieces. Beginning with Dante's Divine Comedy, Petrarca's love poems, and Boccaccio's Decameron, we will follow the development of Italian literary tradition through the Renaissance (Machiavelli's political theory and Ariosto's epic poem), and then through Romanticism (Leopardi's lyric poetry and Manzoni's historical novel), up to the 20th century (from D'annunzio's sensual poetry to Calvino's post-modern short stories). The course will provide students with the tools needed for analyzing the texts in terms of both form and content, and for framing them in their historical, cultural, and socio-political context. Classes and readings will be in Italian. ITAL 203 is mandatory for Minors in Italian Literature and Majors in Italian Literature. If necessary, ITAL 201 can be taken at the same time as ITAL 203.
One-term course offered either term
Also Offered As: COLL 228, COML 203
Prerequisites: Open to students who have completed ITAL 201 or equivalent.
Activity: Seminar
1 Course Unit
ITAL 204 Italian History on Screen: How Movies Tell the Story of Italy
How has our image of Italy arrived to us? Where does the story begin and who has recounted, rewritten, and rearranged it over the centuries? In this course, we will study Italy's rich and complex past and present. We will carefully read literary and historical texts and thoughtfully watch films in order to attain an understanding of Italy that is as varied and multifaceted as the country itself. Group work, discussions and readings will allow us to examine the problems and trends in the political, cultural and social history from ancient Rome to today. We will focus on: the Roman Empire, Middle Ages, Renaissance, Unification, Turn of the Century, Fascist era, World War II, post-war and contemporary Italy.
For BA Students: Arts and Letters Sector
One-term course offered either term
Also Offered As: CIMS 206, COML 206
Activity: Seminar
1 Course Unit

ITAL 216 Introduction to Literature II.
Focusing on the moon and its nocturnal effects as represented in film, opera, literature and art, this course offers a survey of the last four centuries of Italian literature and culture. Man stepped on the Moon on July 20, 1969 and since then Armstrong's footprint has remained in the lunar dust. We know now that the Moon is a vast and deserted landscape where no life is possible. Now that we have succeeded in contaminating the Moon with our presence, is Science Fiction the only possible discourse on the Moon other than the one carried on by astronauts? What is left of the romantic lunar dream? Can those human footprints destroy the image of the kissing faces that romantic painters saw on the lunar disk? Can we still fly on the Moon looking for Orlando's common sense? or imagine our satellite populated by lurid, gesticulating goblins who cause the monstrous metamorphosis of werewolves? Have we finally succeeded in realizing the futuristic scream by Marinetti "Let's kill the moonlight?" These are some of the questions this course will address and discuss by reading or viewing works (in their entirety or in excerpts) by the following authors: Luciano, Ariosto, Tasso, Galileo, Goldoni, Pindemonte, Parini, Leopardi, Bellini, Donizzetti, Salgari, Capuana, D'Annunzio Pirandello, Fellini, Calvino.
One-term course offered either term
Activity: Seminar
1 Course Unit

ITAL 208 Business Italian I
The course is conducted entirely in Italian and should be taken after completion of Italian 201 or equivalent. It is designed to enable students to acquire language proficiency in the current Italian business and labor world. Business terminology will be used in specific business situations such as banking, trade, communications, etc. The course will examine Italian business practices, cultural differences such as the attitude towards money, work, leisure and consumerism through websites, newspaper and magazine articles and video clips. Students will learn to read business publications, write and compose business texts, and participate in business-related conversations. Additionally, guest lecturers from the local business world with ties to Italy will provide students with information about internship and job opportunities and the knowledge necessary to navigate international and Italian commercial routes.
For BA Students: Advanced Language Course
Course not offered every year
Prerequisites: Open to students who have completed ITAL 201 or equivalent.
Activity: Seminar
1 Course Unit

ITAL 218 Film Sound & Film Music
Please check the website for a current course description. http://www.sas.upenn.edu/italians/courses
One-term course offered either term
Also Offered As: MUSC 081
Activity: Seminar
1 Course Unit

ITAL 220 Cultura E Letteratura
Taught in Venice.
One-term course offered either term
Activity: Seminar
1 Course Unit

ITAL 222 Topics in Italian Cinema
Topics vary. See the department's website at http://www.sas.upenn.edu/italians/courses for the current description.
One-term course offered either term
Activity: Seminar
1 Course Unit

ITAL 226 SA: Culture and Literature
Topics vary.
One-term course offered either term
Activity: Seminar
1 Course Unit

ITAL 230 Topics in European History
Please check the website for a current course description. http://www.sas.upenn.edu/italians/courses
One-term course offered either term
Also Offered As: HIST 230
Activity: Seminar
1 Course Unit
ITAL 232 The World of Dante
Dante’s masterpiece in context of 14th-century culture. Selected cantos will connect with such topics as books and readers in the manuscript era, life in society dominated by the Catholic church (sinners vs. saints, Christian pilgrimage routes, the great Franciscan and Dominican orders), Dante’s politics as a Florentine exile (power struggles between Pope and Emperor),his classical and Biblical literary models, his genius as a poet in the medieval structures of allegory, symbolism, and numerology. Field trip to University of Pennsylvania Rare Book Collection. Text in Italian with facing English translation.
Course not offered every year
Also Offered As: COML 234
Activity: Seminar
1 Course Unit

ITAL 250 Female Bodies, Different Bodies
This course examines how women and gays have been depicted and interpreted in the most recent Italian novels and films. Moreover, this class analyzes the most important aspects of Italian Feminist thought. A selection from Rosi Braidotti’s “Patterns of Dissonance” will be read in class. We shall read novels by Natalia Ginzburg (“Family Sayings”), Aldo Busi (“Seminar on Youth”), Pier Vittorio Tondelli (“Separate Rooms”), Alberto Moravia (“Two Women”). We shall discuss the following films: “Ermesto”, “Mary Forever”, “Portrait of a Woman”, “The City of Women”, “Forgetting Venice”. Course conducted in English.
Course not offered every year
Also Offered As: FREN 250
Activity: Seminar
1 Course Unit

ITAL 257 Fascist Cinemas
Please check the website for a current course description. http://www.sas.upenn.edu/italians/courses
For BA Students: Arts and Letters Sector
Course not offered every year
Also Offered As: CIMS 257, COML 269, GRMN 257
Activity: Lecture
1 Course Unit

ITAL 260 Worldviews in Collision
This course explores the radical conflicts that developed in the 16th- and 17th-century Europe when Protestant reformers, scientific discoveries, and geographical explorations challenged a long-held Medieval worldview and the authority of the Roman Catholic Church. These historical developments will be studied in comparison with parallel modern issues, such as Darwinism, separation of church and state, multicultural religious conflicts. Historical readings: Machiavelli’s comic play Mandragola, the vitriolic polemic involving Martin Luther, Thomas More, and King Henry VII; Thomas Campanella’s Utopian dialogue The City of the Sun, selections from the scientists Copernicus and Galileo, and from The History of the Council of Trent by the Venetian Paolo Sari. Modern texts: Osborne’s Luther, Brecht’s Galileo, and a classic Hollywood film Utopia, Frank Capra’s Lost Horizon. In introductory and final units, we shall consider how 16th- and 17th-century poetry and visual arts mirrored their turbulent times, with an attention to the Petrarchan tradition (Vittoria Colonna, Marino) and stylistic changes in Italian painting, sculpture, and architecture from Renaissance to Mannerist to Baroque.
Course not offered every year
Activity: Seminar
1 Course Unit

ITAL 280 Films From Literature
Topics vary.
Course not offered every year
Activity: Seminar
1 Course Unit

ITAL 288 Modern Italian Culture
Please check the website for a current course description. http://www.sas.upenn.edu/italians/courses
Course not offered every year
Also Offered As: CIMS 240
Activity: Seminar
1 Course Unit

ITAL 300 Topics in Italian History, Literature, and Culture
Topics vary. Please check the department’s website for course description: http://www.sas.upenn.edu/italians/courses
Course not offered every year
Also Offered As: ARTH 301, CIMS 300, COML 300, ENGL 231
Activity: Seminar
1 Course Unit

ITAL 310 The Medieval Reader
Through a range of authors including Augustine, Dante, Petrarch, Galileo, and Umberto Eco, this course will explore the world of the book in the manuscript era. We will consider 1) readers in fiction-male and female, good and bad; 2) books as material objects produced in monasteries and their subsequent role in the rise of the universities; 3) medieval women readers and writers; 4) medieval ideas of the book as a symbol (e.g., the notion of the world as God’s book); 5) changes in book culture brought about by printing and electronic media. Lectures with discussion in English, to be supplemented by visual presentations and a visit to the Rare Book Room in Van Pelt Library. No prerequisites.
Course not offered every year
Also Offered As: FREN 250, GSWS 310
Activity: Seminar
1 Course Unit

ITAL 318 Ital Hist 1789-Present
Please check the website for a current course description. http://www.sas.upenn.edu/italians/courses
Course not offered every year
Also Offered As: HIST 318
Activity: Lecture
1 Course Unit

ITAL 318 Ital Hist 1789-Present
Please check the website for a current course description. http://www.sas.upenn.edu/italians/courses
Course not offered every year
Also Offered As: HIST 318
Activity: Lecture
1 Course Unit
ITAL 322 Italian Cinema
The course will consist of a broad and varied sampling of classic Italian films from WWII to the present. The curriculum will be divided into four units: (1) The Neorealist Revolution, (2) Metacinema, (3) Fascism and War Revisited, and (4) Postmodernism or the Death of the Cinema. One of the aims of the course will be to develop a sense of “cinematic literacy”—to develop critical techniques that will make us active interpreters of the cinematic image by challenging the expectations that Hollywood has implanted in us: that films be action-packed wish-fulfillment fantasies. Italian cinema will invite us to re-examine and revise the very narrow conception that we Americans have of the medium. We will also use the films as a means to explore the postwar Italian culture so powerfully reflected, and in turn, shaped, by its national cinema. Classes will include close visual analysis of films using video clips and slides. The films will be in Italian with English subtitles and will include works of Fellini, Antonioni, De Sica, Visconti, Pasolini, Bertolucci, Moretti. Students will be asked actively to participate in class discussion, and to write a series of critical papers keyed to the units around which the course will be organized. Substantial Writing Component.
Course not offered every year
Also Offered As: CIMS 340, COML 280
Activity: Seminar
1 Course Unit

ITAL 333 Dante's Divine Comedy
In this course we will read the Inferno, the Purgatorio and the Paradiso, focusing on a series of interrelated problems raised by the poem: authority, fiction, history, politics and language. Particular attention will be given to how the Commedia presents itself as Dante's autobiography, and to how the autobiographical narrative serves as a unifying thread for this supremely rich literary text. Supplementary readings will include Virgil's Aeneid and selections from Ovid's Metamorphoses. All readings and written work will be in English. Italian or Italian Studies credit will require reading Italian texts in their original language and writing about their themes in Italian. This course may be taken for graduate credit, but additional work and meetings with the instructor will be required.
Course not offered every year
Also Offered As: COML 333, ENGL 323
Activity: Seminar
1 Course Unit
Notes: When crosslisted with ENGL 323, this is a Benjamin Franklin Seminar

ITAL 340 Topics in the Renaissance
Content Varies. Possible contents may be: Renaissance Women Writers, Love and Sexuality in the Renaissance.
Course not offered every year
Activity: Seminar
1 Course Unit

ITAL 341 Topics: Italian Art
Course not offered every year
Also Offered As: ARTH 301
Activity: Seminar
1 Course Unit

ITAL 351 Mad Love
The history of an emotion and how it emerges in Italian literature, music and film.
Course not offered every year
Activity: Seminar
1 Course Unit

ITAL 360 Semiotics and Rhetoric
A survey of major currents in the modern theory of signs and languages, ranging from linguistics through the perspectives of semiotics, rhetoric and hermeneutics. Readings from modern works on semiotical and rhetorical theory as well as analysis of primary texts in Italian literature from Dante to Svevo, as well as other forms of communication including advertising, journalism, film and television. All readings in English.
Course not offered every year
Activity: Seminar
1 Course Unit

ITAL 380 Italian Literature of the 20th Century
Topics vary, covering a range of genres and authors. The reading material and the bibliographical references will be provided in a course reader. Further material will be presented in class. Requirements include class attendance, preparation, and participation, a series of oral responses, and a final oral presentation.
Course not offered every year
Also Offered As: CIMS 379, COML 382
Activity: Seminar
1 Course Unit

ITAL 383 20th-Century Italian Novel
Please check the website for a current course description. http://www.sas.upenn.edu/italians/courses
Course not offered every year
Activity: Seminar
1 Course Unit

ITAL 384 Holocaust Ital Lit & Film
Please check the website for a current course description. http://www.sas.upenn.edu/italians/courses
Course not offered every year
Also Offered As: CIMS 387, COML 384
Activity: Seminar
1 Course Unit

ITAL 385 Modern Theater
A study of theater in Italian, beginning with Pirandello.
Course not offered every year
Activity: Seminar
1 Course Unit
ITAL 388 Italian-American Writers
This course will explore the emerging field of Italian American literature, a vast and varied collection of English language writers and poets who have one element in common: l'Italianita. We shall become acquainted not with the Italian Renaissance, but with a humbler Italy, the Italy that has determined the lives of millions of Italians so poor that they had to leave their country to try their fortunes in the United States and only now are making their voices heard. Readings will be a journey through first-, second-, and third-generation immigrants. Authors tell their stories and those of their illiterate parents or grandparents in memoires, autobiographies, and novels that witness their struggle, humiliation, and success from alienation to assimilation. The course will relate more broadly to issues of self and other, to the American immigrant experience of other ethnic groups in their process of Americanization. Authors include Tamburri, Barolini, Di Donato, Fante, Puzo, Mangione, Gambino, Prose, DeRosa, and Parini. Course offered in English, but if some students wish to practice the Italian language and use it in their written work, they are welcome and encouraged to do so.
Course not offered every year
Also Offered As: COML 382
Activity: Seminar
1 Course Unit
Notes: No prerequisites

ITAL 398 Honors Thesis
One-term course offered either term
Activity: Independent Study
1 Course Unit

ITAL 399 Independent Study
One-term course offered either term
Activity: Independent Study
1 Course Unit

ITAL 499 Independent Study
Course usually offered in fall term
Activity: Independent Study
1 Course Unit

ITAL 501 Italian Literary Theory
Basic issues in literary theory.
Course not offered every year
Also Offered As: COML 503
Activity: Seminar
1 Course Unit
Notes: Taught occasionally. This requirement is normally satisfied by taking the Comparative Literature course in literary theory.

ITAL 512 A Black Seed (He) Sowed: An Introduction to Paleography & History of Books
Writing and reading are common actions we do every day. Nonetheless they have changed over the centuries, and a fourteenth century manuscript appears to us very different from a Penguin book. The impact of cultural movements such as Humanism, and of historical events, such as the Reformation, reshaped the making of books, and therefore the way of reading them. The course will provide students with an introduction to the history of the book, including elements of paleography, and through direct contact with the subjects of the class: manuscripts and books. Furthermore, a section of the course will focus on digital resources, in order to make students familiar with ongoing projects related to the history of book collections (including the "Philosophical Libraries" and the "Provenance" projects, based at the Scuola Normale Superiore in Pisa and at Penn). The course will be conducted in English; a basic knowledge of Latin is desirable but not required. The class will meet in Van Pelt.
Course not offered every year
Activity: Seminar
1 Course Unit

ITAL 520 Medieval "Autobiography": Augustine to Petrarch
Taught by: Brownlee
Course not offered every year
Activity: Seminar
1 Course Unit

ITAL 530 Medieval Italian Literature
Medieval Italian society, art, intellectual and political history. Please check the department's website for the course description. http://www.sas.upenn.edu/italians/graduate/courses
Course not offered every year
Also Offered As: COML 601, ENGL 524, RELS 537
Activity: Seminar
1 Course Unit

ITAL 531 Dante's Commedia I
"Divine Comedy" in the context of Dante's medieval worldview and culture. Please check the department's website for the course description. http://www.sas.upenn.edu/italians/graduate/courses Dante Visualizing: Dante Visualizing and Dante Visualized. Dante's Commedia has inspired art, but at the same time art is present within the Comedy itself, through images, metaphors, descriptions and even more concrete examples. This course aims at discussing these aspects, taking into consideration also the philosophical, political and religious background of these motifs. While analyzing images in and from the Commedia, we will look at illustrations and artistic interpretations, spanning from medieval illuminations and Renaissance printed books (mainly from Van Pelt Library) to contemporary examples, and focusing on artists such as Giotto, Botticelli, Michelangelo, Blake, Dore, and Dali. The course will be taught in English.
Course not offered every year
Also Offered As: COML 533
Activity: Seminar
1 Course Unit
Notes: This course may sometimes be taught as the first part of a two-semester sequence.
ITAL 532 Divina Commedia II
"Divine Comedy" in the context of Dante's medieval worldview and culture.
Course not offered every year
Also Offered As: COML 532
Prerequisite: Italian 531
Activity: Seminar
1 Course Unit

ITAL 534 Women in Poetry
Course not offered every year
Also Offered As: GSWS 534
Prerequisite: Reading knowledge of Italian
Activity: Seminar
1 Course Unit

ITAL 535 Petrarch
Petrarch's life and work in the context of Italian and European culture and society.
Course not offered every year
Also Offered As: COML 524
Activity: Seminar
1 Course Unit

ITAL 537 Boccaccio
Boccaccio's life and work in the context of Italian and European culture and society.
Taught by: Brownlee
Course not offered every year
Also Offered As: COML 521, ENGL 525
Activity: Seminar
1 Course Unit

ITAL 539 Cracking the Code: Numerology and Literature
In English. This course reconstructs traditions of Western number symbolism from antiquity (Plato, the Pythagoreans) to the early modern period with readings both in encyclopedic treatises on Arithmetic (Macrobius, Martianus Capella, Rhabanus Maurus) and in literary texts that are numerical compositions (Augustine's Confessions, Petrarch's epistle on the ascent of Mt. Ventoux, Dante's Vita Nuova and Commedia, Boccaccio's Diana's Hunt, the Old French Vie de St. Alexis, and Umberto Eco's The Name of the Rose). Discussion will focus on numerology as it relates to the medieval esthetic of order, the literary text as microcosmic counterpart to God's macrocosm, veiled meaning, and "difficult" poetics. We shall also consider the end of the tradition and what changes in science and culture brought about the disappearance of number symbolism in literature, except for a few moderns (e.g., Thomas Mann). Cross-listed with COML 548.
Course not offered every year
Activity: Seminar
1 Course Unit

ITAL 540 Topics: Renaissance Culture
Please see department website for a current course description: http://www.sas.upenn.edu/italians/courses
Course not offered every year
Also Offered As: COML 540, ENGL 540, MUSC 730
Activity: Seminar
1 Course Unit

ITAL 552 World Views in Collision
The impact of paradigm shifts on Italian and European culture.
Course not offered every year
Also Offered As: COML 508
Activity: Seminar
1 Course Unit

ITAL 583 Post-Human Landscapes
Please check the website for a current course description. http://www.sas.upenn.edu/italians/courses
Course not offered every year
Activity: Seminar
1 Course Unit

ITAL 584 20th-Century Italian Novel and Film
The course will involve an exploration of a number of works of prose fiction and, when possible, the screening of their filmic adaptations. We will consider such genres as the historical novel (Tomasi di Lampedusa's Il gattopardo), biography (Dacia Marani's La lunga vita di Marianna Ucria), autobiography (Gavino Ledda's Padre padrone), the mystery novel (Leonardo Sciascia's A ciascuno il suo), the epistolary novel (Oriana Fallaci's Lettera ad un bambino mai nato), the political thriller (Antonio Tabucchi's Sostiene Pereira), "anthropological" memoir (Carlo Levi's Christ Stopped at Eboli), the psycho-political case study (Alberto Moravias Il conformista) and the regional short story (selections from Luigi Pirandello's Novelle per un anno). The class will be conducted as a seminar requiring a great deal of student participation.
Course not offered every year
Also Offered As: COML 576
Activity: Seminar
1 Course Unit

ITAL 586 Italian Women Directors
In Peter Bondanella's book, "Italian Cinema, from Neorealism to the Present," only two Italian women directors are mentioned: Lina Wertmuller and Liliana Cavani. However, in recent years, the Italian cinema has generated a new wave of Italian women directors who have significantly made their mark on the national cinematic imagination. Francesca Archibugi, Roberta Torre, Cristina e Francesca Comencini, Antonietta De Lillo, Fiorella Infascelli, Anna Negri, and Laura Muscardin, among others, established themselves as important voices of the last generation of Italian filmmakers in feature films, Angela Ricci Lucchi in the realm of non-fiction films and Alina Marazzi in the realm of documentary. In this course, we are going to explore their films, in connection to feminist and post-feminist culture in Italy, examining the originality of their approach and their relationships to the challenges offered by the advent of new technologies. The course will be taught in Italian.
Course not offered every year
Also Offered As: CIMS 548
Activity: Seminar
1 Course Unit

ITAL 588 Cinema and the Sister Arts
Cinema as a pan-generic system constructed of other art forms, including fiction, theater, painting, photography, music and dance.
Course not offered every year
Also Offered As: CIMS 548
Activity: Seminar
1 Course Unit
ITAL 601 Time and Literature
The perceptions of Time differ according to various societies, conceptions of history, religious and literary traditions. Literature not only inhabits Time, but forges it. The course will focus on representations and elaborations of time throughout the Italian culture from Dante to the XX Century. We will deal also with the theoretical issues connected with the relation between time and history. The course will be taught in Italian. Undergraduates need permission.
Course not offered every year
Also Offered As: COML 609
Activity: Seminar
1 Course Unit

ITAL 602 Tools of the Trade
Theoretical and practical aspects of academic research. Please check the department's website for the course description. http://www.sas.upenn.edu/italians/graduate/courses
Course not offered every year
Also Offered As: COML 602
Activity: Seminar
1 Course Unit

ITAL 603 Sociolinguistic Varieties
Please check the website for a current course description. http://www.sas.upenn.edu/italians/courses
Course not offered every year
Activity: Seminar
1 Course Unit

ITAL 630 Medieval Italian Literature
Medieval Italian society, art, intellectual and political history. Advanced-level course.
Course not offered every year
Also Offered As: COML 630, ENGL 795, FREN 630
Activity: Seminar
1 Course Unit

ITAL 631 Dante’s Commedia
"Divine Comedy" in the context of Dante’s medieval worldview and culture. Advanced-level course.
Course not offered every year
Also Offered As: COML 632
Activity: Seminar
1 Course Unit

ITAL 634 Woman’s Place
Poetry by women and about women. Advanced-level course.
Course not offered every year
Activity: Seminar
1 Course Unit

ITAL 640 Studies in the Italian Renaissance
Renaissance Italian society, art, intellectual and political history. Advanced-level course.
Course not offered every year
Also Offered As: COML 641
Activity: Seminar
1 Course Unit

ITAL 660 18th Century Italian Culture
18th-century Italian society, art, intellectual and political history. Course not offered every year
Activity: Seminar
1 Course Unit

ITAL 672 Narrativa ’800-’900
Modern and contemporary Italian fiction. Course not offered every year
Activity: Seminar
1 Course Unit

ITAL 681 Representations of Women in Italian Cinema
Course not offered every year
Also Offered As: CIMS 684
Activity: Seminar
1 Course Unit

ITAL 682 Topical Literature and Film
Please check the website for a current course description. http://www.sas.upenn.edu/italians/courses
Course not offered every year
Also Offered As: CIMS 682, COML 680, GSWS 682
Activity: Seminar
1 Course Unit

ITAL 684 20th-Century Novel
Contemporary Italian fiction
Course not offered every year
Also Offered As: CIMS 684
Activity: Seminar
1 Course Unit

ITAL 685 20th Century Italian Culture
Please check the website for a current course description. http://www.sas.upenn.edu/italians/courses
Course not offered every year
Also Offered As: ARTH 786, CIMS 685, COML 786
Activity: Seminar
1 Course Unit

ITAL 687 Pasolini & Calvino
Please check the website for a current course description. http://www.sas.upenn.edu/italians/courses
Course not offered every year
Activity: Seminar
1 Course Unit

ITAL 990 Masters Thesis
One-term course offered either term
Activity: Masters Thesis
1 Course Unit

ITAL 995 Dissertation
One-term course offered either term
Activity: Dissertation
1 Course Unit

ITAL 998 Tutorial
One-term course offered either term
Activity: Independent Study
1 Course Unit

ITAL 999 Independent Study
One-term course offered either term
Activity: Independent Study
1 Course Unit
Japanese Language (JPAN)

JPAN 001 Introduction to Spoken Japanese I
Intended for students who have no Japanese background. The major emphasis is on oral communication skills, although some reading and writing instructions are given. Japanese pop-culture will also be incorporated.
Course usually offered in fall term
Activity: Lecture
1 Course Unit
Notes: See LPS Course Guide. **This course does not fulfill the language requirement in the College.

JPAN 002 Introduction to Spoken Japanese II
Although some reading/writing instruction is given, the major emphasis is on oral communication skill.
Course usually offered in spring term
Prerequisites: Completion of JPAN 001 or the equivalent.
Activity: Lecture
1 Course Unit
Notes: See LPS Course Guide. **This course does not fulfill the language requirement in the College.

JPAN 011 Beginning Japanese I
Intended for students who have no Japanese background. All four skills, speaking/listening/writing/reading, are equally emphasized. Hiragana/Katakana (Two sets of Japanese syllabic letters) and some Chinese characters (Kanji) are introduced. Textbooks: Genki I (Lesson 1- Lesson 7). Kanji: reproduction-approx.70/recognitio-approx.110
For BA Students: Language Course
Course usually offered in fall term
Prerequisite: None
Activity: Lecture
1 Course Unit

JPAN 012 Beginning Japanese II
Textbooks: Genki I (Lesson 8- Lesson 12) and Genki II (Lesson 13- Lesson 14)Kanji: reproduction-approx.170/recognitio-approx.250
For BA Students: Language Course
Course usually offered in spring term
Prerequisites: Completion of JPAN 011 or the equivalent.
Activity: Lecture
1 Course Unit

JPAN 021 Intensive Beginning Japanese I
Intended for students with little or no background in Japanese who wish to finish the language requirement in one year. (Equivalent to JPAN 011 + JPAN 012) Textbooks: Yookoso I and Basic Kanji Book I (L.1-L,10) Kanji: reproduction-approx.110/recognitio-approx.200
For BA Students: Language Course
Course usually offered in fall term
Activity: Lecture
2 Course Units

JPAN 022 Intensive Beginning Japanese II
This course is the equivalent to JPAN 111 + JPAN 112, and completes the College language requirement. Textbooks: Yookoso II and Basic kanji book I (L.11 - L.22) Kanji: reproduction-approx.250/recognitio-approx 350
For BA Students: Last Language Course
Course usually offered in spring term
Prerequisite: completion of JPAN 021 or the equivalent
Activity: Lecture
2 Course Units

JPAN 111 Beginning Japanese III
Continuation of JPAN 012. Textbooks: Yookoso II (Do You Remember-Chapt. 3) and Basic Kanji Book I (L.11 - L.16) Kanji: reproduction-approx.170/recognitio-approx.250
For BA Students: Language Course
Course usually offered in fall term
Prerequisites: Completion of JPAN 012 or the equivalent.
Activity: Lecture
1 Course Unit

JPAN 112 Beginning Japanese IV
This course completes the College language requirement. Textbooks: Yookoso II (Chapt. 4 - Chapt. 7) & Basic Kanji Book I (L.17-L.22) Kanji: reproduction-approx250/recognitio-approx.350
For BA Students: Last Language Course
Course usually offered in spring term
Prerequisites: Completion of JPAN 111 or the equivalent.
Activity: Lecture
1 Course Unit

JPAN 211 Intermediate Japanese I
A continuation of Japanese language beyond the language requirement.Textbooks: Tobira: Gateway to Advanced Japanese (Unit 1-Unit 5) Kanji:reproduction-approx.330/recognitio-approx.450
For BA Students: Advanced Language Course
Course usually offered in fall term
Prerequisites: Completion of JPAN 112 or JPAN 022 or the equivalent.
Activity: Lecture
1 Course Unit

JPAN 212 Intermediate Japanese II
PREREQUISITES Completion of JPAN 211 or the equivalent.A continuation of Japanese language at the intermediate level.Textbooks: Tobira: Gateway to Advanced Japanese (Unit 6-Unit 10) Kanji:reproduction-approx.400/recognitio-approx.550
For BA Students: Advanced Language Course
Course usually offered in spring term
Prerequisites: Completion of JPAN 211 or the equivalent.
Activity: Lecture
1 Course Unit

JPAN 311 Intermediate Japanese III
This course is a continuation of Japanese language at the upper intermediate level, and authentic reading/listening materials are introduced besides the textbooks. Textbooks: Tobira: Gateway to Advanced Japanese (Unit 11-Unit 15) Kanji: reproduction-approx. 470/recognitio-approx.650
For BA Students: Advanced Language Course
Taught by: Takami
Course usually offered in fall term
Also Offered As: JPAN 611
Prerequisites: completion of JPAN 212 or the equivalent.
Activity: Lecture
1 Course Unit
JPAN 312 Intermediate Japanese IV
Authentic materials and video clips will be used. The topics include culture and social issues in Japan. Selected video materials. Kanji: reproduction-approx. 550; recognition-approx. 750.
For BA Students: Advanced Language Course
Taught by: Takami
Course usually offered in spring term
Also Offered As: JPAN 612
Prerequisites: Completion of JPAN 311 or the equivalent.
Activity: Lecture
1 Course Unit

JPAN 381 Japanese for the Professions
For BA Students: Advanced Language Course
Taught by: Takami
Course usually offered in fall term
Prerequisites: Completion of JPAN 212 or the equivalent.
Activity: Lecture
1 Course Unit
Notes: Offered through Penn Language Center.

JPAN 382 Japanese for the Professions II
For BA Students: Advanced Language Course
Taught by: Takami
Course usually offered in spring term
Also Offered As: JPAN 682
Prerequisites: Completion of JPAN 381 or the equivalent.
Activity: Lecture
1 Course Unit
Notes: Offered through the Penn Language Center

JPAN 411 Advanced Japanese I
Minimum 600 - 700 kanji knowledge is expected. A continuation of Japanese language beyond the intermediate level.
For BA Students: Advanced Language Course
Course usually offered in fall term
Prerequisites: Completion of JPAN 312 or the equivalent.
Activity: Lecture
1 Course Unit

JPAN 412 Advanced Japanese II
For BA Students: Advanced Language Course
Course usually offered in spring term
Prerequisites: Completion of JPAN 411 or the equivalent.
Activity: Lecture
1 Course Unit

JPAN 481 Advanced Japanese for Proficiency I
This course is for students with an advanced background in Japanese, who are interested in taking at least the Level 2 Japanese Proficiency Test. Solid grammar, an extensive vocabulary, and the knowledge of at least 800-900 Chinese characters is required. This course is not continuous with any existing 300-level Japanese course; therefore, you must take this course. Eligibility will be determined through an interview and placement test taken in the first meeting. All students who take this course are required to take the Japanese Proficiency Test in December. Since the JLPT is administered in December every year, if you wish to fully prepare for the test, the instructor strongly recommends that you take JPAN 482 first in the spring of the same year. For example, if you plan to take the test in December, 2010, start taking 482 in the spring 2010 and take 481 in the fall 2010. Different from other courses, this full-year course begins in the spring and ends in the fall, because the test is given in December. However, participation in 482 is optional.
For BA Students: Advanced Language Course
Course usually offered in fall term
Prerequisites: Completion of the JPAN 312 or 382 or the equivalent.
Activity: Lecture
1 Course Unit
Notes: Offered through Penn Language Center.

JPAN 482 Advanced Japanese for Proficiency II
This course is for students with an advanced-low or advanced-mid background in Japanese, aiming to strengthen the four language skills (speaking, reading, writing, and listening) and to deepen their understanding of Japanese culture. The class will use authentic Japanese through media, such as newspapers, television, and articles, regarding Japanese culture and society as well as current news. Students will narrate, describe, and express their opinions with details, examples, and strong reasoning, using sophisticated terms and phrases related such topics.
For BA Students: Advanced Language Course
Course usually offered in spring term
Prerequisites: Japanese proficiency test and permission of instructor.
Offered through the Penn Language Center.
Activity: Lecture
1 Course Unit

JPAN 491 Readings in Classical Japanese I
Readings in classical texts drawn from the Heian, Kamakura, Muromachi, and Edo periods. Introduction to the different styles of classical Japanese, and to classical Japanese as a whole.
For BA Students: Advanced Language Course
Taught by: Chance, L.
Course usually offered in fall term
Also Offered As: EALC 251, EALC 651
Prerequisites: Completion of JPAN 212 or equivalent.
Activity: Lecture
1 Course Unit

JPAN 492 Readings in Classical Japanese II
Readings in classical texts drawn from the Heian, Kamakura, Muromachi, and Edo periods. Introduction to the different styles of classical Japanese, and to classical Japanese as a whole.
Taught by: Chance
Course usually offered in spring term
Also Offered As: EALC 252, EALC 652
Prerequisite: JPAN 212
Activity: Lecture
1 Course Unit
JPAN 511 Readings in Advanced Japanese
Readings in advanced literary and journalistic texts written in modern Japanese.
For BA Students: Advanced Language Course
Two terms. student must enter first term.
Prerequisites: Completion of JPAN 412 or the equivalent.
Activity: Lecture
1 Course Unit

JPAN 512 Readings Advanced Japanese II
Readings in advanced literary and journalistic texts written in modern Japanese.
For BA Students: Advanced Language Course
Two terms. student may enter either term.
Prerequisites: Completion of JPAN 511 or the equivalent.
Activity: Lecture
1 Course Unit

JPAN 515 Japanese-English Translation
In this course, students learn basic techniques and skills in translation through hands-on practices. Depending on the interests of enrolled students, both literary and non-literary texts are drawn from a wide range of fields, including popular culture (e.g. manga, animation, film, game, music, and short story), religion, law, and medicine. As students read papers pertinent to principles and problems of translation from Japanese to English, they acquire practical experience in translation tasks and approaches, learn cultural and communicative differences between Japanese and English, and familiarize themselves with ethics and resources.
Taught by: Nishimura
Activity: Lecture
1 Course Unit

Jewish Studies Program (JWST)

JWST 016 Freshman Seminar
Course not offered every year
Also Offered As: GRMN 022, MUSC 018
Activity: Seminar
1 Course Unit

JWST 031 Beginning Yiddish
Yiddish is a 1000-year-old language with a rich cultural heritage.
YDSH 101, the first in the Beginning Yiddish language series, introduces the student who has no previous knowledge of the language to the skills of reading, writing, and speaking Yiddish. Starting with the alphabet, students study grammar, enriched by cultural materials such as song, literature, folklore, and film, as well as the course on-line Blackboard site, to acquire basic competency. By the end of the first semester, students will be able to engage in simple conversations in the present tense, know common greetings and expressions, and read simple texts, including literature, newspapers, songs, and letters. Students are encouraged to continue with YDSH 102/ JWST 032/ YDSH 501 in the Spring. Four semesters of Yiddish fulfill the Penn Language Requirement.
For BA Students: Language Course
Course usually offered in fall term
Also Offered As: YDSH 101, YDSH 501
Activity: Lecture
1 Course Unit

JWST 032 Beginning Yiddish II
In this course, you can continue to develop basic reading, writing and speaking skills. Discover treasures of Yiddish culture: songs, literature, folklore, and films.
For BA Students: Language Course
Course usually offered in spring term
Also Offered As: YDSH 102, YDSH 502
Prerequisites: JWST 031 or permission of the instructor.
Activity: Lecture
1 Course Unit

JWST 033 Intermediate Yiddish I
A continuation of JWST 032/ YDSH 102, Beginning Yiddish II, this course develops the skills of reading, writing, and speaking Yiddish on the intermediate level through the study of grammar and cultural materials, such as literature, newspapers, films, songs, radio programs.
For BA Students: Language Course
Taught by: Hellerstein
Course usually offered in fall term
Also Offered As: YDSH 103, YDSH 503
Prerequisite: GRMN 402 or equivalent
Activity: Lecture
1 Course Unit

JWST 034 Intermediate Yiddish II
Continuation of JWST 033; emphases in reading texts and conversation.
For BA Students: Last Language Course
Taught by: Hellerstein
Course usually offered in spring term
Also Offered As: YDSH 104, YDSH 504
Prerequisite: GRMN 403 or permission of the instructor
Activity: Lecture
1 Course Unit

JWST 051 Elementary Modern Hebrew I
An introduction to the skills of reading, writing, and conversing in modern Hebrew. This course assumes no previous knowledge of Hebrew.
For BA Students: Language Course
Two terms. student may enter either term.
Also Offered As: HEBR 051, HEBR 651
Activity: Lecture
1 Course Unit

JWST 052 Elementary Modern Hebrew II
A continuation of HEBR 051, First Year Modern Hebrew, which assumes basic skills of reading and speaking and the use of the present tense. Open to all students who have completed one semester of Hebrew at Penn with a grade of B- or above and new students with equivalent competency.
For BA Students: Language Course
Two terms. student may enter either term.
Also Offered As: HEBR 052, HEBR 652
Prerequisite: HEBR 051 or permission of instructor
Activity: Lecture
1 Course Unit

JWST 053 Elementary Modern Hebrew III
A continuation of HEBR 052, Second Year Modern Hebrew, which assumes basic skills of reading and speaking and the use of the present tense. Open to all students who have completed one semester of Hebrew at Penn with a grade of B- or above and new students with equivalent competency.
For BA Students: Language Course
Two terms. student may enter either term.
Also Offered As: HEBR 053, HEBR 653
Prerequisite: HEBR 052 or permission of instructor
Activity: Lecture
1 Course Unit

JWST 054 Elementary Modern Hebrew IV
A continuation of HEBR 053, Third Year Modern Hebrew, which assumes basic skills of reading and speaking and the use of the present tense. Open to all students who have completed one semester of Hebrew at Penn with a grade of B- or above and new students with equivalent competency.
For BA Students: Language Course
Two terms. student may enter either term.
Also Offered As: HEBR 054, HEBR 654
Prerequisite: HEBR 053 or permission of instructor
Activity: Lecture
1 Course Unit
**JWST 053 Intermediate Modern Hebrew III**

Development of the skills of reading, writing, and conversing in modern Hebrew on an intermediate level. Open to all students who have completed two semesters of Hebrew at Penn with a grade of B- or above and new students with equivalent competency.

For BA Students: Language Course
One-term course offered either term
Also Offered As: HEBR 053, HEBR 653
Prerequisites: HEBR 052 or permission of the instructor.
Activity: Lecture
1 Course Unit

**JWST 054 Intermediate Modern Hebrew II**

This course constitutes the final semester of Intermediate Modern Hebrew. Hence, one of the main goals of the course is to prepare the students for the proficiency exam in Hebrew. Emphasis will be placed on grammar skills and ability to read literary texts. Open to all students who have completed three semesters of Hebrew at Penn with a grade of B- or above and new students with equivalent competency.

For BA Students: Last Language Course
One-term course offered either term
Also Offered As: HEBR 054, HEBR 654
Prerequisites: HEBR 053 or permission of instructor.
Activity: Lecture
1 Course Unit

**JWST 059 Advanced Modern Hebrew: Reading and Composition**

After four semesters of language study, it’s time to enter the vibrant world of contemporary Israeli culture. In this course students read some of the best plays, poems, short stories, and journalism published in Israel today. They also watch and analyze some of Israel’s most popular films, TV programs, and videos. Themes include Jewish-Arab relations, the founding of the State, family ties and intergenerational conflict, war and society, and the recent dynamic changes in Israel society. HEBR 054 or permission of instructor. Since the content of this course may change from year to year, students may take it more than once (but only once for credit).

For BA Students: Advanced Language Course
Taught by Engel
One-term course offered either term
Also Offered As: HEBR 059, HEBR 552
Prerequisite: HEBR 054 or permission of instructor
Activity: Lecture
1 Course Unit

**JWST 100 THEMES JEWISH TRADITION: Iberian Conversos: Jew-Christian?**

Course topics will vary; they have included The Binding of Isaac, Responses to Catastrophes in Jewish History, Holy Men & Women (Ben-Amos); Rewriting the Bible (Dohrmann), Performing Judaism (Fishman); Jewish Political Thought (Fishman); Jewish Esotericism (Lorberbaum) Democratic culture assumes the democracy of knowledge - the accessibility of knowledge and its transparency. Should this always be the case? What of harmful knowledge? When are secrets necessary? In traditional Jewish thought, approaching the divine has often assumed an aura of danger. Theological knowledge was thought of as restricted. This seminar will explore the "open" and "closed" in theological knowledge, as presented in central texts of the rabbinic tradition: the Mishnah, Maimonides and the Kabbalah. Primary sources will be available in both Hebrew and English. Spring 2017: IBERIAN CONVERSOS: JEW? CHRISTIAN? STUCZYNSKI This course is simultaneously an introduction to the converso (Marrano, New Christian or Anusim) phenomenon and a historiographical reassessment of many of its central debated issues such as: religious identity, theology, ethnicity, economy and society, the influence of suspicion, persecution and exclusion in the converso group, and the question of modernity. Primarily focused on late medieval and early modern Spain and Portugal, including their colonies in America, Africa and Asia, the course will also deal with the converso diaspora, whether Jewish-Sephardic or Christian, as well as with later reverberations during the 20th-21st centuries, in Portugal's Belmonte, the American Southwest and Spanish Majorca.

For BA Students: History and Tradition Sector
Taught by: Ben-Amos/Dohrmann/Fishman (Spring 2017: Claude Stuczynski)
Course not offered every year
Also Offered As: NELC 252, RELS 129
Activity: Seminar
1 Course Unit

**JWST 103 The Messianic Impulse in Jewish History**

Taught by: Ruderman
One-term course offered either term
Also Offered As: HIST 101
Activity: Seminar
1 Course Unit

**JWST 113 Major Western Religious Thinkers**

Introduction to the writings of one or two significant western religious thinkers, designed for those who have no background in religious thought. Possible thinkers to be studied: Augustine, Maimonides, Spinoza, Luther, Teresa of Avila, Edwards, Mendelssohn, Kierkegaard, DuBois, Bonhoeffer, King.

Course not offered every year
Also Offered As: RELS 113
Activity: Seminar
1 Course Unit
JWST 122 Religions of the West
This course surveys some of the core beliefs and practices within Judaism, Christianity, and Islam. To do so, we will focus on history and memory, exploring how key figures and formative events from the past have been made present, from generation to generation, through scripture, ritual, liturgy, and remembrance. Special attention will be given to points of interaction between Jews, Christians, and Muslims, as well as to the impact of their intertwined histories on the formation and development of Western cultures. Fulfills History & Tradition Sector.
For BA Students: History and Tradition Sector
Taught by: Reed
One-term course offered either term
Also Offered As: RELS 002
Activity: Lecture
1 Course Unit

JWST 126 Jewish Mysticism
Survey of major periods of development of mystical speculation and experience within Judaism. Mystical symbolism as a basis for theosophical interpretations of Torah, Immanentist theologies, mystical ethics, Types of experiences and practices which were cultivated by Jewish mystics in order to achieve intimate communion with the Divine and to facilitate a sacred transformation of themselves and the world. Includes "Riders of the Chariot", The Zohar (Book of Splendor), Lurianic Kabbalah, Hasidism.
Course not offered every year
Also Offered As: NELC 186, RELS 126
Activity: Lecture
1 Course Unit

JWST 130 American Jewish Experience
This course offers a comprehensive survey of American Jewish history from the colonial period to the present. It will cover the different waves of Jewish immigration to the United States and examine the construction of Jewish political, cultural, and religious life in America. Topics will include: American Judaism, the Jewish labor movement, Jewish politics and popular culture, and the responses of American Jews to the Holocaust and the State of Israel.
Taught by: Wenger
Course usually offered in fall term
Also Offered As: HIST 150, RELS 124
Activity: Lecture
1 Course Unit

JWST 131 How To Read the Bible
While the Bible may be the most read text in the world, it is not clear that anyone understands what it actually means. Secular scholars read the Bible as they would any other ancient document, trying to understand who wrote it and what it reveals about the past, but that is not how the Bible is understood by hundreds of millions of readers who embrace it as a message from God and read its contents not just to learn about the past but to understand what the meaning of life is, how to be a good person, and where the world is headed. How is it that the Bible is read in such different ways by the secular and the religious? Who is right in the struggle over its meaning, and how does one go about deciphering that meaning in the first place?
Taught by: Weitzman
Also Offered As: NELC 153, RELS 130
Activity: Seminar
1 Course Unit

JWST 136 Death and the Afterlife in Ancient Judaism and Christianity
This course surveys the development of concepts about death and the afterlife in Judaism and Christianity, exploring the cultural and socio-historical contexts of the formation of beliefs about heaven and hell, the end of the world, martyrdom, immortality, resurrection, and the problem of evil. Readings cover a broad range of ancient sources, including selections from the Hebrew Bible and New Testament, as well as other Jewish and Christian writings (e.g., "apocrypha," "pseudepigrapha," Dead Sea Scrolls, classical rabbinc literature, Church Fathers, "gnostic" and "magical" materials). In the process, this course introduces students to formative eras and ideas in the history of Judaism, Christianity, and Western culture.
One-term course offered either term
Also Offered As: RELS 136
Activity: Lecture
1 Course Unit

JWST 150 Introduction to the Bible (The "Old Testament")
A survey of the major themes and ideas of the Bible, with special attention paid to the contributions of archaeology and modern Biblical scholarship, including Biblical criticism and the response to it in Judaism and Christianity.
For BA Students: Humanities and Social Science Sector
Taught by: Tigay
Course usually offered in fall term
Also Offered As: NELC 150, RELS 125
Activity: Lecture
1 Course Unit

JWST 151 Re-Reading Aggadah Talmud
The Babylonian Talmud, known simply as the Bavli, is the collaborative effort of generations of sages and the foundational legal and ethical document of rabbinic Judaism. It is one of the best read works of world literature, and it is the most widely disseminated and revered rabbinic work. Part of the magnetic pull of this text is the fact that it not only contains legal discussions and rulings but rather it encompasses also theology, magic, rabbinic stories, medicine and history. These non-legal narratives are an essential part of the Talmud and its interpretation was always as varied as the schools of interpreters and it evolved creatively throughout the generations. In the past century, advances in theories of how to read these narratives have opened up new avenues for understanding what the text says and its meanings. This course will examine in-depth several demonstrative non legal narratives (aggadah) of the Talmud through the lens of the evolution of the major critical schools of the past century and contrast them with the interpretation approach of the various traditional schools throughout the ages. The course will start with an analysis of the definition of aggadah and its distinction from the legal content of the Talmud, moving on to analyzing narratives and evaluating chronologically how these various interpretative schools dealt with the text. The course will further investigate how these various schools dealt with the evolution of sugyot between the Babylonian and Palestinian Talmuds. All Texts will be read in the original but translations will be provided. Basic knowledge or previous study of Talmud is recommended.
For BA Students: Arts and Letters Sector
Taught by: Bergmann
Course usually offered in fall term
Also Offered As: COML 057, NELC 156, RELS 027
Activity: Seminar
1 Course Unit
JWST 152 Introduction to Jewish Law
An introduction to the literary and legal sources of Jewish law within an historical framework. Emphasis will be placed upon the development and dynamics of Jewish jurisprudence, and the relationship between Jewish law and social ethics.
Course usually offered in fall term
Activity: Seminar
1 Course Unit
Notes: Freshman Seminar

JWST 153 Jewish Literature in the Middle Ages in Translation
Course explores the cultural history of Jews in the lands of Islam from the time of Mohammed through the late 17th century (end of Ottoman expansion into Europe) --in Iraq, the Middle East, al-Andalus and the Ottoman Empire. Primary source documents (in English translation) illuminate minority-majority relations, internal Jewish tensions (e.g., Qaraism), and developments in scriptural exegesis, rabbinic law, philosophy, poetry, polemics, mysticism and liturgy. Graduate students have additional readings and meetings. Spring 2015
Taught by: Fishman
One-term course offered either term
Also Offered As: COML 257, NELC 158, NELC 458, RELS 223
Activity: Seminar
1 Course Unit

JWST 154 Modern Hebrew Literature and Culture in Translation
This course follows and analyzes the transformations in Israeli literature and cinema. The focus and the specific topic of the study changes from semester to semester. Topics include: The Holocaust; The Image of Childhood; Dream, Fantasy and Madness; Love and War; The Many Voices of Israel; The Image of the City; and other topics. While Israeli works constitute much of the course's material, European and American film and fiction play comparative roles. 5-6 film screenings per semester; The content of this course changes from semester to semester, and therefore, students may take it for credit more than once. This topic course explores aspects of Hebrew Literature, Film, and Culture. Specific course topics vary from semester to semester. See the Cinema and Media Studies (...NELC, JWST, ENGL, COML) website for a description of the current offerings. This course will follow and analyze the transformation of Israeli literature and cinema from instruments of suppression into a means of processing this national trauma. While Israeli works constitute much of the course's material, European and American film and fiction play comparative roles.
For BA Students: Arts and Letters Sector
Taught by: Gold
One-term course offered either term
Also Offered As: CIMS 159, COML 282, NELC 159
Activity: Lecture
1 Course Unit
Notes: There will be five film screenings; the films will also be placed on reserve at the library for those students unable to attend. The content of this course changes from year to year, and therefore, students may take it for credit more than once.

JWST 156 Jews and Judaism in Antiquity: History of Jewish Civilization I
The course is an overview of Jewish history, culture, and society from its biblical settings through the Hellenistic-Roman, and rabbinic periods. We will trace the political, social, and intellectual-religious, and literary development of Judaism from its beginnings through the Second Temple period to the formation and evolution of Rabbinic Judaism. Topics to be covered include: the evolution of biblical thought and religious practice over time; Jewish writing and literary genres; varieties of Judaism; Judaism and Imperialism; the emergence of the rabbinic class and institutions.
For BA Students: History and Tradition Sector
Taught by: Dohrmann
Course usually offered in fall term
Also Offered As: HIST 139, NELC 051, NELC 451, RELS 120
Activity: Lecture
1 Course Unit

JWST 157 Medieval and Early Modern Jewry
Exploration of intellectual, social, and cultural developments in Jewish civilization from the rise of Islam in the seventh century to the assault on established conceptions of faith and religious authority in 17th century Europe, that is, from the age of Mohammed to that of Spinoza. Particular attention will be paid to the interaction of Jewish culture with those of Christianity and Islam.
For BA Students: History and Tradition Sector
Taught by: Ruderman
Course usually offered in fall term
Also Offered As: HIST 140, NELC 052, RELS 121
Activity: Lecture
1 Course Unit

JWST 158 Jews in the Modern World: History of Jewish Civilization III
This course offers an intensive survey of the major currents in Jewish culture and society from the late middle ages to the present. Focusing upon the different societies in which Jews have lived, the course explores Jewish responses to the political, socio-economic, and cultural challenges of modernity. Topics to be covered include the political emancipation of Jews, the creation of new religious movements within Judaism, Jewish socialism, Zionism, the Holocaust, and the emergence of new Jewish communities in Israel and the United States. No prior background in Jewish history is expected.
For BA Students: History and Tradition Sector
Taught by: Wenger
Course usually offered in spring term
Also Offered As: HIST 141, NELC 053, RELS 122
Activity: Lecture
1 Course Unit

JWST 159 The Historical Origins of Racism: Views of Blacks in Early Judaism, Christianity, and Islam
The course examines views and attitudes towards black Africans as found in the ancient and medieval sources of Judaism, Christianity, and Islam. We will attempt to discover the relationship between these views and racism in Western civilization.
Course not offered every year
Also Offered As: RELS 119
Activity: Lecture
1 Course Unit
JWST 162 Women in Jewish Literature
This course will introduce Penn students of literature, women’s studies, and Jewish studies—both undergraduates and graduates—to the long tradition of women as readers, writers, and subjects in Jewish literature (in translation from Yiddish, Hebrew, and in English). By examining the interaction of culture, gender, and religion in a variety of literary works by Jewish authors, from the seventeenth century to the present, the course will argue for the importance of Jewish women’s writing. Authors include Glikl of Hameln, Cynthia Ozick, Anzia Yezierska, Kadya Molodowsky, Esther Raab, Anne Frank, and others. “Jewish woman, who knows your life? In darkness you have come, in darkness do you go.” J. L. Gordon (1890)
Taught by: Hellerstein
Course not offered every year
Also Offered As: GRMN 262
Activity: Seminar
1 Course Unit

JWST 171 Elementary Biblical Hebrew I
This course is an introduction to Biblical Hebrew. It assumes no prior knowledge, but students who can begin to acquire a reading knowledge of the Hebrew alphabet before class starts will find it extremely helpful. The course is the 1st of a 4-semester sequence whose purpose is to prepare students to take courses in Bible that demand a familiarity with the original language of the text.
For BA Students: Language Course
Taught by: Carasik
Course usually offered in fall term
Also Offered As: HEBR 151, HEBR 451, JWST 471
Activity: Lecture
1 Course Unit

JWST 173 Intermediate Biblical Hebrew I
This course will focus on using the grammar and vocabulary learned at the introductory level to be able to read Biblical texts independently and take advanced Bible exegesis courses. We will also work on getting comfortable with the standard dictionaries, concordances, and grammars used by scholars of the Bible. We will concentrate on prose this semester, closely reading Ruth, Jonah, and other prose selections. We will begin to translate from English into Biblical Hebrew, and there will also be a unit on the cantillation/punctuation marks used in the Bible. A suitable entry point for students who know modern Hebrew or have previously learned Biblical Hebrew in a less demanding framework.
For BA Students: Language Course
Taught by: Carasik
Course usually offered in fall term
Also Offered As: HEBR 153, HEBR 453, JWST 473
Prerequisites: Successful completion of HEBR 152 or permission of the instructor.
Activity: Lecture
1 Course Unit

JWST 199 Directed Readings
A tutorial under the direction of a member of the Jewish Studies Program faculty. Student and faculty member will create a reading list designed to achieve specific goals. The students will meet regularly with the faculty member and submit written assignments. Prior approval and sponsorship by a Jewish Studies Program faculty member is needed to take the course.
One-term course offered either term
Activity: Independent Study
1 Course Unit

JWST 201 Major Seminar in History: Europe Before 1800
One-term course offered either term
Also Offered As: HIST 211
Activity: Seminar
1 Course Unit

JWST 202 Major Seminar in History: Europe After 1800
One-term course offered either term
Also Offered As: HIST 202, JWST 502
Activity: Seminar
1 Course Unit

JWST 213 The Religious Other
Course explores attitudes toward monotheists of other faiths, and claims made about these "religious Others" in real and imagined encounters between Jews, Christians and Muslims from antiquity to the present. Strategies of "othering" will be analyzed through an exploration of claims about the Other's body, habits and beliefs, as found in works of scripture, law, theology, polemics, art, literature and reportage. Attention will be paid to myths about the other, inter-group violence, converts, cases of cross-cultural influence, notions of toleration, and perceptions of Others in contemporary life. Primary sources will be provided in English.
Taught by: Fishman
Course not offered every year
Also Offered As: COML 205, NELC 383, RELS 203
Activity: Seminar
1 Course Unit

JWST 215 Re-Reading the Holocaust
This course explores the Holocaust as an historical event. Beginning in the mid-1940s, with the first attempts to narrate what had transpired during the Nazi era, this seminar traces the ways that the Holocaust became codified as a distinct episode in history. We will examine documentary films, memoirs, survivor testimonies, as well as other scholarly and popular representations of the Holocaust. Students will be introduced to unfamiliar sources and also asked to reconsider some well-known Holocaust documents and institutions.
Taught by: Wenger
Also Offered As: HIST 231
Activity: Seminar
1 Course Unit

JWST 222 Topics in Medieval Jewish Cultures
Topics vary
Course not offered every year
Also Offered As: RELS 222
Activity: Seminar
1 Course Unit

JWST 225 Introduction to the Dead Sea Scrolls
Exploration of the issues relating to the identification and history of the people who produced and used these materials as well as the claims made about the inhabitants of the Qumran site near the caves in which the scrolls were discovered, with a focus on what can be known about the community depicted by some of the scrolls, its institutions and religious life, in relation to other known Jewish groups at that time (the beginning of the common era). This will involve detailed description and analysis of the writings found in the caves -- sectarian writings, "apocrypha" and "pseudepigrapha" biblical texts and interpretations.
Course not offered every year
Also Offered As: NELC 251, RELS 225
Activity: Seminar
1 Course Unit
JWST 227 Modern Jewish Thought
Through a reading of such thinkers as Martin Buber, Gershom Scholem and Franz Rosenzweig, the course will address some of the fundamental issues in modern Jewish thought and experience.
Course not offered every year
Also Offered As: PHIL 255, RELS 227
Activity: Seminar
1 Course Unit

JWST 233 Jesus and Judaism
Course not offered every year
Also Offered As: RELS 231
Activity: Seminar
1 Course Unit

JWST 236 Topics in Israeli Culture
This course examines general themes and trends in Israeli history, culture, and society. The specific focus of this course will vary, depending on topic and instructor.
Course not offered every year
Also Offered As: SOCI 231
Activity: Seminar
1 Course Unit

JWST 241 Topics in Judaism and Islam
Course not offered every year
Activity: Seminar
1 Course Unit

JWST 244 Miracles to Mindfulness
In 1902, the most famous philosopher in America, William James, revolutionized the study of religion by analyzing religion as an experience rather than as a set of doctrines or scriptures. In this course, we will pick up the inquiry that James and scholars such as Sigmund Freud began by exploring new approaches to the science and philosophy of religious experience. We will invite a series of experts from a wide range of fields--neuroscience, psychoanalysis, phenomenology, psychology, anthropology, to name only a few--to present their cutting-edge research on the nature of religious experience. How can religious experience be studied? What does the research reveal about religious experience? And what can we learn from such experiences about the workings of the human mind and human society? The course has two components: 1) a discussion-centered mini-seminar from 3:30-5:00 will open consideration of the subject with help from relevant readings 2) a guest lecture series every Tuesday from 5:00-6:30, nary angles or in light featuring leading scholars who approach religious experience from different disciplinary angles or in light of different questions.
Taught by: Steve Weitzman, Phil Webster
Also Offered As: RELS 244
Activity: Lecture
1 Course Unit

JWST 248 Arab Israeli Relations
One-term course offered either term
Also Offered As: PSCI 251
Activity: Recitation
1 Course Unit

JWST 255 The Bible in Translation
This course introduces undergraduates and graduate students to one specific Book of the Hebrew Bible. "The Bible in Translation" involves an in-depth reading of a biblical source against the background of contemporary scholarship. Depending on the book under discussion, this may also involve a contextual reading with other biblical books and the textual sources of the ancient Near East. Although no prerequisites are required, NELC 250 is a perfect follow-up course for NELC 150 "Intro to the Bible."
Taught by: Cranz
One-term course offered either term
Also Offered As: COML 380, NELC 250, NELC 550, RELS 224
Activity: Seminar
1 Course Unit
Notes: May be repeated for credit.

JWST 256 Studies in the Hebrew Bible
This course introduces students to the methods and resources used in the modern study of the Bible. To the extent possible, these methods will be illustrated as they apply to a single book of the Hebrew Bible that will serve as the main focus of the course. The course is designed for undergraduates who have previously studied the Bible in Hebrew either in high school or college. The course is designed for undergraduates who have previously studied the Bible in Hebrew either in high school or college. It presupposes fluency in reading and translating Biblical Hebrew and a working knowledge of Biblical Hebrew grammar.
One-term course offered either term
Also Offered As: COML 228, HEBR 250, RELS 220
Activity: Lecture
1 Course Unit
JWST 258 Studies in Medieval Hebrew Literature
This course will introduce students to the modern academic study of the different genres of medieval Jewish literature—poetry, narrative, interpretation of the Bible, liturgy, historiography, philosophy, sermonic, mystical and pietistic writings. In addition to studying the primary texts, the course will also explore the historical, religious, and cultural contexts in which these texts were first produced and then studied, and the aspects of Jewish historical experience that these texts reflect. The specific topic of the course (eg. Medieval Biblical Interpretation, Kabbalah) will vary from semester to semester. In some cases, the specific topic may also be the work of a specific author, like Maimonides. Primary sources will be read in their original Hebrew. While no previous experience in studying these texts is required, students should be able to read unpointed Hebrew texts. If there is a question as to whether the course is appropriate for you, please contact the professor.
Taught by: Stern/Fishman
Course usually offered in fall term
Also Offered As: FOLK 258, HEBR 258, NELC 285, RELS 228
Prerequisite: Reading knowledge of Hebrew
Activity: Seminar
1 Course Unit

JWST 259 Introduction to Modern Hebrew Literature
The objective of this course is to develop an artistic appreciation for literature through in-depth class discussions and text analysis. Readings comprised of Israeli poetry and short stories. Students examine how literary language expresses psychological and cultural realms. The covers topics such as: the image of the Israeli city, the conflict between individual dreams and national/Zionist goals, etc. Because the content of this course changes from year to year, students may take it for credit more than once.
For BA Students: Arts and Letters Sector
Taught by: Gold
Course usually offered in fall term
Also Offered As: COML 266, HEBR 259, HEBR 559
Prerequisites: HEBR 059 or equivalent.
Activity: Seminar
1 Course Unit
Notes: This course is conducted in Hebrew and all readings are in Hebrew. Grading is based primarily on participation and students’ literary understanding. (HEBR 054 or equivalent required)

JWST 260 Jewish Folklore
The Jews are among the few nations and ethnic groups whose oral tradition occurs in literary and religious texts dating back more than two thousand years. This tradition changed and diversified over the years in terms of the migrations of Jews into different countries and the historical, social, and cultural changes that these countries underwent. The course attempts to capture the historical and ethnic diversity of Jewish folklore in a variety of oral literary forms.
Taught by: Ben-Amos
One-term course offered either term
Also Offered As: COML 283, FOLK 280, NELC 258
Activity: Lecture
1 Course Unit

JWST 261 Topics in Jewish-American Literature
From the 1922 silent film "Hungry Hearts" through the first "talkie," "The Jazz Singer" produced in 1927, and beyond "Schindler's List" Jewish characters have confronted the problems of their Jewishness on the silver screen for a general American audience. Alongside this Hollywood tradition of Jewish film, Yiddish film blossomed from independent producers between 1911 and 1939, and interpreted literary masterpieces, from Shakespeare's "King Lear" to Sholom Aleichem's "Tveye the Dairyman," primarily for an immigrant, urban Jewish audience. In this course, we will study a number of films and their literary sources (in fiction and drama), focusing on English language and Yiddish films within the framework of three dilemmas of interpretation: a) the different ways we "read" literature and film, b) the various ways that the media of fiction, drama, and film "translate" Jewish culture, and c) how these translations of Jewish culture affect and are affected by their implied audience.
For BA Students: Arts and Letters Sector
Taught by: Hellerstein
Course not offered every year
Also Offered As: CIMS 279, COML 265, COML 277, GRMN 261, GRMN 263
Activity: Seminar
1 Course Unit

JWST 262 Jewish Literature in Translation
The course explores an aspect of 20th-century literature intensively; specific course topics will vary from year to year. Fall 2016 - REPRESENTATION OF THE HOLOCAUST IN LITERATURE AND FILM: This discussion-centered course is about the enormous difficulties faced by those who felt the urgent need to describe their own or others' experiences during the genocide of the European Jews, 1933-1945. We will explore the complex options they have faced as narrators, witnesses, allegorists, memoirists, scholars, teachers, writers and image-makers. Some linguistically (or visually) face the difficulty head on; most evade, avoid, repress, stutter or go silent, and agonize. One purpose of the course is for us to learn how to sympathize with the struggle of those in the latter group. This is not a history course, although the vicissitudes of historiography will be a frequent topic of conversation. Students will write frequent short papers, called position papers, due before class, in order to provide a basis for discussion. Students need not know anything about the Holocaust, although enrollees should consider historical reading over the summer.
Taught by: Filreis
Course not offered every year
Also Offered As: CIMS 261, ENGL 261
Activity: Seminar
1 Course Unit

JWST 263 Topics in Jewish Literature
Also Offered As: ENGL 255
Activity: Seminar
1 Course Unit
JWST 265 Yiddish in Eastern Europe
This course presents the major trends in Yiddish literature and culture in Eastern Europe from the mid-19th century through World War II. Divided into four sections - "The Shtetl," "Religious vs. Secular Jews," "Language and Culture," and "Confronting Destruction" - this course will examine how Jews expressed the central aspects of their experience in Eastern Europe through history, literature (fiction, poetry, drama, memoir), film, and song. Taught by: Hellerstein
One-term course offered either term
Also Offered As: EEUR 265, GRMN 265, GRMN 565, JWST 465
Activity: Lecture
1 Course Unit
Notes: All readings and lectures in English.

JWST 266 Jewish Art
Jewish Art provides a survey of art made by and for Jews from antiquity to the present. It will begin with ancient synagogues and their decoration, followed by medieval manuscripts. After a discussion of early modern representation of Jews in Germany and Holland (esp. Rembrandt), it focuses most intently on the past two centuries in Europe, American, and finally Israel and on painting and sculpture as Jewish artists began to pursue artistic careers in the wider culture. No prerequisites or Jewish background assumed.
Taught by: Silver
Course not offered every year
Also Offered As: ARTH 260, ARTH 660
Activity: Lecture
1 Course Unit

JWST 299 Independent Study
An independent study course culminating in a final written project. Prior approval and sponsorship by a member of the Jewish Studies Program faculty is needed to take the course.
One-term course offered either term
Activity: Independent Study
1 Course Unit

JWST 303 Power and Peril: The Paradox of Monarchy among Ancient Greeks, Romans, and Jews
We imagine Ancient Greece and Rome as the cradles of democracy and republicanism, the early Judea as pious theocracy, but the evidence tells us that monarchy was the most common and prevalent form of government in antiquity (and the premodern world in general). Despite their ubiquity, the King was a polarizing figure in reality and in conception. On the one hand, some idealized the monarchy as the ideal leader, and monarchy provided the language with which to describe and even imagine the very gods but on the other, monarchs were widely reviled in both theory and practice, from the Greek tyrant to biblical Saul. The Emperor Augustus loudly denied his own affinity to the office of king, even as he ruled alone and was revered as a god. In other words, kings stood both for the ideal ruler and the worst form of government. This class confronts the paradox of the King. This class will take a special look at the idea and institution of kingship in the Near East, among the Jews, Greeks, and Romans to assess and discuss similarities, differences, and mutual influences among these cultures. Through the lens of the king we will explore the idea of god, government, human frailty, and utopianism. Why did the rule of one prevail, why was it so attractive to so many? How was royal rule legitimized? What role did religious beliefs play for keeping a monarchical system stable? What did people expect from their rulers and what happened if the ruler failed to fulfill these expectations? How was the concept of monarchical rule adopted and transferred into other spheres, such as religious belief systems or hopes for messianic kingship? While kingship is a rich field of scholarly inquiry, the question of its ubiquity, and the entanglement and divergences of these three cultures is rarely studied in context and in comparison.
Taught by: Julia Wilker, Natalie Dohrmann
Also Offered As: ANCH 303, RELS 303
Activity: Seminar
1 Course Unit

JWST 305 Jewish Diaspora in the Roman Empire
Under the Roman Empire, Jewish communities developed and flourished especially in the cities of the Eastern Mediterranean, in Egypt, Syria, Asia Minor, Greece, Northern Africa, and Italy proper. In many of these cities, the Jews formed a considerable part of the population; they influenced the cultural, social, and political communal life and developed an identity that was distinctively different from that in Judea. In this seminar, we will trace Jewish life in the Diaspora under Roman rule. How did Jews and non-Jews interact? What was the legal status of Jewish communities under the Roman Empire? What caused conflicts and how were they solved? What can the history of Jewish Diaspora communities tell us about minorities in the Roman Empire in general? We will use literary texts, inscriptions, papyri, and archaeological material to answer these questions and many more.
Taught by: Wilker
Also Offered As: ANCH 305
Activity: Seminar
1 Course Unit
JWST 320 Spirit and Law
While accepting “the yoke of the commandments”, Jewish thinkers from antiquity onward have perennially sought to make the teachings of revelation more meaningful in their own lives. Additional impetus for this quest has come from overtly polemical challenges to the law, such as those leveled by Paul, medieval Aristotelians, Spinoza and Kant. This course explores both the critiques of Jewish Law, and Jewish reflections on the Law’s meaning and purpose, by examining a range of primary sources within their intellectual and historical contexts. Texts (in English translation) include selections from Midrash, Talmud, medieval Jewish philosophy and biblical exegesis, kabbalah, Hasidic homilies, Jewish responses to the Enlightenment, and contemporary attempts to re-value and invent Jewish rituals.
Taught by: Fishman
Course not offered every year
Also Offered As: JWST 520, NELC 454, RELS 321, RELS 520
Activity: Seminar
1 Course Unit

JWST 322 Israeli News Coverage Through Prism of Beat Reporting
This undergraduate seminar uses the case study of the Israeli news media in order to illustrate one of the most important lessons for the analysis of news processes and news products: how to stop thinking about the media as a monolithic entity and to adopt instead a more contextual, nuanced, domain-specific focus on news beats. The seminar is based on a combination of reading, discussion and a series of live Skype interviews with nine Israeli national news reporters in fields such as politics, business, the Arab world and Jerusalem affairs. These and other news beats constitute unique micro-cultures or subuniverses, each of which has its own standards, norms, dynamics, pressures and power relations. In each beat, journalists can develop interactional expertise in the reported matters. Their standards of knowledge and expertise are becoming especially consequential in this era of crisis in the media, when fewer news organizations have fewer resources, and reporters have less time and less encouragement to investigate what they report on, and during which new modes of knowledge and expertise continue to emerge as digital technologies advance.
Taught by: Reich
Activity: Seminar
1 Course Unit

JWST 351 A Book of the Bible
In-depth textual study of a book of the Hebrew Bible studied in the light of modern scholarship (including archaeology and ancient Near Eastern literature) as well as ancient and medieval commentaries. The book varies each semester and the course may be repeated for credit.
Course usually offered in fall term
Also Offered As: HEBR 350, HEBR 550, RELS 322
Prerequisites: Thorough command of Biblical Hebrew and prior experience studying the Bible in the original in high school, college, or a comparable setting. Language of instruction is in English.
Activity: Seminar
1 Course Unit
Notes: The course is designed primarily for undergraduates who have previously studied the Bible in Hebrew either in high school or college. It presupposes fluency in reading Biblical Hebrew, including a working knowledge of Biblical Hebrew grammar.

JWST 352 Classical Midrash & Aggadah
Readings in Rabbinic lore from classical Midrashic texts.
Taught by: Stern
Two terms. student may enter either term.
Also Offered As: HEBR 357, HEBR 657, JWST 552
Prerequisites: Students must be able to read an unpointed Hebrew text.
Activity: Lecture
1 Course Unit

JWST 355 Siddur and Piyut
A study of the institution of Jewish prayer, its literature, and synagogue poetry. Texts will be read in Hebrew with supplementary English readings.
Taught by Stern
Course not offered every year
Also Offered As: HEBR 358, HEBR 658
Prerequisites: AMES 052 or equivalent.
Activity: Lecture
1 Course Unit

JWST 356 Ancient Interpretation of the Bible
Christianity and Judaism are often called “Biblical religions” because they are believed to be founded upon the Bible. But the truth of the matter is that it was less the Bible itself than the particular ways in which the Bible was read and interpreted by Christians and Jews that shaped the development of these two religions and that also marked the difference between them. So, too, ancient Biblical interpretation—Jewish and Christian—laid the groundwork for and developed virtually all the techniques and methods that have dominated literary criticism and hermeneutics (the science of interpretation) since then. The purpose of this course is to study some of the more important ways in which the Bible was read and interpreted by Jews and Christians before the modern period, and particularly in the first six centuries in the common era. We will make a concerted effort to view these interpretive approaches not only historically but also through the lens of contemporary critical and hermeneutical theory in order to examine their contemporary relevance to literary interpretation and the use that some modern literary theorists (e.g. Bloom, Kermode, Derrida, Todorov) have made of these ancient exegetes and their methods. All readings are in English translation, and will include selections from Philo of Alexandria, the Dead Sea Scrolls, Rabbinic midrash, the New Testament and early Church Fathers, Gnostic writings, Origen, and Augustine. No previous familiarity with Biblical scholarship is required although some familiarity with the Bible itself would be helpful.
Taught by: Stern
Course not offered every year
Also Offered As: COML 556, JWST 555, NELC 356, RELS 418
Activity: Seminar
1 Course Unit
JWST 359 Seminar Modern Hebrew Literature
Spring 2017: Giants of Hebrew Literature - This course focuses on the central pillars of the Modern Hebrew literary canon and their impact on Israeli literature. Drawing from the ancient wells of Bible, Talmud, and Midrash, the poets H. N. Bialik (1873-1934), Saul Tchernichovsky (1875-1943), and the author S. Y. Agnon (1887-1970) provided future writers with the tools to express modern and post-modern sensibilities. They forged a new diction for passion and love and for representing the inner world, psychological insight and political assertions. Bialik's personal/political poems echo in Dahlia Ravikovitch's verse, and Tchernichovsky's haunting lines resurface in the recent poems of Natan Zach. Agnon's short stories inspired Amos Oz and Yehuda Amichai. We will compare the classic to the contemporary, and discuss the lasting power of these giants in the context of modern Israel. The class is conducted in Hebrew and the texts are read in the original. For BA Students: Arts and Letters Sector Taught by: Gold Course usually offered in spring term Also Offered As: CIMS 359, COLL 227, COML 359, HEBR 359 Prerequisite: HEBR 059 or HEBR 259 or permission of the instructor. This class is conducted in Hebrew and the texts are read in the original. The syllabus serves solely as an outline. The amount of material we cover depends on the pace of the class. Additionally, the packet contains significantly more material than will be studied in class to compensate for the difficulty of obtaining Hebrew texts in America. The content of this course changes from year to year and therefore students may take it for credit more than once.
Activity: Seminar
1 Course Unit

JWST 380 Modern Jewish Intellectual and Cultural History
An overview of Jewish intellectual and cultural history from the late 18th century until the present. The course considers the Jewish enlightenment Reform, Conservative and Neo-Orthodox Judaism, Zionist and Jewish Socialism thought, and Jewish thought in the 20th century, particularly in the context of the Holocaust. Readings of primary sources including Mendelsohn, Geige Hirsch, Herzl, Chad-ha-Am, Baeck, Buber, Kaplan, and others. No previous background is required.
Taught by: Ruderman One-term course offered either term Also Offered As: HIST 380, RELS 320 Activity: Lecture
1 Course Unit

JWST 390 Senior Research Seminar
JWST 390 is required of all students majoring in the Interdisciplinary Jewish Studies major, but all majors and minors in the various departmental programs are encouraged to take the seminar. Students will conduct independent research and complete a 20-30 page paper. Course usually offered in spring term Activity: Independent Study
1 Course Unit
Notes: Permit required

JWST 399 Senior Honors Thesis
Jewish Studies Honors majors must take JWST 399 in which they will design, with the guidance of an advisor, an individualized directed reading program culminating in the writing of an honors thesis. One-term course offered either term Activity: Independent Study
1 Course Unit

JWST 410 Topics in Medieval History
This seminar introduces students to the development of Jewish and Christian biblical interpretation by focusing on ancient, medieval, and modern interpretations of the Sermon on the Mount. The Sermon on the Mount is part of the Gospel of Matthew and is often considered to summarize the essential teachings of Jesus of Nazareth. Students will encounter a variety of important interpreters (including Origen, John Chrysostom, Augustine of Hippo, Thomas Aquinas, Martin Luther, Leo Tolstoy, Albert Schweitzer, Dietrich Bonhoeffer, Clarence Jordan, and Hans Dieter Betz), guided by appropriate secondary materials. The seminar will utilize a combination of lecture, discussion, student presentations, reports, close reading, and a research paper. Students will be encouraged to do original research in the primary sources. This course has no prerequisites. The readings will be made available in English. The class will utilize a combination of lecture, discussion, student presentations, reports, close reading, and a research paper.
Taught by: Treat One-term course offered either term Also Offered As: RELS 438 Activity: Seminar
1 Course Unit

JWST 419 Jewish-Christian Relations Through the Ages
This is a Bi-directional course which explores attitudes toward, and perceptions of, the religious "Other", in different periods of history. Themes include legislation regulating interactions with the Other, polemics, popular beliefs about the Other, divergent approaches to scriptural interpretation, and cross-cultural influences, witting and unwitting. Different semesters may focus on Late Antiquity, the Middle Ages, Early Modern period, or contemporary times. May be repeated for credit.
Taught by: Fishman Course not offered every year Also Offered As: RELS 419 Activity: Seminar
1 Course Unit

JWST 426 Rabbinic Writers on Rabbinic Culture
The course traces reflections on rabbinic culture produced within Jewish legal literature of the classic rabbinic period - Midrash, Mishna and Talmud - and in later juridical genres - talmudic commentary, codes and responsa. Attention will be paid to the mechanics of different genres, the role played by the underlying prooftext, the inclusion or exclusion of variant opinions, the presence of non-legal information, the balance between precedent and innovation. Reading knowledge of Hebrew is required.
Taught by: Fishman Course not offered every year Also Offered As: HEBR 486, RELS 426 Prerequisite: Reading knowledge of Hebrew Activity: Seminar
1 Course Unit
JWST 438 Readings in Modern Yiddish Literature
This course will survey modern Yiddish literature through readings of Yiddish prose and poetry from the end of the 19th century through the late 20th century. The class will be conducted in both Yiddish and English. Reading knowledge of Yiddish is required, although some texts will be available in English translation.
Taught by: Hellerstein
Course not offered every year
Also Offered As: YDSH 108, YDSH 508
Prerequisites: Reading knowledge of Yiddish.
Activity: Lecture
1 Course Unit

JWST 449 God and Nature: Readings on the Encounter between Jewish Thought and Science
God and Nature examines the place of the natural world, medicine, and science in Jewish thought from antiquity to the modern era. It looks especially at a body of primary sources in Hebrew written during the age of the so-called "scientific revolution" and during its aftermath. The course is a seminar open to undergraduate and graduate students with a reading knowledge of classical Hebrew. Students without Hebrew with special interest in the subject might enroll with special permission from the instructor.
Taught by: Ruderman
Also Offered As: HIST 449
Activity: Seminar
1 Course Unit

JWST 457 Spring 2016: Forbidden Talmud: Magic Demons, and Sex
Course will examine several key legal passages (sugyot) in the Babylonian Talmud from both a traditional and an academic perspective. After identifying important tensions and inconsistencies in each text, we will consider the disparate solutions posed by the early medieval rabbis (Rishonim) and contemporary scholars, and compare their respective approaches. Through these in-depth readings we will highlight how modern assumptions and goals for Talmud study differ from earlier approaches. Through these in-depth readings we will highlight how modern assumptions and goals for Talmud study differ from earlier approaches. Through these in-depth readings we will highlight how modern assumptions and goals for Talmud study differ from earlier approaches. Through these in-depth readings we will highlight how modern assumptions and goals for Talmud study differ from earlier approaches. Through these in-depth readings we will highlight how modern assumptions and goals for Talmud study differ from earlier approaches. Through these in-depth readings we will highlight how modern assumptions and goals for Talmud study differ from earlier approaches.
Taught by: Goldstein
Course usually offered in fall term
Also Offered As: HIST 449
Activity: Seminar
1 Course Unit

JWST 465 Yiddish in Eastern Europe
This course presents the major trends in Yiddish literature and culture in Eastern Europe from the mid-19th century through World War II. Divided into four sections - "The Shtetl," "Religious vs. Secular Jews," "Language and Culture," and "Confronting Destruction" - this course will examine how Jews expressed the central aspects of their experience in Eastern Europe through history, literature (fiction, poetry, drama, memoir), film, and song.
Taught by: Hellerstein
One-term course offered either term
Also Offered As: EEUR 265, GRMN 265, GRMN 565, JWST 265
Activity: Lecture
1 Course Unit
Notes: All readings and lectures in English.
JWST 520 Spirit and Law
While accepting "the yoke of the commandments", Jewish thinkers from antiquity onward have perennially sought to make the teachings of revelation more meaningful in their own lives. Additional impetus for this quest has come from overtly polemical challenges to the law, such as those leveled by Paul, medieval Aristotelians, Spinoza and Kant. This course explores both the critiques of Jewish Law, and Jewish reflections on the Law's meaning and purpose, by examining a range of primary sources within their intellectual and historical contexts. Texts (in English translation) include selections from Midrash, Talmud, medieval Jewish philosophy and biblical exegesis, kabbalah, Hasidic homilies, Jewish responses to the Enlightenment, and contemporary attempts to re-value and invent Jewish rituals.
Taught by: Fishman
Course not offered every year
Also Offered As: JWST 320, NELC 454, RELS 321, RELS 520
Activity: Seminar
1 Course Unit

JWST 523 Studies in Medieval Jewish Culture
Primary sources include readings from ancient, medieval and early modern Jewish texts. Students must be able to read unvocalized Hebrew. Open to undergraduates only with the instructor's permission.
Taught by: Fishman
Course usually offered in fall term
Also Offered As: HEBR 583, HIST 523, RELS 523
Prerequisites: Reading knowledge of Hebrew.
Activity: Seminar
1 Course Unit

JWST 524 Memory, Trauma, Culture
In recent years, studies of memory (both individual and cultural) have rivaled those of history, and have produced alternative narratives of events. At the same time, research has also focused on the rupture of narrative, the inability to find appropriate forms of telling, and the experience of a loss of words. The notion of trauma (Greek for "wound") may stand for such a rupture. Many kinds of narratives, most prominently the recollections of Holocaust survivors, are instances in which memories are invoked not only to come to terms with traumatic events, but also to inscribe trauma in various ways. In this seminar, we will read theoretical work on memory and trauma, discuss their implication for the study of literature, art, and culture, read select examples from Holocaust survivors' autobiographies (i.e. Primo Levi, Elie Wiesel), and discuss visual art (i.e. Boltanski, Kiefer) and film (i.e. Resnais, Lanzmann, Spielberg).
Taught by: Weissberg
Course not offered every year
Also Offered As: COML 539, GRMN 540
Activity: Seminar
1 Course Unit
Notes: All readings and lectures in English.

JWST 552 Classical Midrash and Aggadah
See description for JWST 352.
Taught by: Stern
Course not offered every year
Also Offered As: HEBR 357, HEBR 657, JWST 352
Prerequisites: Students must be able to read an unpointed Hebrew text.
Activity: Lecture
1 Course Unit

JWST 553 Seminar in Rabbinic Literature
This seminar will investigate biblical and other precedents for the idea of the messiah and the messianic age, and their interpretation and extension into both ancient Judaism and ancient Christianity. To what degree are Second Temple Jewish and early Christian ideas about the messiah an extension of ancient Israelite concepts? To what degree might they reflect a response or reaction to Hellenistic and Roman imperial ideologies? How (and when) did beliefs surrounding Jesus depart meaningfully from Jewish ideas about the messiah? How do Rabbinic Jewish traditions about the messiah and messianic age differ from their Christian counterparts, and is there evidence of any "influence"? These questions will be explored with a focus on primary source readings.
Taught by: Stern
Course usually offered in spring term
Also Offered As: HEBR 557, HIST 557, RELS 557
Prerequisites: Proficiency in Hebrew and/or Greek recommended. Undergraduates need permission to enroll.
Activity: Seminar
1 Course Unit
Notes: May be repeated for credit

JWST 555 Ancient Interpretation of the Bible
See NELC 356 for description. Graduate option would require a lengthier research paper.
Taught by: Stern
Course not offered every year
Also Offered As: COML 556, JWST 356, NELC 356, NELC 556, RELS 418
Activity: Seminar
1 Course Unit
Notes: May be repeated for credit
JWST 556 Seminar Modern Hebrew Literature: LITERATURE & IDENTITY
This course is for students who are interested in taking a literature course in Hebrew and are proficient in it. Grading is based primarily on students' literary understanding. There will be four 2-page written assignments over the course of the semester. We will discuss literary works that reflect Israelis’ struggle with their national identity, from the patriotic 1948 generation for whom self and country overlapped to contemporary writers who ask what it means to be Israeli. While Yehuda Amichai’s 1955 poem “I want to die in my bed” was a manifesto for individualism, the seemingly interminable Arab-Israeli conflict returned writers to the national, social, and political arenas starting in the 1980’s. Readings include poems by Natan Alterman, Amir Gilboa, Meir Wieseltier and Roni Somek as well as fiction by Amos Oz, David Grossman, Sayed Kashua, Alona Kimhi and Etgar Keret. Texts, discussions and papers in Hebrew. The content of This course changes from year to year so students may take it for credit more than once.
Taught by: Gold
Course not offered every year
Prerequisites: HEBR 059 or HEBR 259 or permission of the instructor.
This class is conducted in Hebrew and the texts are read in the original. The syllabus serves solely as an outline. The amount of material we cover depends on the pace of the class. Additionally, the packet contains significantly more material than will be studied in class to compensate for the difficulty of obtaining Hebrew texts in America. The content of this course changes from year to year and therefore students may take it for credit more than once.
Activity: Seminar
1 Course Unit

JWST 560 Topics in Philosophy and Literature
Taught by: Weissberg
Course not offered every year
Also Offered As: COML 559, GRMN 560, PHIL 551
Activity: Seminar
1 Course Unit
Notes: Topics vary.

JWST 582 Topics in Aesthetics
The course will study Arendt’s political theory, as developed in The Origins of Totalitarianism, and her controversial book Eichmann in Jerusalem. It will also consider essays collected in Men in Dark Times. (Fall 2016 course)
Taught by: Weissberg
Also Offered As: ARTH 560, COML 582, GRMN 580, PHIL 480
Activity: Seminar
1 Course Unit

JWST 620 Modern Jewish History
JWST 620 will be offered when the HIST 620 Colloquium subject matter is appropriate.
Course usually offered in fall term
Also Offered As: HIST 620, RELS 621
Activity: Seminar
1 Course Unit

JWST 650 Seminar in Biblical Studies
In-depth study of a special topic or problem in biblical studies.
Course usually offered in fall term
Also Offered As: HEBR 556, RELS 620
Prerequisite: Facility in Biblical Hebrew
Activity: Seminar
1 Course Unit

JWST 655 Siddur & Piyyut
A study of the institution of Jewish prayer, its literature, and synagogue poetry. Texts will be read in Hebrew with supplementary English readings.
Taught by: Stern
Course not offered every year
Also Offered As: HEBR 658
Activity: Seminar
1 Course Unit

JWST 699 Independent Study
One-term course offered either term
Activity: Independent Study
1 Course Unit

JWST 726 Readings and Research in Near Eastern Archaeology
Advanced seminar for students wishing to pursue study of field data, methods, theoretical problems in archaeology of Near East.
Course not offered every year
Activity: Seminar
1 Course Unit
Notes: May be repeated for credit

JWST 735 Seminar in Judaism and/or Christianity in the Hellenistic Era
Selected topics from current research interests relating to early Judaism and early Christianity.
Taught by: Kraft
Two terms. student may enter either term.
Also Offered As: CLST 735, RELS 735
Activity: Seminar
1 Course Unit
Notes: Knowledge of Greek Presupposed. Student may enter either term

Korean Language (KORN)

KORN 011 Elementary Korean I
This course is designed for students who have little or no knowledge of Korean. This course aims to develop foundational reading, writing, listening, and speaking skills through meaningful communicative activities and tasks. Upon successful completion of this course, students should be able to comprehend and carry on simple daily conversations and create simple sentences in the past, present, and future tenses. Students will learn how to introduce themselves, describe their surroundings, talk about daily lives, friends and relatives, and talk about past and future events.
For BA Students: Language Course
Course usually offered in fall term
Activity: Lecture
1 Course Unit
KORN 111 Intermediate Korean I
This is a continuation of KORN 011. This course is designed to develop students' Korean language proficiency to the intermediate-low level of the ACTFL Proficiency Guidelines. Authentic materials, as well as various student-centered activities that are highly contextualized in everyday interactions will be used. Upon completion of the course, students will be able to present and exchange information on a variety of topics such as weather, fashion, travel, mailing, housing, public transportation, and shopping.
For BA Students: Language Course
Course usually offered in fall term
Prerequisites: Completion of KORN 012 or equivalent knowledge and permission of the instructor.
Activity: Lecture
1 Course Unit

KORN 112 Intermediate Korean II
This is a continuation of KORN 111. This course is designed to develop students' Korean language proficiency to the intermediate-mid level of the ACTFL Proficiency Guidelines. This course expands student's competence by dealing with more functions in various contexts that students can frequently encounter in everyday interactions. In order to prepare students for social contexts, students are encouraged to engage in conversations by personalizing the topics, functions or contexts. Students will perform in an interpersonal way by providing and obtaining information, expressing feelings and emotions, and exchanging opinions on a variety of topics such as birthday parties, recreation and hobbies, Korean holidays, marriage, cultural differences, education and jobs. This course completes the College language requirement.
For BA Students: Last Language Course
Course usually offered in spring term
Prerequisites: Completion of KORN 111 or equivalent knowledge and permission of the instructor.
Activity: Lecture
1 Course Unit

KORN 113 Korean for Heritage Speakers I
This course is designed for heritage speakers who have a strong background in everyday Korean. This course focuses on enhancing linguistic accuracy (spelling, grammar, vocabulary, pronunciation) and fluency (idiomatic and figurative expressions, narrative structure, discursive practice) in both spoken and written Korean, as well as gaining a deeper understanding of Korean culture. Upon completion of the course, students will be able to express themselves more accurately and participate in Korea-related communities more meaningfully. This course and its subsequent course KORN 132 complete the College language requirement.
Taught by: Jung
Course usually offered in fall term
Prerequisites: Restricted to students who have previous knowledge in Korean. Students are required to take the Korean placement test.
Activity: Lecture
1 Course Unit

KORN 132 Korean for Heritage Speakers II
This course is a continuation of KORN 131 and aims to further develop students' linguistic and cultural competence by building on materials covered in KORN 131. In addition to gaining a deeper understanding of Korean culture, the course focuses on enhancing linguistic accuracy and fluency in both spoken and written Korean. Particular emphasis will be placed on building a meaningful Korean-speaking community, as well as consolidation of grammar structures, and expansion and enhancement of vocabulary. Topics include preparing for a trip to Korea, finding housing, college culture in Korea, entertainment and participating in various social events. Upon completion of this course, students will be able to express themselves more accurately and participate in Korea-related communities more meaningfully. This course completes the College language requirement.
For BA Students: Last Language Course
Course usually offered in spring term
Prerequisites: Completion of KORN 131 or equivalent knowledge and permission of the instructor.
Activity: Lecture
1 Course Unit

KORN 211 Advanced Korean I
This course aims to develop functional proficiency in Korean at the intermediate-high level. Students will develop competence in fluency, grammatical accuracy and socio-linguistic/cultural appropriateness through a variety of activities and assignments. In addition, students will learn to communicate using more sophisticated grammatical structures and advanced vocabulary on various topics. The development of each of the four language skills (speaking, listening, reading and writing) is equally emphasized.
For BA Students: Advanced Language Course
Course usually offered in fall term
Prerequisites: Completion of KORN 112, 132 or equivalent knowledge and permission of the instructor.
Activity: Lecture
1 Course Unit
KORN 212 Advanced Korean II
This is a continuation of KORN 211. Students continue to develop functional proficiency in Korean at the advanced-low level. The topics include literature, culture, Korean customs, and social issues in contemporary Korea.
For BA Students: Advanced Language Course
Taught by: Cho
Course usually offered in spring term
Prerequisites: Completion of KORN 211 or equivalent knowledge and permission of the instructor.
Activity: Lecture
1 Course Unit

KORN 281 Business Comm in Korean
Offered through the Penn Language Center. This course is designed to help students improve their Korean language proficiency by learning essential communication skills necessary to engage in business in Korea. Students will also develop their knowledge of and competence in Korean business culture and practice. The course objectives include: (1) to learn essential business terms, advanced grammar structures and communication strategies in business transactions; (2) to learn Korean business customs and culture, work norms, and business etiquette that students need to successfully communicate in a Korean business context. Topics include job application, business correspondence and reports, discussion and presentation in business meetings, communication styles and strategies in business contexts, current business culture, etc.
Taught by: Cho
Course usually offered in fall term
Prerequisites: Completion of KORN 112, 132 or equivalent knowledge and permission of the instructor.
Activity: Lecture
1 Course Unit

KORN 311 Topics in Advanced Korean
This course aims to develop an in-depth understanding of Korean culture and society through the analysis of spoken and written Korean discourse. Students will engage with key sociolinguistic concepts of politeness, hierarchy, solidarity, power, age, and gender, and enhance their advanced vocabulary and grammar. Students will also develop their abilities in conversation management, self-presentation, socialization, and sense of socio-cultural appropriateness, and gain a better understanding of how native speakers' cultural practices are reflected in language use and how interpersonal relationships are built and maintained through language.
For BA Students: Advanced Language Course
Course usually offered in fall term
Prerequisites: Completion of KORN 212 or permission of the instructor.
Activity: Lecture
1 Course Unit

KORN 331 Current Korean Media I
Offered through the Penn Language Center. This course aims to develop a deeper understanding of the contemporary Korean society through critical analysis of language use and viewpoints expressed in various types of media including the internet, TV, films and newspapers. This course will provide students with a rich opportunity to relate what they have learned in previous Korean language courses to the larger context of Korean culture and society. The course is conducted entirely in Korean and utilizes both written and audiovisual materials to develop students' reading/listening comprehension and critical thinking. The course also involves in-depth class discussion and writing short compositions to enhance conversation and writing skills.
One-term course offered either term
Prerequisites: Completion of KORN 212 or permission of the instructor.
Activity: Lecture
1 Course Unit

KORN 332 Current Korean Media II
Offered through the Penn Language Center. Current Korean Media II aims at a deeper understanding of the contemporary Korean society, through critical analysis of language use and viewpoints expressed in various types of media including the Internet, TV, films, magazines and newspapers. This course will focus on cultural products and practices such as popular culture, media culture, and entertainment. By catering to the needs and interests of individual learners of Korean, the course will provide them with a rich opportunity to relate what they have learned in previous Korean language courses to the larger context of Korean culture and society. In addition, students will have an in-depth discussion on topics related to Korean society as well as Penn news. This course is conducted entirely in Korean.
Course usually offered in fall term
Prerequisites: KORN 112, 132 or equivalent knowledge and permission of the instructor.
Activity: Lecture
1 Course Unit

KORN 381 Business Korean I
Offered through the Penn Language Center. Business Korean I is designed for students who want to sharpen their Korean language skills to the advanced-high level by focusing their study on Korean business and economy. Students will learn business/economy-related terminologies and concepts. They will also take an in-depth look at the issues related to business practices and environment in Korea. Students will improve and refine their language skills through actively participating in discussions, research, and presentations.
For BA Students: Advanced Language Course
Taught by: Cho
Course not offered every year
Prerequisites: Completion of KORN 212 or equivalent knowledge and permission of the instructor.
Activity: Lecture
1 Course Unit
KORN 382 Business Korean II
Offered through the Penn Language Center. A continuation of the material offered in KORN 381. Business Korean I. Students further develop their Korean language proficiency at the advance-high level by studying case studies, participating in discussions, and doing research and giving presentations on the topic of current Korean business and economy.
For BA Students: Advanced Language Course
Taught by: Cho
Course not offered every year
Prerequisites: Completion of KORN 212 or equivalent knowledge and permission of the instructor.
Activity: Lecture
1 Course Unit

KORN 431 Advanced Readings Modern Korean I
This course is designed for advanced level students. Based on literary pieces in the form of short stories, essays, and novels, students are to gain an in-depth, multi-faceted and critical understanding of Korean people, society, and culture. These objectives are achieved primarily through 1) close reading and discussion of original literary texts by 20th-century Korean writers; and 2) regular writing exercises. Some Korean films that are related to the topics of the reading text will be used.
For BA Students: Advanced Language Course
Taught by: Jung
Course not offered every year
Prerequisites: Completion of KORN 311 or equivalent knowledge and permission of the instructor.
Activity: Lecture
1 Course Unit

KORN 432 Advanced Readings in Modern Korean II
This course allows development of creative and analytical thinking through introduction of more organized thematic topics such as family, human relationships, and the reflection of self-images, and individual's mental status while the society changes in time.
For BA Students: Advanced Language Course
Taught by: Jung
Course not offered every year
Prerequisites: Completion of KORN 311 or equivalent knowledge and permission of the instructor.
Activity: Lecture
1 Course Unit

KORN 481 Advanced Business Korean I
Offered through the Penn Language Center. This course aims to further develop students' advanced language proficiency and simultaneously deepen their knowledge and understanding of specific areas related to Korean business and economy such as an expansion of business into Asian markets and globalization strategies. Through research, discussion and presentation on various case studies and other business-related materials, students will enhance their critical thinking skills and gain an in-depth perspective on issues related to contemporary Korean business operations and practices.
For BA Students: Advanced Language Course
Course usually offered in fall term
Prerequisites: Completion of 311 or equivalent knowledge and permission of the instructor.
Activity: Lecture
1 Course Unit

KORN 482 Advanced Business Korean II
Offered through the Penn Language Center. A continuation of the material offered in KORN 481: Advanced Business Korean I. Students continue to closely follow the current topics of business and financial markets of Korea by actively participating in discussions, research, and presentations.
For BA Students: Advanced Language Course
Course usually offered in spring term
Prerequisites: Completion of KORN 311 or equivalent knowledge and permission of the instructor.
Activity: Lecture
1 Course Unit

Landscape Architecture & Regional Planning (LARP)

LARP 501 Studio I
The focus of this foundation studio is to explore ways of recording and representing landscape - with an emphasis on material, space, rhythm and measure - through a range of drawings and constructions. The studio attempts to create a sensibility toward landscape where the act of surveying a site is as much an imaginative endeavor as is the crafting of an artifact or the construction of a path in a landscape. Emphasis is placed on visual and manual skills in two-dimensional and three-dimensional constructions (drawing, fabrications, model-making, etc.), while developing ways to "see" landscape. The studio is structured around the themes of wetness/dryness and enclosure/disclosure, and works with one or more sites in the Philadelphia region. Recent sites have included Bartram's Gardens and East Fairmount Park in Philadelphia. In the past, the studio has focused on a territory around Martha's Furnace in the Pine Barrens, NJ; a part of the Meadowlands in northern NJ; an anthracite strip-mine in part of Pennsylvania's Appalachian Mountains; the Wissahickon Creek and, the Schuylkill River Trail in Philadelphia; and Great Falls in Paterson, NJ. Projects involve the making of pathways in these otherwise undesigned environments.
Taught by: Faculty
Course usually offered in fall term
Activity: Studio
2 Course Units
LARP 502 Studio II
This foundation design studio explores the relationship among sites, drawings, models and the making of landscape architectural projects. The studio site is typically located on vacant or abandoned land in North Philadelphia along the Delaware River. Such sites are fairly large in size and present a complex set of issues, including fragmentation, lack of access, and contamination. Through the design of a park, students test and refine the relationship among project concept, modes of visualization, and project formation (organizational and material). As a precursor to site work, students experiment with methods and materials for making organization and form in two and three dimensions. In the early part of the semester, we explore techniques of imaging that generate multiples (scenarios), serial progressions (transformations of a sort), and iterations (transformations of another). Through various grafting techniques, we use the resultant drawings and models as analogous structures in order to imagine possible future organizations and uses for the site. These studies occur in conjunction with site interpretations ranging from photographs and sketches, to measured drawings and diagrams. The objective for the studio is to develop an informed and imaginative response to the site in order to create new relationships among the site, its immediate edges and the larger neighborhood or region.
Taught by: M’Closkey/Faculty
Course usually offered in spring term
Prerequisite: LARP 501: Studio I
Activity: Studio
2 Course Units

LARP 511 Workshop I: Ecology and Built Landscapes
This workshop explores a sequence of sites extending from the Atlantic Ocean to the Appalachian Mountains that illustrates the changing geology and topography of the regional physiographic provinces including the Atlantic Coastal Plain, Piedmont, and Valley and Ridge. In moving westward along the transect, field trips to natural areas and constructed sites will highlight the diversity of regional plant communities ranging from primary dune to salt marsh, serpentine Virginia pine-oak forest to seepage wetland, and more. Analysis of the inter-connections between the underlying geology, topography, hydrology, soils, vegetation, wildlife, and human interventions will reveal patterns reflecting process and demonstrate key ecological and cultural systems and processes through the production of field notebooks as well as large-scale measured drawings. Ultimately students will develop a vocabulary (recognition, identification and nomenclature) of the materials of landscape, its substance, its ecology, and its changing nature owing to place and time. NOTE: COURSE MEETS IN ASSIGNED CLASSROOM FROM 9-1PM. CLASS MEETING FROM 2-5PM IS DEDICATED TO FIELD WORK.
Taught by: Willig and Popowsky
Course usually offered in fall term
Activity: Lecture
1 Course Unit

LARP 512 Workshop II: Landform and Planting Design
Workshop II combines two of the most elemental tools in the practice of landscape architecture: landform and planting design. Grading - the shaping and sculpting of the landform - is both art and science, and thus Workshop II aims to provide an appreciation of landform as an evocative component in the design vocabulary as well as a critical tool in solving difficult design problems. The basic techniques and strategies of grading design (slopes, terraces, water management, grade change devices) will be introduced, practiced and reinforced, so that grading design becomes an integral part of the students’ design approach. Lecture, field trips, modeling, in-class exercises, and group projects will be used. The Planting component provides students with a working overview of the principles and processes of planting design. Plants will be considered both as individual elements and as part of larger dynamic systems. The natural distribution of plants, concepts of plant community and successional patterns, and the relationship of planting an topography will be used as the initial framework for planting design. Planting design typologies will be examined as an outgrowth of these "natural" patterns. The role of plants as a key element in the structural design of the landscape will be explored through a combination of modeling, plan and section drawing, temporal studies, writing, field trips and case studies. Emphasis will be placed on process and evolution: the temporality of planting (daily, seasonal and annual changes), establishment and maintenance of plantings, and the process of planting design. During the first week of May, a five-day field ecology course focuses on techniques of urban revitalization, sustainable land use, reclamation, and restoration. The field trips offer insight into the diversity of approaches to using plants to promote positive environmental change.
Taught by: Olgyay
Course usually offered in spring term
Prerequisite: LARP 511: Workshop I
Corequisite: Summer Field Ecology Laboratory/Willig
Activity: Lecture
0.5 Course Units

LARP 533 Media I: Drawing and Visualization
Drawing is the ability to experience deeply things we see and envision. It allows us, not only to represent things or images seen, but, to discover and construct space and depth on the two dimensions of drawing surface. Expanding the tools of drawing, this course presents inquiries into applied media providing a basis for envisioning the speculative and developing an economy of expression. Work will be closely related to work in Studio I. Students will be introduced to the formal syntax of drawing (line, contour, structure, texture, chiaroscuro), graphic grammar (orthographic, oblique, perspective projection drawings and free-hand sketching) alongside exercises in material expression (collage, assemblage).
Taught by: Faculty
Course usually offered in fall term
Activity: Lecture
1 Course Unit
LARP 535 Theory I: The Culture of Nature
Landscape architecture, architecture and visual art are all mediations between nature and culture. This course is designed to help students form their own view regarding our relationship with the “natural” world around us in an age of ecological crisis. To achieve this, the course provides a stimulating historical and contemporary survey of ideas of nature. We explore ways “nature” has been understood mythically, theologically, ideologically, philosophically, scientifically, and artistically through the ages, with an emphasis on contemporary culture. We survey the way in which the polarity of culture and nature has been historically constructed and more recently, deconstructed. The pedagogical philosophy of this course is that an appreciation of the broad pattern of history and the ideas that have shaped it are foundational to living a critical and ethical life and central to the process of making contemporary art, architecture, and landscape architecture.
Taught by: Weller
Course usually offered in fall term
Also Offered As: LARP 780
Activity: Lecture
1 Course Unit

LARP 540 Theory II: History and Theory of Landscape Architecture
This course unfolds several contemporary issues that shape the profession, such as giving form to environmental values, balancing science and art, ecology and design, reconsidering the need for the beautiful vis-a-vis the many sites challenged by pollution and abuse. Among the topics of discussion, this course will also take into account how recent phenomena such as the late twentieth-century increase in world population, sprawl, and environmental pollution, and how these have changed the reality described by the very word “nature” and have contributed to expand the domain of landscape architecture. The discussion of topics will integrate contemporary ideas and their roots in earlier theoretical formulation. The past will be presented as a way to illuminate, receive, and critique the present. Course objectives are to become familiar with the social and cultural processes that inform the landscape architectural discourse and to be able to discuss in an informed manner the impact of the latter upon design trends; to be able to trace the roots of contemporary ideas in earlier theoretical formulations; and to be able to think critically and to enhance synthesis and augmentation skills.
Taught by: Fabiani Giannetto
Course usually offered in spring term
Activity: Lecture
1 Course Unit

LARP 542 Media II: Digital Visualization
Continuing the sequence of the Landscape Architecture media classes, this course will provide students with the techniques to explore and examine precision surface profiles and land forming strategies, in both physical and digital models. These models provide a basis to speculate on what processes and programs might be engendered or instigated. Rhino will be the primary modeling platform. Associated plug-ins of Grasshopper, Rhino Terrain, Sonic, and Bongo will help extend the toolset. GIS will facilitate the collection and analysis of extent data. The Adobe Creative Cloud will also be used for documenting and expressing modeling processes through static and time-based visualizations.
Taught by: VanDerSys
Course usually offered in spring term
Prerequisite: LARP 533: Media I
Activity: Lecture
1 Course Unit

LARP 543 Media III: Flows: Linear / Non-Linear
This course is the third in the media sequence and is required of all MLA students at the 600 level. This course engages the generative potential of the dynamic and temporal attributes of the landscape medium. Time-based visualizations are used to investigate landscape organizations shaped through the dynamic interplay of varying processes and their spatial consequences. Emphasis will parallel the LARP 601 on urban ecology and landscape systems.
Taught by: VanDerSys/Faculty
Course usually offered in fall term
Prerequisites: Students in the 3-yr MLA program must complete LARP 533: Media I and LARP 542 Media II prior to beginning LARP 543: Media III
Activity: Lecture
1 Course Unit

LARP 544 Media IV: Futures: Trends and Trajectories
This course is the fourth in the media sequence and is required of all MLA students at the 600 level. This course exposes students to parametric tools as mechanisms for analyzing and generating both predictable and emergent terrain dependent urban morphologies. Rather than inert lines of shapes, space infrastructure are visualized as products of force and flow. Emphasis will parallel the LARP 602 studio on forms of urbanization. This course is open to Landscape Architecture students only. Students outside of Landscape Architecture will need instructor permission to enroll in this course.
Taught by: Freese
Course usually offered in spring term
Prerequisites: Students in the 3-yr MLA program must complete LARP 533: Media I, LARP 542 Media II and LARP 543: Media III prior to beginning LARP 544: Media IV
Activity: Lecture
1 Course Unit

LARP 601 Studio III
This studio brings together both two-year and three-year MLA students for a landscape studio program that works at a regional scale, as well as multiple design scales. LARP 601 - the Green Stimuli studio - emphasizes rigorous site analysis, the strategic organization of living material, and the potential of design to produce a wide range of effects. Studio problems are "live" - local leaders and experts are actively trying to solve them, there is an audience for student work outside the University, and projects have the potential to stimulate debate and new directions. The Green Stimuli studio takes on design problems where soil, terrain, geology, mineral resources, climate, water, plants, wildlife, and living systems interactions are major drivers. Studio projects explore one or more of these dimensions in depth to reach high levels of design exploration, strategic thinking, technical resolution and physical expression. The studio’s topics intersect with a broader universe of practical concerns, including land use, local and regional economies, real estate development and public policy, as well as philosophical and artistic questions about nature and ecology. The intent is that designed Green Stimuli make new connections between the material of landscape and the economic, infrastructural, scientific, social, cultural and creative attributes of a region.
Taught by: Faculty
Course usually offered in fall term
Prerequisites: Students in the 3-yr MLA program must complete LARP 501: Studio I and LARP 502: Studio II prior to beginning LARP 601: Studio III
Activity: Studio
2 Course Units
LARP 602 Studio IV
This studio is the fourth and final studio in the core sequence and is designed to introduce students to essential competencies related to contemporary problems in urban design. The studio operates in what have been referred to as "global cities" - contexts in which there are significant pressures on the physical form of a metropolis from substantial population and economic growth (both ongoing and projected). These pressures induce considerable demands for the development of new contexts. The studio is focused on managing and negotiating these pressures through landscape-driven strategies capable of guiding and organizing this urbanization. Students develop individual design strategies through a process of mapping, modeling, scenario building and fieldwork that lead to both conceptual and physical proposals for the development of new urban districts and metropolitan agendas.
Taught by: Marcinkoski/Faculty
Course usually offered in spring term
Prerequisites: Students in the 3-yr MLA program must complete LARP 501: Studio I, LARP 502: Studio II and LARP 601: Studio III prior to beginning LARP 602: Studio IV.
Activity: Studio
2 Course Units

LARP 611 Workshop III: Site Engineering and Water Management
Building upon the skills and concepts developed in Workshops I and II, this intermediate workshop focuses on technical aspects of site design, with an emphasis on landscape performance. Functional considerations related to landscapes and their associated systems - including circulation, drainage and stormwater management, site stabilization and remediation - will be explored as vital and integral components of landscape design, from concept to execution. Lectures, case studies, field trips, and focused design exercises will enable students to develop facility in the tools, processes and metrics by which landscape systems are designed, evaluated, built and maintained. In concert with the concurrent design studio, students will consider the means by which functional parameters can give rise to the conceptual, formal, and material characteristics of designed landscapes.
Taught by: Faculty
Course usually offered in fall term
Prerequisites: Students in the 3-yr MLA program must complete LARP 511: Workshop I and LARP 512: Workshop II prior to beginning LARP 611: Workshop III.
Activity: Lecture
1 Course Unit

LARP 612 Workshop IV: Advanced Landscape Construction
Advanced Landscape Construction: The Art and Craft of Design Documentation and Detailing introduces students to the process of landscape documentation as means of strengthening design intent through careful material selection and articulation of form. The course builds upon Workshop III by expanding the concept of site systems to the full range of drawings, details, specifications, and contracts used by landscape designers in the creation of the man-made environment. The course features lectures, case studies and field walks, exploring documentation from initial concept through construction administration. Topics will include materials and their use in exterior environments, documentation phases and their role in a projects evolution and the art of detailing to ensure beautiful, durable landscapes that define cohesive design.
Taught by: Burrell
Course usually offered in fall term
Prerequisite: LARP 611: Workshop III
Activity: Lecture
1 Course Unit

LARP 660 Fundamentals of Urban Design
This course is a requirement for students enrolled in Certificate in Urban Design and for Master of City Planning students enrolled in the Urban Design concentration. How should urban designers give shape to the city? What urban design methods could they apply? This course helps students acquire the principles that can inform urban design practice. It has three major pedagogical objectives. First, it helps students understand the contemporary city through a series urban design tools. Second, it covers both historical and modern urban design principles. Finally, it includes all the scales in which urban designers operate, ranging from the fundamentals of social interaction in public space, to the sustainability of the region. This course is open to other interested PennDesign students if there is space and with permission of the instructor.
Taught by: Al
Course usually offered in fall term
Also Offered As: CPLN 660
Activity: Lecture
1 Course Unit
LARP 701 Studio V
These advanced elective studios provide opportunities for focused exploration of particular themes in contemporary landscape architecture. Important emerging and accomplished designers, often from divergent points-of-view, interests and backgrounds, are invited to run these studios. Collaborative options (between Landscape and the Departments of Architecture or City Planning) are sometimes offered across the School. In addition to our own faculty who offer some of these studios (Fabiani Giannetto, Gouverneur, Marcinkoski, Mathur, M'Cloeskey, Neises, Olin, Pevzner, Sanders, Tomlin), visitors have included Paolo Burgi (Switzerland), Peter Latz (Munich), Bernard Lassus (Paris), Margie Ruddick (Philadelphia), Chris Reed (Boston), Peter Beard (London), Nicholas Quennell (New York), Ken Smith (New York), Raymond Gastil (New York), Alessandro Tagliolini (Italy), Ignacio Bunster (Philadelphia), Perry Kulper (Los Angeles), James Wines (New York), Lee Weintraub (New York), Charles Waldheim (Chicago), Stanislaus Fung (Australia), Dennis Wedlick (New York), Sandro Marpillero (New York), Peter Connolly (Australia), and former associate professor Anita Berrizbeitia. More recent visitors have been Claire Fellman (New York), Catherine Mosbach (Paris), Nanako Umemoto/Neil Cook (New York), Valerio Morabito (Italy), Carol and Colin Franklin (Philadelphia), Keith Kaseman (Philadelphia), Silvia Benedito (New York), Claudia Taborda (Lisbon), Mark Thomann (New York), Jerry Van Eyck (New York), and Martin Rein-Cano (Berlin).

Taught by: Faculty
Course usually offered in fall term
Also Offered As: ARCH 701
Activity: Studio
2 Course Units

LARP 702 Studio VI
These advanced elective studios provide opportunities for focused exploration of particular themes in contemporary landscape architecture. Important emerging and accomplished designers, often from divergent points-of-view, interests and backgrounds, are invited to run these studios. Collaborative options (between Landscape and the Departments of Architecture or City Planning) are sometimes offered across the School. In addition to our own faculty who offer some of these studios (Fabiani Giannetto, Gouverneur, Marcinkoski, Mathur, M'Cloeskey, Neises, Olin, Pevzner, Sanders, Tomlin), visitors have included Paolo Burgi (Switzerland), Peter Latz (Munich), Bernard Lassus (Paris), Margie Ruddick (Philadelphia), Chris Reed (Boston), Peter Beard (London), Nicholas Quennell (New York), Ken Smith (New York), Raymond Gastil (New York), Alessandro Tagliolini (Italy), Ignacio Bunster (Philadelphia), Perry Kulper (Los Angeles), James Wines (New York), Lee Weintraub (New York), Charles Waldheim (Chicago), Stanislaus Fung (Australia), Dennis Wedlick (New York), Sandro Marpillero (New York), Peter Connolly (Australia), and former associate professor Anita Berrizbeitia. More recent visitors have been Claire Fellman (New York), Catherine Mosbach (Paris), Nanako Umemoto/Neil Cook (New York), Valerio Morabito (Italy), Carol and Colin Franklin (Philadelphia), Keith Kaseman (Philadelphia), Silvia Benedito (New York), Claudia Taborda (Lisbon), Mark Thomann (New York), Jerry Van Eyck (New York), and Martin Rein-Cano (Berlin).

Taught by: Faculty
Course usually offered in spring term
Activity: Studio
2 Course Units

LARP 704 Urban Design Research Studio
This course is a requirement for students enrolled in the Certificate of Urban Design. The Urban Design Research Studio (UDRS) is a capstone educational experience open to students of architecture, planning, landscape architecture and historic preservation in PennDesign. The studio’s focus is how design intelligence can be applied to complex urban problems which are at once systemic and spatial. Reaching across scales and across disciplines the studio immerses students in the social, economic, political, ecological and aesthetic complexity of the contemporary city in a way that interweaves the speculative quality of the design process with the analytical and evidence-based empiricism of urban research. Interdisciplinary collaboration is the studio’s modus operandi and its purpose is to develop techniques and strategies by which contemporary cities can become not only metabolically more efficient but also more edifying of the human spirit in the 21st century. Acceptance into the studio is based on interview and portfolio with priority placements given to students enrolled in the Urban Design Certificate Program.

Taught by: Gouverneur
Course usually offered in spring term
Activity: Studio
2 Course Units

LARP 710 Implementation of Urban Design
This course is a requirement for students enrolled in the Certificate of Urban Design. With a focus on contemporary major cities this subject charts the various ways in which urban design is typically conceived, procured, administered and ultimately delivered. From the very conception of a project to its completion, the various methods and avenues through which contemporary cities are planned, designed, and constructed are examined from multiple perspectives so that students become familiar with the myriad issues and main actors involved in urban development. Though exemplary case studies the subject offers a comprehensive understanding of the complexities and contingencies of contemporary city making, placing a particular emphasis on the role of the urban designer as a practical, ethical and visionary agent of change. This course may open to other interested PennDesign students if there is space and with permission of the instructor.

Course usually offered in spring term
Activity: Lecture
1 Course Unit

LARP 720 Topics in Representation
In these advanced representation courses the work extends to new ways of documenting and seeing landscape. These courses are open to all interested School of Design students who have previous drawing experience or have taken foundation studios. Recent topics have been: Traces and Inscriptions (spring 2013), instructors: Anuradha Mathur, Matthew Neff; Landscape Representation (fall annually), instructors: Valerio Morabito; Landscape Drawing (spring annually), instructor: Laurie Olin; Landscape Drawing (spring 2008), instructors: David Gouverneur, Trevor Lee; Shifting Landscapes: A Workshop in Representation (spring 2005, 2004), instructor: Anuradha Mathur; and The Agile Pencil and Its Constructs (spring 2004) instructor: Mei Wu.

Taught by: Faculty
One-term course offered either term
Also Offered As: FNAR 720
Prerequisites: LARP501, LARP533, LARP601, ARCH501, ARCH532 OR ARCH601
Activity: Seminar
1 Course Unit
LARP 730 Topics in Professional Practice
These seminar courses explore ideas and methods in current landscape architectural practice. They include instruction in professional procedures, office management, project development, contracts, and collaborative ventures. They include visits to construction sites, professional offices and archives. Recent topics have been: Transformational Leadership (fall 2015), instructor: Lucinda Sanders, Office Practice (spring 2003-2015) instructor: Lucinda Sanders. Taught by: Sanders
One-term course offered either term
Activity: Lecture
1 Course Unit
Notes: Fall 2016: course offering is limited to LARP majors or by permission of the instructor.

LARP 740 Topics in Digital Media
These courses offer advanced instruction in the uses and applications of various digital media, including Geographical Information Systems, 3-D modeling, video, animation, and web-design. These courses are open to all interested School of Design students who already have a working knowledge of basic digital graphic techniques and with permission of the instructor. Recent topics have been: Simulated Natures (fall 2015, 2014), instructors Keith VanDerSys, Joshua Freese; Digital Fabrication (spring 2009-2013), instructor Keith VanDerSys; Non-Static Representation: Video, Animation, and Interactive Media (fall 2013, 2012), instructor: Todd Montgomery; Interoperable Terrains (fall 2008-2013), instructor: Keith Kaseman; Kino-Eye: Intro to Spatial Filmmaking (fall 2011, 2010), instructor: Richie Gelles; Geometry Clouds, Fluid Landscapes (fall 2002-2006), instructor: David Ruy; Tactical Surfaces / Topographic Modeling (fall 2002), instructor: Charles McEloughlin.
Taught by: Faculty
One-term course offered either term
Prerequisites: LARP-543, MEDIA III
Activity: Lecture
1 Course Unit

LARP 741 Modeling Geographic Space
This course explores the nature and use of raster-oriented (i.e. image-based) Geographic Information Systems (GIS) for the analysis and synthesis of spatial patterns and processes. Previous experience in GIS is not required.
Taught by: Tomlin
Course usually offered in spring term
Also Offered As: CPLN 632
Activity: Lecture
1 Course Unit

LARP 743 Geospatial Software Design
The purpose of this course is to equip students with a selected set of advanced tools and techniques for the development and customization of geospatial data-processing capabilities. It is open to any student with experience equivalent to that of an entry-level class on GIS.
Taught by: Tomlin
Course usually offered in fall term
Also Offered As: CPLN 670
Activity: Seminar
1 Course Unit

LARP 745 Advanced Topics in GIS
This course offers students an opportunity to work closely with faculty, staff, local practitioners, and each other in conducting independent projects that involve the development and/or application of Geographic Information System (GIS) technology. The course is open to all students who can demonstrate sufficient experience, expertise, or initiative to pursue a successful term project.
Taught by: Tomlin
Course usually offered in spring term
Also Offered As: CPLN 680
Activity: Seminar
1 Course Unit

LARP 750 Topics in Construction, Horticulture and Planting Design
These courses explore relevant topics in construction, horticulture and planting design as they relate to contemporary landscape architecture. The aim is to supplement fundamental skills and ideas explored in the core curriculum workshops with more advanced, cutting-edge research, technology and case studies. The teaching faculty are leading practitioners and researchers in the field. These courses are open to all interested School of Design students. Recent topics have been: Urban Horticulture and Planting Design (fall annually since 2009), instructor: David Ostrich; Detailing New Urban Landscapes (spring 2012, 2011), instructor: Tom Ryan; Building New Urban Landscapes, Construction, and Planting Design (fall 2009, 2008), instructor: Tom Ryan; Urban Horticulture: Designing and Managing Landscape Plantings in Stressful Environments (1998-2003), instructor: Paul Meyer; Advanced Planting Design, instructors: Rodney Robinson (2003-2009), Dennis McGlade (fall 2006), Sheila Brady; and Sustainable Large Scale Planting of Trees, Shrubs, Perennials and Grasses (fall 2001), instructor: Wolfgang Oehme. Taught by: Faculty
One-term course offered either term
Activity: Lecture
1 Course Unit

LARP 755 Arboretum Management I: Understanding Plants
In this course, students will learn about plants from an organismal perspective, an applied/practical perspective, an aesthetic perspective, an environmental perspective, and an evolutionary perspective. Utilizing the plant collection of the Morris Arboretum as a living laboratory and the expertise of arboretum staff, this course will bring students, novices and experts alike, to a better understanding of plants. Session topics integrate both theoretical and hands-on practical work. Course assessment will be based on weekly practical assignments and two exams. Please note that this course takes place at the Morris Arboretum in the Chestnut Hill section of Philadelphia and students are responsible for transporting themselves to and from the arboretum on their own for class each week. For further information about the course, students may contact Cynthia Skema (cskema@upenn.edu).
Taught by: Skema
Course usually offered in fall term
Activity: Laboratory
1 Course Unit
LARP 756 Arboretum Management II: Evaluating Public Gardens
This interdisciplinary course looks at public gardens as a whole, studying these public institutions and their performance in the four major services they undertake: research, horticultural display, conservation and education/outreach. Students, of any level or discipline, begin the course by learning what arboreta and botanic gardens are, how they function, and what role they fill in our society through a series of lecture sessions at the Morris Arboretum. For the remainder of the semester, the students take that knowledge into the field to apply what they have learned and evaluate some of the many public gardens in "America's Garden Capital," the Philadelphia region, with expert instructors from the Morris Arboretum as guides. Course assessment will be based on one exam, and a series of essays pertaining to their garden evaluations. Garden evaluations and the written work can be tailored to a particular subject of interest to a student, if pertinent within the public garden realm. Please note that this course takes place at the Morris Arboretum in the Chestnut Hill section of Philadelphia and students are responsible for transporting themselves to and from the arboretum on their own or to other Philadelphia area public gardens as required for class each week. For further information about the course, students may contact Cynthia Skema (cskema@upenn.edu).
Taught by: Skema
Course usually offered in spring term
Activity: Laboratory
1 Course Unit

LARP 760 Topics in Ecological Design
These elective courses explore relevant topics in ecological design and new technologies as they relate to contemporary landscape architecture. The courses explore topics such as ecology, sustainability, habitat restoration, hydrology, green roof and green architecture technology, soil technology, and other techniques pertinent to the construction of ecologically dynamic, functioning landscapes. The teaching faculty are leading practitioners and researchers in the field. These courses are open to all interested PennDesign students. Recent topics have been:
Taught by: Faculty
One-term course offered either term
Activity: Lecture
1 Course Unit

LARP 761 Urban Ecology
This course introduces students to the core concepts, processes, and vocabulary of contemporary urban ecology. It aims to provide a conceptual framework and grounding in an understanding of ecological processes, in order to empower students to develop and critique the function and performance of landscape interventions. Urban ecology describes the interaction of the built and natural environment, looking at both ecology in the city, as well as ecology of the city. Lectures, case studies, critical reading and design exercises will enable students to increase their ability to analyze and interpret ecological systems and processes. By analyzing the application of ecological concepts in the design management of urban landscapes, urban ecology will be explored as a dynamic, human-influenced system. Registration is limited to MLA students in the LARP 601 studio.
Taught by: Carlisle/Pevzner
Course usually offered in fall term
Activity: Lecture
1 Course Unit

LARP 770 Topics in Landscape Architecture History and Theory
These advanced seminars explore central issues in the history and theory of landscape architecture from the Renaissance to the present day. The focus is upon the cultural context of built works, their relation to conceptual writings (contemporary with the designs as well as modern) and the dialogue between modern professional practice and historical example and method. Recent topics taught by Professor Hunt have been: Place & Peacefulness (fall 2012); Texts & Topics (fall 2011); The Role of History in Contemporary Landscape Architecture (fall 2010); Understanding Venice Research Seminar (spring 2009); Sculpture Parks and Sculpture in Parks (fall 2008); Six Landscape Architects & What We Say About Them (spring 2007); Open Spaces & Open Places: The Design and Use of American Landscapes (spring 2006), co-taught with Emily Cooperman; Reception, or the After Life of Landscapes (Spring 2005); Land Art and Ian Hamilton Finlay (fall 2004), Lawrence Halprin: Theory, Practice, Context & the Archival record (spring 2004) co-taught with Emily Cooperman; French Landscape Architecture: Case Studies (spring 2003); Picturesque as Modernism (spring 2002).
Taught by: Faculty
One-term course offered either term
Also Offered As: ARTH 782, COML 615, ENGL 584, GRMN 614, URBS 614
Activity: Seminar
1 Course Unit
LARP 780 Topics in Theory and Design
These advanced seminars explore advanced ideas in contemporary landscape architectural design and theory. A special link is made between the analysis of built work and text to design practice and the making of projects. Topics include the intersections of art, nature and creativity; practices of analysis and criticism; ideas of urbanism and infrastructure; collaborative ventures and cross-disciplinarity; vision and visuality; and representational structures, both verbal and visual. These courses fulfill the Landscape Architecture Theory III requirement and are open to all interested School of Design students. Spring 2017: Environmental Readings. In this seminar, we will explore the green thread and analyze its influence on how we shape our environments through design and planning. The course has three parts. Throughout, the influence of literature on design and planning theory will be explored. The first part will focus on three most important theorists in environmental planning and landscape architecture: Frederick Law Olmstead Sr., Charles Eliot and Ian McHarg. The second part of the course will critically explore current theories in environmental planning and landscape architecture. The topics include: frameworks for cultural landscape studies, the future of the vernacular, ecological design and planning, sustainable and regenerative design, the languages of landscapes, and evolving views of landscape aesthetics and ethics. In the third part of the course, students will build on the readings to develop their own theory for ecological planning or, alternatively, landscape architecture. While literacy and critical inquiry are addressed throughout the course, critical thinking is especially important for this final section.

Taught by: Faculty
One-term course offered either term
Also Offered As: CPLN 685, LARP 535
Activity: Lecture
1 Course Unit

LARP 781 Contemporary Urbanism
This course will expose students to a wide array of case studies in planning, urban design, and landscape architecture including notions of sustainable development, the interplay between open space and built form, the rehabilitation of existing areas as historic districts, commercial corridors, and the improvement of squatter settlements. Also, it will focus on city expansions and new towns, housing, mix-use developments, and areas of new centrality. The program will also address territorial planning, the improvement of open space systems, and site specific interventions of parks, plazas, streetscape and gardens. Cases will provide the proper ground for analysis and interpretation of issues related to the design and implementation of "good" landscape and urban form. Class discussions will be complemented with short design exercises. We will also enjoy the presence of outstanding visiting lecturers who will share with us cutting-edge information, derived from their professional practice and research. Registration is limited to MLA students in the LARP 602 studio and to students in the Urban Design Certificate program. This course is cross-listed with CPLN 673.

Taught by: Weller/Gouverneur
Course usually offered in spring term
Also Offered As: CPLN 673
Activity: Lecture
1 Course Unit

LARP 789 LARP Summer Institute: Intro to Design Languages (3-year students)
This one-week course is for entering three-year MLA students who do not have a background in architectural, or landscape architectural design or related design fields. The workshop introduces students to architectural terminology, concepts and conventions, as well as to basic analog and digital drawing techniques, in order to bring all students to a minimum level of proficiency, prior to the start of the more intensive Summer Institute coursework. Exemption from this requirement will be granted upon request, based on academic record, professional experience and admissions portfolio. Course enrollment is by permit only. Please contact Darcy Van Buskirk (LARP Dept.) at darcyv@design.upenn.edu.

Taught by: Faculty
Course usually offered summer term only
Activity: Studio
0 Course Units
Notes: Course fee: $500.00

LARP 790 LARP Summer Institute: Natural Systems (3-year Students)
This one-week session for entering three-year MLA students will provide an introduction to the varied physiographic provinces and associated plant communities of the greater Philadelphia region. Through a review of available mapping and on-site study we will characterize and consider the connections between climate, geology, topography, hydrology, soils, vegetation, wildlife, and disturbance, both natural and anthropogenic. With a focus on plants students will begin to develop a familiarity with the local flora (native and non-native) including plant species identification, preferred growing conditions, and potential for use. Field trips will include visits to the Inner Coastal Plain and Piedmont. Course enrollment is by permit only. Please contact Darcy Van Buskirk (LARP Dept.) at darcyv@design.upenn.edu.

Taught by: Willig
Course usually offered summer term only
Activity: Studio
0 Course Units
Notes: Course fee: $500.00

LARP 791 LARP Summer Institute: Landscape Operations (3-year Students)
This one-week course, for entering three-year MLA students, introduces concepts and techniques for analyzing, representing, and operating on landform, the fundamental medium of landscape architecture. Students will learn representational and model-making techniques for conveying topography, and will describe a series of landscape interventions on a topographic surface. Through models and drawings, students will develop an appreciation for the spatial implications of landform, for landscape narrative, for the movement of water and people across the landscape, and for the operation of reshaping the ground. An introduction to the Fine Arts Library will also be included. Course enrollment is by permit only. Please contact Darcy Van Buskirk (LARP Dept.) at darcyv@design.upenn.edu.

Taught by: Faculty
Course usually offered summer term only
Activity: Studio
0 Course Units
Notes: Course fee: $500.00
LARP 792 LARP Summer Institute: Introduction to Digital Media (3-year Students)
This four-day introductory course is intended to enable students to orient themselves to digital media facilities, programs, and workflows. The course is focused around daily projects building up to a final pinup. Each daily project illustrates a different set of work paths between digital programs, as well as teaches students how to use different software applications key to the practice of landscape architecture today. The focus of this course is to enable students to understand what each digital software application offers to the landscape process, and how to build change and iteration into digital workflows. Course enrollment is by permit only. Please contact Darcy Van Buskirk (LARP Dept.) at darcyv@design.upenn.edu.
Taught by: Faculty
Course usually offered summer term only
Activity: Studio
0 Course Units
Notes: Course fee: $500.00

LARP 793 LARP Summer Institute: Landform and Grading Workshop
The reading and shaping of landform is an elemental tool in the practice of landscape architecture. The act of grading design - the shaping and sculpting of landform - is both art and science. This four-day session for entering two-year MLA students aims to provide an appreciation of landform as both an evocative component in the design vocabulary and as a critical tool in resolving difficult design problems. Basic techniques and strategies of grading design are introduced and reinforced, so that grading design becomes an integral part of the student's design approach. This session is intended to provide a concise overview of the principles and process of landform and grading design, and is designed to prepare the entering two-year students for Workshop III.
Course enrollment is by permit only. Please contact Darcy Van Buskirk at darcyv@design.upenn.edu.
Taught by: Olgyay
Course usually offered summer term only
Activity: Lecture
0 Course Units
Notes: Course fee: $500.00

LARP 794 LARP Summer Institute: Natural Systems (2-year students)
This five-day session for entering two-year MLA students will provide an introduction to the varied physiographic provinces and associated plant communities of the greater Philadelphia region. Through a review of available mapping and on-site study we will characterize and consider the connections between climate, geology, topography, hydrology, soils, vegetation, wildlife, and disturbance, both natural and anthropogenic. With a focus on plants students will begin to develop a familiarity with the local flora (native and non-native) including plant species identification, preferred growing conditions and potential for use. Field trips will include visits to the Coastal Plan and Piedmont of New Jersey and Pennsylvania. Course enrollment is by permit only. Please contact Darcy Van Buskirk (LARP Dept.) at darcyv@design.upenn.edu.
Taught by: Willig
Course usually offered summer term only
Activity: Lecture
0 Course Units
Notes: Course fee: $500.00

LARP 795 LARP Summer Institute: Computing Introduction (2-year Students)
The Intro to Computing session introduces students to the facilities of digital media as the primary mode of design visual communication. The course provides a short, yet intensive, hands-on inquiry into the production and expression of digital media that is essential for all designers. Through a series of working labs, students learn various software applications and associated techniques to execute precise two-dimensional representations of three-dimensional concepts. Students also learn the PennDesign systems, network basics and computer lab procedures. In the Academic Writing session, students will also receive a basic introduction to research methods, research resources, academic writing, citation formats and standards expected by the School of Design. Course enrollment is by permit only. Please contact Darcy Van Buskirk at darcyv@design.upenn.edu.
Taught by: VanDerSys/Fleming
Course usually offered summer term only
Activity: Lecture
0 Course Units
Notes: Course fee: $500.00

LARP 796 Independent Studio
An independent studio may be undertaken in the final semester but is not required. The independent studio is intended to provide highly motivated students who have demonstrated their ability to work independently with the opportunity to pursue topics that extend the boundaries of the profession. For permission, students must prepare a written proposal in the preceding semester and apply for approval from the faculty. Details available in Landscape Architecture department office.
Taught by: Faculty
Course offered summer, fall and spring terms
Activity: Independent Study
1 Course Unit

LARP 999 Independent Study
An independent study may be taken for elective credit at any point during the degree program for a letter grade. For permission, students must prepare a written proposal in the preceding semester and obtain a Landscape Architecture faculty advisor to oversee their work. Details are available in the Landscape Architecture department office.
Taught by: Faculty
Course offered summer, fall and spring terms
Activity: Independent Study
1 Course Unit

Latin (LATN)

LATN 101 Elementary Latin I
An introduction to the Latin language for beginners. Students begin learning grammar and vocabulary, with practical exercises in reading in writing. By the end of the course students will be able to read and analyze simple Latin texts, including selected Roman inscriptions in the Penn Museum.
For BA Students: Language Course
Course usually offered in fall term
Activity: Seminar
1 Course Unit
LATN 102 Elementary Latin II
Prerequisite(s): LATN 101 or equivalent. Completes the introduction to the Latin language begun in 101. By the end of the course students will have a complete working knowledge of Latin grammar, a growing vocabulary, and experience in reading simple continuous texts.
For BA Students: Language Course
Course usually offered in spring term
Prerequisites: LATN 101 or equivalent.
Activity: Seminar
1 Course Unit

LATN 112 Intensive Elementary Latin
An accelerated introduction to the Latin language for beginners, equivalent in scope to the first year of Latin (LATN 101+LATN 102). Ideal for students with some background in learning languages, or who need to learn Latin rapidly. Students begin learning grammar and vocabulary, with practical exercises in reading in writing. By the end of the course students will have a complete working knowledge of Latin grammar, a growing vocabulary, and experience in reading selected inscriptions in the Penn Museum and simple continuous texts.
For BA Students: Language Course
Course usually offered summer term only
Activity: Seminar
2 Course Units

LATN 203 Intermediate Latin Prose
Prerequisite(s): LATN 102 or equivalent (such as placement score of 550). Introduction to continuous reading of unadapted works by Latin authors in prose(e.g., Cornelius Nepos, Cicero, Pliny), in combination with a thorough review of Latin grammar. By the end of the course students will have thorough familiarity with the grammar, vocabulary, and style of the selected authors, will be able to tackle previously unseen passages by them, and will be able to discuss questions of language and interpretation.
For BA Students: Language Course
Course usually offered in fall term
Prerequisites: LATN 102 or equivalent.
Activity: Seminar
1 Course Unit

LATN 204 Intermediate Latin Poetry
Prerequisite(s): LATN 203 or equivalent (such as placement score of 600). Continuous reading of several Latin authors in poetry (e.g., Ovid, Virgil, Horace) as well as some more complex prose, in combination with ongoing review of Latin grammar. By the end of the course students will have thorough familiarity with the grammar, vocabulary, and style and style of the selected authors, who will be able to tackle previously unseen unseen passages by them, and will be able to discuss language and interpretation. Note: Completion of Latin 204 with C- or higher fulfills Penn's Foreign Language Requirement.
For BA Students: Last Language Course
Course usually offered in spring term
Prerequisites: LATN 203 or equivalent.
Activity: Seminar
1 Course Unit

LATN 212 Intensive Intermediate Latin
Prerequisite(s): LATN 202 or equivalent (such as placement score of 550). Accelerated introduction to reading of Latin authors, at twice the normal pace, equivalent in scope to second-year Latin (LATN 203+LATN 204). Ideal for undergraduates or graduate students from Penn or elsewhere who have completed the equivalent of one year Greek (e.g., GREK 112). Readings in simpler prose and poetry (e.g., Cornelius Nepos, Ovid), then in more challenging prose and poetry (e.g., Cicero, Pliny, Virgil, Horace), in combination with a thorough review of Latin grammar. By the end of the course students will have thorough familiarity with the grammar, vocabulary, and style of the selected authors, will be able to tackle previously unseen passages by them, and will be able to discuss language and interpretation. Note: Completion of Latin 212 with C- or higher fulfills Penn's Foreign Language Requirement.
For BA Students: Last Language Course
Course usually offered summer term only
Activity: Seminar
2 Course Units

LATN 309 Topics in Latin Literature
This course is for those who have completed Latin 204, Latin 212, or equivalent (such as placement score of 650, or AP score of 4 or 5). Close reading and discussion of a Latin author or a particular genre of Latin literature. Topics will vary each semester, and the course may be repeated for credit. Assignments will include syntactic and literary analysis on a daily basis, a midterm, a paper, and a final exam.
One-term course offered either term
Prerequisites: Reading knowledge of Latin or permission of instructor.
Activity: Seminar
2 Course Units

LATN 399 Supervised Study in Latin Literature
This course is taken by students doing independent work with a faculty advisor, such as students approved to work on a senior research paper in pursuit of honors in the major.
One-term course offered either term
Activity: Independent Study
1 Course Unit

LATN 401 Latin for Advanced Students
For graduate students in other departments needing individualized study in Latin literature.
For BA Students: Advanced Language Course
One-term course offered either term
Activity: Independent Study
1 Course Unit

LATN 540 The Latin Text: Language and Style
What do we need to read texts in Latin? In these courses we read just one prose text and one poetic text, or a very limited number of texts and passages, with a focus on language and formal analysis (such as diction, grammar, stylistics, metrics, rhetoric, textual criticism). A range of exercises will be used to develop this, including composition, lexical studies, recitation, memorization, exegesis, written close-readings, and sight-translation.
Course not offered every year
Activity: Seminar
1 Course Unit
LATN 541 Latin Literary History
In this course we survey an extensive range of readings in a variety of authors in both prose and poetry, and consider the problems and opportunities involved in literary history.
Course not offered every year
Activity: Seminar
1 Course Unit

LATN 600 Graduate Latin Seminar
Topics will vary
One-term course offered either term
Activity: Seminar
1 Course Unit

LATN 999 Independent Study
For doctoral candidates.
One-term course offered either term
Activity: Independent Study
1 Course Unit

Latin American & Latino Studies (LALS)

LALS 010 The World 900-1750
An introduction to world history before the industrial revolution. Coverage varies each year, but every year the focus will be on the world outside Europe and the U.S. Focus each semester on comparative and connective themes, such as trade and civilization, empires, agrarian societies and livelihoods, slavery and the slave trade, and expansion of world religions.
Taught by: Feros
One-term course offered either term
Activity: Lecture
1 Course Unit
Notes: HIST 010 is a topics course. LALS 010 will be cross-listed only when the subject matter is relevant to Latin American and Latino Studies.

LALS 016 Topics in Literature
Freshman Seminars under the title "Topics in Literature" will afford entering students who are considering literary study as their major the opportunity to explore a particular and limited subject with a professor whose current work lies in that area. Topics may range from the lyric poems of Shakespeare's period to the ethnic fiction of contemporary America. Small class-size will insure all students the opportunity to participate in lively discussions. Students may expect frequent and extensive writing assignments, but these seminars are not writing courses; rather, they are intensive introductions to the serious study of literature. One of them may be counted toward the English major and may be applied to a period, genre, or thematic requirement within the major.
One-term course offered either term
Also Offered As: ENGL 015
Activity: Seminar
1 Course Unit
Notes: Freshman Seminar

LALS 057 Literature of Americas Before 1900
This course examines U.S. literature and culture in the context of the global history of the Americas. Historical moments informing the course will range from the origins of the Caribbean slave-and-sugar trade at the beginning of the nineteenth century, to the Monroe Doctrine of 1823 and the U.S. Mexico and Spanish-American wars. Readings will include works by authors such as Frances Calderon de la Barca, Frederick Douglass, Helen Hunt Jackson, Henry Wadsworth Longfellow, Jose Marti, Herman Melville, John Rollin Ridge, Maria Amparo Ruiz de Burton, and Felix Varela.
Course not offered every year
Also Offered As: ENGL 057
Activity: Lecture
1 Course Unit

LALS 070 Colonial Latin America
This course provides an introduction to the broad literature on Latin America's rich colonial history. We will begin by tracing some of the early origins of and points of contact between the Indian, Iberian, and African men and women who formed the basis of colonial society. As the course progresses, we will explore the variety of ways in which colonial subjects lived, worked, ate, worshipped, and socialized. Lectures and reading assignments will draw upon a variety of sources, including court cases, artistic renderings, city maps and street plans, travel accounts of visits to the regions, and the material, cultural, and intellectual products made possible by the wealth and dynamism of the seventeenth and eighteenth centuries. The course will conclude with an analysis of the Age of Revolutions, a period of dramatic upheaval that remains at the center of lively scholarly debates. By the end of the semester, students will be able to engage the key questions driving these debates, the most important of which, perhaps, is: what is Latin America's colonial legacy?
For BA Students: History and Tradition Sector
Taught by: Walker, T.
Course usually offered in fall term
Also Offered As: AFRC 070, HIST 070
Activity: Lecture
1 Course Unit
Notes: Fulfills History Tradition Distribution Requirement

LALS 071 Latin America 1782-Present
Surveys Latin American and Caribbean history from the Haitian Revolution of 1791 to the present. We will examine the legacy of Spanish colonialism and slavery, movements for national and cultural independence, twentieth-century radicalism, and the politics of race in contemporary Latin America. Readings include fictional as well as analytical representations, and a film series will accompany the course.
For BA Students: History and Tradition Sector
Taught by: Farnsworth-Alvear
Course usually offered in spring term
Also Offered As: HIST 071
Activity: Lecture
1 Course Unit
LALS 072 Introduction to Latin American and Latino Studies
Designed to introduce students to the interdisciplinary field of Latin American and Latino Studies, this is a seminar oriented toward first and second year students. Readings will range widely, from scholarly work on the colonial world that followed from and pushed back against the "conquest"; to literary and artistic explorations of Latin American identities; to social scientists' explorations of how Latinos are changing the United States in the current generation.
Taught by: Dr. Ann Farnsworth-Alvear
Course usually offered in spring term
Also Offered As: HIST 072
Activity: Lecture
1 Course Unit

LALS 100 Intro to Art
Topics Varies.
One-term course offered either term
Also Offered As: ARTH 100
Activity: Seminar
1 Course Unit
Notes: For freshmen only

LALS 107 Freshman Seminar: The World After 1800
Freshmen seminars are small, substantive courses taught by members of the faculty and open only to freshmen. These seminars offer an excellent opportunity to explore areas not represented in high school curricula and to establish relationships with faculty members around areas of mutual interest. See www.college.upenn.edu/admissions/freshmen.php
One-term course offered either term
Also Offered As: HIST 106, PSCI 010
Activity: Seminar
1 Course Unit
Notes: For freshmen only

LALS 110 Comparative Politics
This course is designed to introduce students to comparative political analysis. How can the political behavior, circumstances, institutions, and dynamic patterns of change that people experience in very different societies be analyzed using the same set of concepts and theories? Key themes include nationalism, political culture, democratization, authoritarianism, and the nature of protracted conflict.
One-term course offered either term
Also Offered As: PSCI 110
Activity: Recitation
1 Course Unit

LALS 116 Caribbean Culture and Politics
This course offers anthropological perspectives on the Caribbean as a geo-political and socio-cultural region, and on contemporary Caribbean diaspora cultures. We will examine how the region's long and diverse colonial history has structured relationships between race, ethnicity, class, gender and power, as well as how people have challenged these structures. As a region in which there have been massive transplantations of peoples and their cultures from Africa, Asia, and Europe, and upon which the United States has exerted considerable influence, we will question the processes by which the meeting and mixing of peoples and cultures has occurred. Course readings include material on the political economy of slavery and the plantation system, family and community life, religious beliefs and practices, gender roles and ideologies, popular culture, and the differing ways national, ethnic, and racial identities are expressed on the islands and throughout the Caribbean diaspora.
Taught by: Thomas, D.
Course not offered every year
Also Offered As: ANTH 116
Activity: Lecture
1 Course Unit

LALS 133 Native People and Their Environment
The relationship between the activities of native peoples and the environment is a complex and contentious issue. One perspective argues that native peoples had little impact on the environments because of their low population densities, limited technology, and conservation ethic and worldview. At other extreme, biodiversity, and Nature itself, is considered the product of a long history of human activities. This seminar will examine the Myth of the Ecologically Noble Savage, the Myth of the Pristine Environment, the alliance between native peoples and Green Politics, and the contribution of native peoples to appropriate technology, sustainable development and conservation of biodiversity.
Taught by: Erickson
Course not offered every year
Also Offered As: ANTH 133
Activity: Seminar
1 Course Unit
Notes: Freshman Seminar

LALS 136 Chicano History in the United States
On one level Chicano History is the history of Mexican-origin peoples in the United States since 1848. But Chicano also refers to the emergence of a specific historical identity grounded in the protest movements of the late 1960s and early 1970s. Both definitions are part of the project of this course. We will survey the histories of the many Mexican American people who might (or might not) consider themselves Chicano from the Mexican American War to the Zoot Suit Riots, from El Plan Espiritual de Aztlán to Selena. The class will also explore issues of ethnicity, immigration past and present, class and gender differences, cultural conflict and exchange, transnational economies and identities, popular cultural images and production, family life and community building, struggles for equality, the relationship of Mexican Americans to Latino/as, and the controversies raised by the emergence of an increasingly multi-ethnic, multilingual society.
Course not offered every year
Activity: Lecture
1 Course Unit
LALS 174 Reform and Revolution in the Americas
The United States and Latin America produced a remarkable series of revolutions and reforms during the twentieth century. This course examines efforts throughout the hemisphere to define and address problems around land, labor, and property; nation, empire, and autonomy; and race, democracy, and citizenship. It considers the relationship between national upheavals, the global consequences of events in the hemisphere, and the relation between social and political history; on the one hand, and the development of economic ideas, on the other.
For BA Students: History and Tradition Sector
Taught by: Offner
One-term course offered either term
Also Offered As: HIST 174
Activity: Lecture
1 Course Unit

LALS 175 Society and Culture in Brazil
With its booming economy, the recent inauguration of its first female president, and its selection as host to the 2012 World Cup and Olympic games, Brazil is growing in global prestige. But amid all these exciting developments are devastating socioeconomic inequalities. Access to safe living conditions, livable wages, higher education, and overall social mobility remain painfully out of reach to many Brazilians, the majority of whom are the descendants of slaves. Why do these problems persist in a country that has had such an enduring and widespread reputation as a “racial democracy”? What are the possibilities of closing the equality gap in Brazil?
Taught by: Walker, T.
One-term course offered either term
Also Offered As: HIST 175
Activity: Lecture
1 Course Unit

LALS 202 Major Seminar in History: Europe After 1800
One-term course offered either term
Also Offered As: HIST 202
Activity: Seminar
1 Course Unit

LALS 204 Major Seminar - Americas, Post 1800
HIST 204 is a topics course. LALS 204 will be cross-listed only when the subject matter is relevant to Latin American and Latino Studies.
One-term course offered either term
Also Offered As: HIST 204
Activity: Seminar
1 Course Unit

LALS 208 International Organizations in Latin America
International Organizations play a powerful role in mitigating conflict at the global level. What role do they play in solving problems related to global politics, economic development, corruption, inequality and civil society in Latin America? How much power, influence and control do they possess in the region? This course examines the role and impact international organizations have had on Latin America since the mid-20th century. After a review of theoretical and methodological perspectives on the significance of IOs in international relations, students will examine the workings, issues and often controversies surrounding IOs in Latin America, including the IMF, World Bank, UN, OAS and ICC as well as regional organizations such as the Inter-American Court of Human Rights and area trade blocs and agreements of Mercosur, NAFTA and others. Students will also explore the regional impact of transnational civil society organizations, such as human rights organizations and the International Olympic Committee. Students will be invited to participate in the Washington Model OAS from April 10-17.
Taught by: Bartch
Course usually offered in fall term
Also Offered As: PSCI 208
Activity: Seminar
1 Course Unit

LALS 209 Latino/as and the Law
Based in concepts and principles of Constitutional law, this course explores the interpretation and impact of seminal court cases in U.S. history as applied to Latino/as in the United States and abroad. With a particular focus on the 20th century, students will examine how court decisions have affected civil rights, immigration policies, welfare, political incorporation and identity and other important issues affecting Latino/as. Students will also explore additional themes including the status and treatment of Latinos in the criminal justice system, representation of Latino/as in the judiciary, and how Supreme Court decisions have also affected U.S. foreign policy with Latin America. Students will be introduced to a number of guest speakers who are academic experts and practitioners in the field.
Taught by: Bartch
Also Offered As: PSCI 202
Activity: Lecture
1 Course Unit

LALS 213 Latin American Politics
This course examines the dynamics of political and economic change in twentieth century Latin America, with the goal of achieving an understanding of contemporary politics in the region. We will analyze topics such as the incorporation of the region to the international economy and the consolidation of oligarchic states (1880s to 1930s), corporatism, populism, and elict pacts (1930s and 1940s), social revolution, democratic breakdown, and military rule (1960s and 1970s), transitions to democracy and human rights advocacy (1980s) makret-oriented reforms (1990s), and the turn to the left of current governments (2000s). The course will draw primarily from the experiences of Argentina, Brazil, Colombia, Chile and Mexico. No prior knowledge of the region is required.
Taught by: Falleti
One-term course offered either term
Also Offered As: PSCI 213
Activity: Recitation
0 Course Units
LALS 220 Literature, Film and Music of Brazil
Topics vary. For current course description, please see department's webpage: http://ccat.sas.upenn.edu/roml/portuguese/undergraduate/courses.html
Course not offered every year
Also Offered As: CIMS 224
Prerequisite: PRTG 221
Activity: Seminar
1 Course Unit

LALS 221 Early Hispanic Literature and Culture
This course engages in an in-depth study of Spanish and Colonial Spanish American culture(s) from the Pre-Roman period through the 17th century. Among the topics included are: Islamic Spain, the Spanish Reconquista, the Inquisition, the Origins of the Spanish Language, Sephardic Culture in Spain, the Pilgrimage Route to St. James, Picaresque Literature, Golden Age Spanish Drama, pre-Columbian Civilizations, the Conquest of the New World, and the establishment of colonial rule in Spanish America.
Course usually offered in fall term
Also Offered As: COML 223
Prerequisite: SPAN 219
Activity: Seminar
1 Course Unit

LALS 227 Educating for Democracy in Latin America and the U.S.
What does it mean to educate for a democracy, and for what type of democracy should we educate for? This course will examine these central questions and others pertaining to citizenship, democracy, and education as it relates to Latin America and Latino/as in the U.S. The course will first examine theories of education for democracy comparing and contrasting the works of persons including U.S. progressive-era writer John Dewey, Brazilian scholar Paulo Freire, and Penn President and political scientist Amy Gutmann. The course will delve into a civic and political education curriculum and pedagogies that have been carried out in institutions, inequality, and culture in the region. The latter part of the course will examine civic education practices of Latino/as here in the U.S. from primary schools to higher education. This course offers a service-learning component where students will be encouraged to volunteer with educational organizations in the Philadelphia community.
Taught by: Bartch
Also Offered As: PSCI 228
Activity: Seminar
1 Course Unit

LALS 231 Perspectives in Brazilian Culture
Topics vary. For current course description, please see department's webpage: http://ccat.sas.upenn.edu/roml/portuguese/undergraduate/courses.html
Taught by: Flannery Marcia
Course not offered every year
Also Offered As: PRTG 221
Prerequisite: Taught in Portuguese
Activity: Seminar
1 Course Unit

LALS 233 World History: Latin America Topics vary.
Topics vary
Course usually offered in fall term
Also Offered As: AFRC 234, GSWS 233, HIST 233
Activity: Seminar
1 Course Unit

LALS 235 Special Topics in Sociology/Latinos in the United States
This course presents a broad overview of the Latino population in the United States that focuses on the economic and sociological aspects of Latino immigration and assimilation. Topics to be covered include: construction of Latino identity, the history of U.S. Latino immigration, Latino family patterns and household structure, Latino educational attainment. Latino incorporation into the U.S. labor force, earnings and economic well-being among Latino-origin groups, assimilation and the second generation. The course will stress the importance of understanding Latinos within the overall system of race and ethnic relations in the U.S., as well as in comparison with previous immigration flows, particularly from Europe. We will pay particular attention to the economic impact of Latino immigration on both the U.S. receiving and Latin American sending communities, and the efficacy and future possibilities of U.S. immigration policy. Within all of these diverse topics, we will stress the heterogeneity of the Latino population according to national origin groups (i.e. Mexican, Puerto Rican, Cuban, and other Latinos), as well as generational differences between immigrants and the native born.
Taught by: Emilio Parrado
Course not offered every year
Also Offered As: SOCI 266
Activity: Lecture
1 Course Unit

LALS 251 Inter-American Relations
This course examines patterns of inter-American conflict and cooperation. The course examines United States-Latin American relations, regional organizations and subregional organizations. Specific topics include development, dependency, and security.
One-term course offered either term
Also Offered As: PSCI 251
Activity: Lecture
1 Course Unit

LALS 252 Spanish American Literature in Translation.
This is a topics course. The topic may be "Latin American Travel Narratives or "Caribbean Writers in the U.S."
For BA Students: Arts and Letters Sector
One-term course offered either term
Also Offered As: SPAN 250
Activity: Seminar
1 Course Unit
Notes: All readings will be offered in English

LALS 254 Archaeology of the Inca
The Inca created a vast and powerful South American empire in the high Andes Mountains that was finally conquered by Spain. Using Penn's impressive Museum collections and other archaeological, linguistic, and historical sources, this course will examine Inca religion and worldview, architecture, sacred temples, the capital of Cuzco, ritual calendar, ceque system, textiles, metalworking, economic policies and expansionist politics from the dual perspectives of Inca rulers and their subjects. Our task is to explain the rise, dominance, and fall of the Incas as a major South American civilization.
For BA Students: History and Tradition Sector
Taught by: Erickson
Course not offered every year
Also Offered As: ANTH 254
Activity: Seminar
1 Course Unit
LALS 258 Caribbean Music & Diaspora
This survey course considers Caribbean musics within a broad and historical framework. Caribbean musical practices are explored by illustrating the many ways that aesthetics, ritual, communication, religion, and social structure are embodied in and contested through performance. These initial inquiries open onto an investigation of a range of theoretical concepts that become particularly pertinent in Caribbean contexts such as post-colonialism, migration, ethnicity, hybridity, syncretism, and globalization. Each of these concepts, moreover, will be explored with a view toward understanding its connections to the central analytical paradigm of the course. Throughout the course, we will listen to many different styles and repertories of music, ranging from calypso to junkanoo, from rumba to merengue, and from dancehall to zouk. We will then work to understand them not only in relation to the readings that frame our discussions but also in relations to our own North-American contexts of music consumption and production.
Taught by: Rommen
Course not offered every year
Also Offered As: AFRC 258, ANTH 256, MUSC 257
Activity: Lecture
1 Course Unit

LALS 260 Advance Topics in Narrative
This course explores an aspect of the novel intensively, asking how novels work and what they do to us and for us. Specific course topics will vary from year to year.
Course not offered every year
Also Offered As: AFRC 262, ENGL 260, GSWS 260, LING 470
Activity: Seminar
1 Course Unit

LALS 268 Visualizing the Past/Peopling the Present
Most people's information about the Past is drawn from coffee table picture books, popular movies, video games, documentaries about discoveries of "ancient, mysterious, and lost" civilizations, and tours often led by guides of limited or even dubious credentials. How are these ideas presented, formed, and circulated? Who creates and selects the information presented in this diverse media? Are these presentations accurate? Do they promote or hurt scientific explanations? Can the artistic, aesthetic, and scientific realms be bridged to effectively promote the past? This class will focus on case studies and critiques of how archaeology and the past are created, presented and used in movies, museums, games, the internet, and art.
Taught by: Badler/Erickson
Course not offered every year
Also Offered As: ANTH 258
Activity: Lecture
1 Course Unit

LALS 270 Major Works in Spanish & Latin American Literature
Topics vary. See the Romance Languages Department's website at http://ccat.sas.upenn.edu/roml for a description of current offerings.
Course not offered every year
Also Offered As: SPAN 250
Activity: Seminar
1 Course Unit

LALS 271 Ethnicity: The Immigrant City
Immigration is a controversial issue, dividing Americans from Congress to big cities to small towns. What's at stake in these debates? What does immigration mean for cities and regions? And what roles should policy makers planners, and community organizations play in shaping migration and its impacts? This course examines these questions in the context of immigrant, refugee, and receiving communities in the United States. It surveys public policy and community and economic development practices related to migration, at the local, regional, and trans-national scale. Class readings, discussions, and regular visits to a variety of Philadelphia's immigrant neighborhoods explore themes including labor markets, political mobilization, social and cultural policy, and the built environment.
Taught by: Hanson, R.
Course not offered every year
Also Offered As: URBS 270
Activity: Seminar
1 Course Unit

LALS 274 Facing America
This course explores the visual history of race in the United States as both self-fashioning and cultural mythology by examining the ways that conceptions of Native American, Latino, and Asian identity, alongside ideas of Blackness and Whiteness, have combined to create the various cultural ideologies of class, gender, and sexuality that remain evident in historical visual and material culture. We also investigate the ways that these creations have subsequently helped to launch new visual entertainments, including museum spectacles, blackface minstrelsy, and early film, from the colonial period through the 1940s.
Taught by: Shaw
Course not offered every year
Also Offered As: ARTH 274
Activity: Lecture
1 Course Unit

LALS 275 Race and Ethnicity in U. S. Latino/a Literature
In this course we will study the construction of race and ethnicity in key novels written in English by Latino/o writers. We will examine how U.S.-American race relations shape Latino/a notions and conceptions of race in these texts and how the authors' connections with Latin America and the Caribbean do the same. In order to understand the link between a hemispheric perspective, we will juxtapose our reading of Latino/o texts with works by Latin American authors that address similar issues but in a Latin American context. All coursework and discussions are in English.
Taught by: Carmen Lamas
One-term course offered either term
Activity: Lecture
1 Course Unit

LALS 286 Topics in American Literature
The literature studied in this course is usually organized thematically. Examples: American Authors and The Imagined Past, considering the role of history in literature and studying works by Benjamin Franklin, Nathaniel Hawthorne, William Faulkner, Mark Twain, James Fenimore Cooper, and others; "American Writers and "The School of Hawthorne" studying the influence of Hawthorne on Henry James, Flannery O'Connor, Robert Penn Warren, and others; "Ezra Pound" or "Edgar Allan Poe and the Poe Tradition."
Course not offered every year
Also Offered As: AFRC 289, ENGL 286
Activity: Seminar
1 Course Unit
LALS 291 Latin American Literature
This course explores an aspect of Latina/o literature intensively; specific course topics will vary from year to year. See the English Department’s website at www.english.upenn.edu for a description of the current offerings.
Course not offered every year
Also Offered As: COML 284, ENGL 270, ROML 290
Activity: Seminar
1 Course Unit
Notes: Spaces will be reserved for English Majors

LALS 293 Topics in Literature & Society
This course explores an aspect of Postcolonial literature intensively; specific course topics vary from year to year.
Course not offered every year
Also Offered As: COML 293, ENGL 293
Activity: Seminar
1 Course Unit
Notes: ENGL 293 is a Topics course. When the topic is Caribbean literature, the following description applies.

LALS 296 Latin American Film
See the Romance Language site.
Course not offered every year
Also Offered As: CIMS 294, COML 294, ROML 296
Activity: Seminar
1 Course Unit

LALS 299 Latin American Art: Pre Colombian to Colonial
This course examines the visual culture of Latin America before and after the conquest up to the eighteenth century. It first explores Mesoamerican and South American art and architecture, focusing on the Olmec, Mayan, Aztec, Incan and Tupinamba. The class studies the way in which the colonial culture of the Americas developed in the early modern period through an analysis of works in various media including codices, painting, featherwork, sculpture, architecture and print. Historical political and religious contexts will be explored in relationship to art production. Some themes for the course include hybridity, cross-cultural interaction, conversion and propaganda.
Course not offered every year
Also Offered As: ARTH 299
Activity: Lecture
1 Course Unit

LALS 301 Undergraduate Seminar
Topics vary.
Taught by: Meister, Holod, Brownlee, Poggi, Haselberger, Kuttner, Davis, Maxwell, Pittman, Silver, Beckman, Leja, Shaw, Dombrowski, Ousterhout, Silverman
Activity: Seminar
1 Course Unit

LALS 303 Social Movements in Latin America
This course has two goals: first, to provide an in-depth look at a select number of twentieth century social movements in Latin America. Second, to allow students to "learn by doing;" each participant will produce a major research paper based on primary sources. Readings will include testimonial accounts and fictional works, as well as critical studies.
Taught by: Farnsworth/Alvear
One-term course offered either term
Also Offered As: HIST 303
Activity: Lecture
1 Course Unit

LALS 314 Transitions to Democracy
Taught by: Falleti
One-term course offered either term
Also Offered As: PSCI 314
Activity: Seminar
1 Course Unit

LALS 331 Latino Politics
Also Offered As: PSCI 331
Activity: Seminar
1 Course Unit

LALS 355 Topics in Spanish Drama
Topics vary. See the Romance Languages Department’s website at http://ccat.sas.upenn.edu/roml for a description of the current offerings.
Course not offered every year
Prerequisite: Span 219
Activity: Seminar
1 Course Unit

LALS 370 Topics In Latina/o Literature
This course explores an aspect of Latina/o literature intensively; specific course topics will vary from year to year.
Course not offered every year
Activity: Seminar
1 Course Unit
Notes: Benjamin Franklin Seminar

LALS 387 Topics in Africana Studies
Topics vary. A recent topic is "The Black Body and the Lens." The Spring 2013 topic, "Race in Brazil:" The goal of this course is to have an understanding of race and race-mixing in Brazil with explicit comparisons with the U.S., Mexico, and other countries in the Western Hemisphere. We will compare and contrast forms of racial categorization and ideologies towards race mixture, whether in the form of family formation, nation-building projects, and social policy. Specifically, we will examine how it has been promoted or prevented by society as well as the state. We will draw primarily on social science perspectives, however we will cover some work by historians and legal scholars. By the end of this course, students should have an understanding of the role of race-mixing in both constructing and deconstructing racial categories and its impact on racial and ethnic inequality. This course will count as a requirement for the Africana major and minor.
Taught by: Osuji, Sanders-Johnson, Willis
One-term course offered either term
Also Offered As: AFRC 387
Prerequisites: Junior and Senior Seminar
Activity: Seminar
1 Course Unit

LALS 388 Topics: Span/Ltam Cinema
Also Offered As: CIMS 388, SPAN 388
Activity: Seminar
1 Course Unit
LALS 390 Survey of Francophone Literature
A brief introduction about the stages of French colonialism and its continuing political and cultural consequences, and then reading in various major works -- novels, plays, poems -- in French by authors from Quebec, the Caribbean, Africa (including the Maghreb), etc. Of interest to majors in International Relations, Anthropology and African Studies as well as majors in French.
Course not offered every year
Also Offered As: FREN 390
Activity: Seminar
1 Course Unit

LALS 391 Spanish American Poetry
Topics vary. See the Romance Languages Department’s website at http://ccat.sas.upenn.edu/roml for a description of the current offerings.
Course not offered every year
Prerequisite: Span 219
Activity: Seminar
1 Course Unit

LALS 392 Colonial Spanish American Literature
Topics vary. See the Romance Languages Department’s website at http://ccat.sas.upenn.edu/roml for a description of the current offerings.
Course not offered every year
Also Offered As: SPAN 392
Prerequisite: Span 219
Activity: Seminar
1 Course Unit

LALS 393 Latin American Literature
Course not offered every year
Also Offered As: COML 396
Activity: Seminar
1 Course Unit

LALS 394 Spanish American Fiction
Topics vary. See the Romance Languages Department’s website at http://ccat.sas.upenn.edu/roml for a description of the current offerings.
Course not offered every year
Also Offered As: SPAN 394
Prerequisite: Span 219
Activity: Seminar
1 Course Unit

LALS 395 Hispanic Theater
Topics vary. See the Romance Languages Department’s website at http://ccat.sas.upenn.edu/roml for a description of the current offerings.
Taught by: Regueiro
Course not offered every year
Also Offered As: SPAN 395
Prerequisite: Span 219
Activity: Seminar
1 Course Unit

LALS 396 Introduction to Spanish American Literature
Topics vary. See the Romance Languages Department’s website at http://ccat.sas.upenn.edu/roml for a description of the current offerings.
Course not offered every year
Also Offered As: COML 390, SPAN 390
Prerequisite: Span 219
Activity: Seminar
1 Course Unit

LALS 397 Studies in Spanish-American Literature
Topics vary. See the Romance Languages Department’s website at http://ccat.sas.upenn.edu/roml for a description of the current offerings.
Course not offered every year
Also Offered As: CIMS 396, GSWS 396, SPAN 396
Prerequisite: Span 219
Activity: Seminar
1 Course Unit

LALS 398 History of Spanish American Culture
Topics vary. See the Romance Languages Department’s website at http://ccat.sas.upenn.edu/roml for a description of the current offerings.
Course not offered every year
Also Offered As: CIMS 397, SPAN 397
Prerequisite: Span 219
Activity: Seminar
1 Course Unit

LALS 402 Us-Latin American Rel
Activity: Lecture
1 Course Unit

LALS 414 Memory and Urbanism in the Americas
Whether as statues, walls, plaques, parks, or other commemorative structures, monuments are regular features of urban topography. Such “sites of memory” not only instruct us about significant events of the past, but do so in the space and time of the present. And yet, the historical memory of cities is also made legible through modes of cultural expression and inscription - including literature, visual art, graffiti, music, and street performance. Cycles of urban de-industrialization and renewal since the 1970s, as well as legacies of conflict and inequality, have exacerbated the need for alternate forms of commemoration. The Occupy movement is one continued example of how urban space can be reanimated through demarcation, embodiment, and calls for collectivity.
Taught by: Farber
Course not offered every year
Also Offered As: URBS 414
Activity: Seminar
1 Course Unit

LALS 417 Comparative Racial Politics
This course combines scholarship on race and racism in plural societies with qualitative approaches to the study of political institutions, phenomena and actors. Germany, Brazil, France and Cuba will be examined as individual country cases and in comparative perspective. Conceptual and theoretical readings on race, racism and politics provide students with the analytic too to draw more abstract lessons and generalizable conclusions about how racial and ethno-national hierarchy involves the role of the state and political economy, culture, norms and institutions. Students will also examine the impact of civil rights movements for political equality in response to legacies of racial and ethno-national hierarchy and inequality. Finally, students will become familiar with scholarship on nationalism and social movements as they relate to racial politics.
Taught by: Hanchard
Also Offered As: AFRC 417, HIST 467, PSCI 412, SOCI 417
Activity: Lecture
1 Course Unit
LALS 419 Democracy and Decentralization
Are decentralization reforms fostering local community participation and improving the quality of democracy in Latin America? Are they, instead, posing a threat to democracy and development? In the last thirty years, Latin American countries have undergone major reforms that devolved fiscal resources, administrative responsibilities, and political authority from the central governments to the states and municipalities. These decentralization reforms have radically altered the political landscape in Latin America, even in those countries that have since then tried to re-centralize power, such as Venezuela. What were the main causes of the decentralization movement? Who were the main national and international actors who pushed forward these reforms? What have been the main political, fiscal, and policy consequences of decentralization been? These are some of the questions this course will focus on. The experiences of decentralization in Argentina, Brazil, Colombia, Bolivia, Venezuela, and Mexico will be studied. Although prior knowledge of Latin American politics is not required, additional readings will be assigned to the students who have not taken at least one introductory course in Latin American politics, history or cultures.
Taught by: Falleti, T.
Course not offered every year
Also Offered As: PSCI 419
Activity: Seminar
1 Course Unit

LALS 420 Adv Tpcs in Africana Stds
Also Offered As: AFRC 620, SOCI 460, SOCI 660
Activity: Lecture
1 Course Unit

LALS 424 Latinx Communities and the Role of CBO’s in Social Change
The purpose of this course to create a Latino Studies/Service Learning ABCS course that cultivates dialogue and knowledge about the social, political, cultural and historical complexities of the Latinx experience in the United States (Philadelphia in particular) and the roles Latinx CBO’s play in meeting the needs of Latinx communities and in impacting social change.
Taught by: Irizarry
Activity: Lecture
1 Course Unit

LALS 425 Latin@ Cultural History
This course takes a multi-disciplinary approach to the study of the resiliency and impact of Latin@ cultural and artistic contributions, aesthetics, expressions and institution building int he United Stats from the Civil Rights Era to the present. We will explore how Latin@s aruculturally defining being "American"; how their artistic expressions fit and influence the creativity and productivity of American and global Arts & Cultural expressions; and the Latin@ interactions of race, culture, society, economy and politics in the U.S.
Taught by: Irizarry, Johnny
Also Offered As: SOCI 425
Activity: Seminar
1 Course Unit

LALS 431 Modern Mexican Society
An introduction to social, political, and economic organization of modern Mexico. This course traces to evolution of Mexico’s fundamental societal institutions from their birth during the Mexican Revolution of 1910, through their flowering during the 1950’s and 1960’s, to recent changes under neoliberal administrations. The course ends with a discussion of Mexico’s transition to democracy and the election of the first opposition President in 80 years.
Course not offered every year
Also Offered As: SOCI 431
Activity: Seminar
1 Course Unit

LALS 433 Andean Archaeology
Consideration of culture history of native peoples of Andean area, with emphasis on pre-conquity archaeology of Central Andean region.
Taught by: Erickson
Course not offered every year
Also Offered As: ANTH 433
Activity: Lecture
1 Course Unit

LALS 468 The Ancient Maya
Examination of current understanding of Ancient Maya, emphasizing critical review of recent archaeological research and theories.
Taught by: Sharer
Course not offered every year
Activity: Lecture
1 Course Unit

LALS 527 Spring 2015: Race, Gender & Auto/Biography
SPRING 2017: Market Women, Madames, Mistresses & Mother Superior studies gender, labor, sexuality, and race in the Caribbean. In our historical examination of primary source documents alongside literature, and popular media, we will question some of the iconic representations of Caribbean and Latin American women in order to understand the meaning, purpose and usages of these women’s bodies as objects of praise, possession, obsession and/or ridicule by communities, governments and religions within and outside of the region. Beginning in the late-18th century and ending with contemporary migration narratives, this course considers the relationship between slave society and colonial pasts on gender performance in the modern Caribbean, Latin America, and their diasporas.
Taught by: Sanders
One-term course offered either term
Also Offered As: AFRC 527, GSWS 527
Activity: Seminar
1 Course Unit

LALS 554 Democ in Latin America
Course not offered every year
Activity: Seminar
1 Course Unit

LALS 557 Seminar in Archaeological Theory and Method: Archaeology of Landscapes
Advanced seminar for potential professional archaeologists. Course will examine critically main past and present theoretical issues in archaeological research and interpretation, and consider various methodologies utilized towards these interpretive ends.
Taught by: Erickson, C.
Course not offered every year
Also Offered As: AAMW 557, ANTH 557
Activity: Seminar
1 Course Unit
LALS 586 Topics in 20th Century American Fiction
This course covers topics in 20th-Century American fiction with specific emphasis determined by the instructor.
Course not offered every year
Activity: Seminar
1 Course Unit

LALS 587 Iberian Colonialism
The creation of colonial societies in America under Spanish and Portuguese rule. Emphasis on primary sources (English translation) dealing with the social, cultural and biological effects of European contact. Topics include: the role of missionaries and evangelization, Iberian and Indian perceptions of the "other", the impact of Old-World diseases, animals and plants on American people and ecosystems.
Course offered fall; even-numbered years
Activity: Seminar
1 Course Unit

LALS 589 Conquest and Conversion
Early culture contact in Mesoamerica (Mexico and Central America) and the Andes. Compares European and Amerindian conceptions of time and space of evil and disorder, the individual's relation to society, the physical world, and the sacred. Emphasis is on the zones and the means of intercultural communication -- especially as influenced by the introduction of European writing -- and on the intermediaries who straddled the linguistic and cultural boundaries.
One-term course offered either term
Activity: Seminar
1 Course Unit

LALS 590 Introduction to Francophone Literature
An introduction to major literary movements and authors from five areas of Francophonie: the Maghreb, West Africa, Central Africa, the Caribbean and Quebec.
Course not offered every year
Also Offered As: COML 590, ENGL 590, GSWS 589
Activity: Seminar
1 Course Unit

LALS 592 20th Century Literature & Theory
This course treats some aspect of literary and cultural politics in the 20th-Century with emphasis varying by instructor.
Course not offered every year
Also Offered As: ENGL 592
Activity: Seminar
1 Course Unit

LALS 595 Democratization
This graduate class focuses on issues of democratization (and de-democratization), as studied in the comparative politics literature. The course is structured in four parts. In the first part, we scrutinize conceptualizations and measurements of democracy. In the second part, we study competing political theories about the origins of democracy. The third part of the seminar is devoted to the study of democratic transition and consolidation processes. To finish, we tackle specific issues in democratization such as social capital and civic participation, as well as the resilience of (subnational) authoritarianism.
Taught by: Falleti
Course not offered every year
Also Offered As: PSCI 655
Activity: Seminar
1 Course Unit

LALS 598 Topics in 20th Century American Fiction
This course covers topics in 20th-Century American fiction with specific emphasis determined by the instructor.
Course not offered every year
Activity: Seminar
1 Course Unit

LALS 673 Selected Topics in Education Linguistics
The focus for each semester will vary to reflect those issues most relevant to current concerns in educational linguistics.
One-term course offered either term
Also Offered As: EDUC 673
Activity: Seminar
1 Course Unit

LALS 677 International Migration
A comprehensive review of theories and research on international migration. The course introduces the basic precepts of neoclassical economics, the new economics of labor migration, segmented labor market theory, world systems theory, social capital theory, and the theory of cumulative causation. Readings examine patterns and processes of global migration during the classic age from 1800-1914 as well as during the postwar period from 1945 to the present. The course concludes with an evaluation of immigration policies in the United States.
Taught by: Flippen, C
Course not offered every year
Also Offered As: SOCI 677
Activity: Seminar
1 Course Unit

LALS 690 Studies in Spanish American Literature
Topics vary. Previous topics have included Latin American Narrative and Art in Times of Globalization, Modernismo / fin de siglo, Art, Literature, and Society in Latin America at the End of the 20th Century.
Course not offered every year
Also Offered As: COML 691, SPAN 690
Activity: Seminar
1 Course Unit

LALS 692 Colonial Literature of Spanish America
Study of the historical context of the colonial period in Spanish America and of major works in prose and poetry.
Course not offered every year
Also Offered As: SPAN 692
Activity: Seminar
1 Course Unit

LALS 694 Spanish & Latin Am Cine
Topics vary. See the Romance Languages Department’s website at http://ccat.sas.upenn.edu/roml/ for a description of the current offerings.
Course not offered every year
Also Offered As: CIMC 694, SPAN 694
Activity: Seminar
1 Course Unit

LALS 697 Studies in Latin American Culture
Topics vary. See the Romance Languages Department’s website at http://ccat.sas.upenn.edu/roml/ for a description of the current offerings.
Course not offered every year
Also Offered As: SPAN 697
Activity: Seminar
1 Course Unit

LALS 720 Studies in Renaissance Music
Seminar on selected topics in the music of the Renaissance.
Course not offered every year
Also Offered As: COML 720, MUSC 720
Activity: Seminar
1 Course Unit
LALS 770 Seminar in Afro-American Music
This course will consider the American musical landscape from the colonial period to the present with an emphasis, though not exclusive focus, on non-written traditions. The course is not a chronological journey, but rather a topical treatment of the various issues in the history of American music. Some of the specific, project-oriented activities of the course will consist of, but will not be limited to the following: (1) participating in the development of a traveling exhibition on the Apollo Theater for the Smithsonian Institution; (2) development of a permanent website for a history of jazz course at Penn; (3) reviewing two manuscripts for publication to a major press; (4) developing a working proposal for a history of African American music. In this context, students will learn the basics of contemporary music criticism, including: identifying a work’s significant musical gestures; positioning those gestures within a broader field of musical rhetoric, conventions, and social contracts; and theorizing the conventions with respect to large systems of cultural knowledge, such as historical, geographical contexts as well as the lived experiences of audiences, composers, performers, and dancers. Other topics covered: origin and development of American popular music and gendered and racial aspects of American classical music.
Taught by: Ramsey
Course not offered every year
Also Offered As: AFRC 771, FOLK 770, MUSC 770
Activity: Seminar
1 Course Unit

LALS 771 Oral History
One-term course offered either term
Also Offered As: HIST 770
Activity: Seminar
1 Course Unit

LALS 798 Advanced Topics
Titles and Topics vary. See department website for descriptions: http://www.sp2.upenn.edu/programs/msw/courses.html
One-term course offered either term
Activity: Lecture
1 Course Unit

Legal Studies & Business Ethics (LGST)

LGST 100 Ethics and Social Responsibility
This course explores business responsibility from rival theoretical and managerial perspectives. Its focus includes theories of ethics and their application to case studies in business. Topics include moral issues in advertising and sales; hiring and promotion; financial management; corporate pollution; product safety; and decision-making across borders and cultures.
One-term course offered either term
Activity: Lecture
1 Course Unit

LGST 101 Law and Social Values
This course presents law as an evolving social institution, with special emphasis on the legal regulation of business in the context of social values. It considers basic concepts of law and legal process, in the U.S. and other legal systems, and introduces the fundamentals of rigorous legal analysis. An in-depth examination of contract law is included.
One-term course offered either term
Activity: Lecture
1 Course Unit

LGST 202 Law of Corporate Management and Finance
This course provides an introduction to the law of corporate management and finance, focusing on large publicly held corporations. It is presented from the perspective that before too long virtually all students will serve on one or more corporate boards of directors and that each should, therefore, know about the duties owed by directors and officers to those toward whom they bear a fiduciary duty. The course covers the basic obligations of corporate directors and managers under state corporate law and the federal securities laws. It also considers the rights and responsibilities of other major stakeholders in the governance of public corporations, including shareholders, creditors/bondholders, employees (including corporate executives), investment bankers, corporate lawyers, and accountants. Particular attention is given to the law of mergers and acquisitions. Important issues of social policy concerning large business corporations are also discussed.
Taught by: Constan, Orts
One-term course offered either term
Also Offered As: LGST 802
Activity: Lecture
1 Course Unit

LGST 204 Real Estate Law
See Real Estate, REAL 204
One-term course offered either term
Also Offered As: LGST 804, REAL 204, REAL 804
Activity: Lecture
1 Course Unit

LGST 205 Law of Marketing and Antitrust
The course explores the legal aspects of competition. The aim is to understand what legal obligations a business organization owes to its competitors and consumers. In particular, the course focuses on permissible and impermissible marketing tactics, pricing strategies, use of intellectual property (including patents, copyrights, and trademarks), and exertion of market dominance. The focus is primarily on U.S. law, but the challenges posed by diverse domestic, foreign, and international regimes will also be discussed. The course is useful to students interested in marketing strategy or competitive business strategy, and, more broadly, to anyone desiring to understand the legal and public policy issues relating to competitive business interaction.
One-term course offered either term
Also Offered As: LGST 805, MKTG 260, MKTG 760
Activity: Lecture
1 Course Unit

LGST 206 Negotiations
This course examines the art and science of negotiation, with additional emphasis on conflict resolution. Students will engage in a number of simulated negotiations ranging from simple one-issue transactions to multi-party joint ventures. Through these exercises and associated readings, students explore the basic theoretical models of bargaining and have an opportunity to test and improve their negotiation skills.
One-term course offered either term
Also Offered As: MGMT 291, OIDD 291
Activity: Lecture
1 Course Unit
LGST 207 The Sports Industry: Business and Legal Aspects
This course examines various business disciplines as they apply to the sports industry. The course provides the student with an overview of the business of the intercollegiate, Olympic and professional sports enterprises. In addition, the course investigates the business related issues encountered by managers of sports organizations and covers how business principles can be applied to effectively address these issues.
Taught by: Rosner
One-term course offered either term
Also Offered As: LGST 809
Activity: Lecture
1 Course Unit

LGST 208 The Law at Work: Employment Law for Managers
This course is based on the principle that knowledge and understanding of employment law facilitate (1) promotion of a workforce with a high degree of commitment to reaching business goals, (2) the development of practical business solutions to problems arising in the workplace, (3) effective human resources policy and procedures that comply with applicable laws. It provides students with an introduction to the law of the workplace and examines the balance between business goals and employment law compliance. The course examines the various employment laws with which businesses must comply and the legal rights and responsibilities of employees and employers. The emphasis is on laws concerning equal employment opportunity with respect to discrimination and harassment because of sex, race, national origin, religion, sexual orientation, age, disability and other characteristics protected by workforce laws; work-related privacy including investigations, electronic communication and social media; employee misclassification; diversity and affirmative action; and the legal and regulatory environment regarding immigration, wage and hour, leaves of absence, hiring, termination and afterwards, the non-employee workforce, whistle blower concerns, labor/management relations and collective bargaining.
Taught by: Weinstein
One-term course offered either term
Also Offered As: LGST 808, MGMT 247
Activity: Lecture
1 Course Unit

LGST 210 Corporate Responsibility and Ethics
This course explores business responsibility from rival theoretical and managerial perspectives. Its focus includes theories of ethics and their application to case studies in business. Topics include moral issues in advertising and sales; hiring and promotion; financial management; corporate pollution; product safety; and decision-making across borders and cultures.
One-term course offered either term
Activity: Lecture
1 Course Unit

LGST 212 Economic Analysis of Law
The course is designed to teach students how to think as an economist about legal rules; to evaluate alternative legal rules against standards of economic efficiency and distributive justice; and to understand the nature of the legal process and several specific areas of the law. With the use of alternative texts, both deductive and inductive reasoning will be employed to study the formation and interpretation of legal rules.
Taught by: Buccola
One-term course offered either term
Also Offered As: BEPP 212
Prerequisite: Econ 001
Activity: Lecture
1 Course Unit

LGST 213 Legal Aspect of Entrepreneurship
This practically oriented course examines the critical legal issues confronting start-ups with a focus on innovation and disruption. Cutting edge topics include the new drone law, which permits companies to benefit from the efficiency of aerial view techniques. Students will learn to use the law to manage risk, deploy resources and maximize value by analyzing cases, statutes, pleadings and contracts. The course covers the entire lifecycle of a business and deals with confidentiality, non-competition and invention assignment clauses, tax advantages of limited liability companies (LLC) v. corporations or partnerships, securities law strategy for raising venture capital, independent contractor v. employee concerns, discrimination laws, merger and acquisition exit plans, intellectual property (IP) including patent, trade secrets, copyrights and trademarks, as well as restructuring and bankruptcy. Students will emerge from the course with the skills and tools to draft term sheets tailored to their business models, as well as mitigate liability via risk-protective policies, insurance and management of litigation. The course fulfills elective requirements for 6 Concentrations, Majors, or Minors: * Wharton Legal Studies and Business Ethics; * Wharton Entrepreneurship and Innovation/Management; * Wharton Social Impact and Responsibility; * SAS Legal Studies Minor; * SAS STSC Major(Science, Technology and Society)–with permission; * Engineering Entrepreneurship Minor–with permission.
Taught by: Hochstadter
One-term course offered either term
Activity: Lecture
1 Course Unit

LGST 215 Environmental Management: Law & Policy
This course provides an introduction to environmental management by focusing on foundational concepts of environmental law and policy and how they affect business decisions. The primary aim of the course is to give students a deeper practical sense of the important relationship between business and the natural environment, the existing legal and policy framework of environmental protection, and how business managers can think about managing their relationship with both the environment and the law.
Taught by: Light, Orts
One-term course offered either term
Also Offered As: LGST 815
Activity: Lecture
1 Course Unit
LGST 216 Emerging Economies
This course explores important issues in conducting business internationally in and with emerging economies. Much of the course attempts to define emerging economies and to understand the changes occurring in these countries. The course also examines the position of emerging economies in the global context, and how broad social issues affect the development of emerging economies and the ability to establish relationships or conduct business in emerging economies.
Taught by: Nichols
One-term course offered either term
Activity: Lecture
1 Course Unit

LGST 218 Diversity and the Law
The goal of this course is to study the role the law has played, and continues to play, in addressing the problems of racial discrimination in the United States. Contemporary issues such as racial profiling, affirmative action, and diversity will all be covered in their social and legal context. The basis for discussion will be assigned texts, articles, editorials and cases. In addition, interactive videos will also be used to aid class discussion. Course requirements will include a term paper and class case presentations.
Taught by: Anderson
One-term course offered either term
Also Offered As: AFRC 218
Activity: Lecture
1 Course Unit

LGST 219 Law and Policy in International Business
This course introduces students to the legal frameworks for regulating international business - national, regional, and international. Topics include mechanisms for dispute resolution, different standards on assigning nationality, jurisdictional and choice of law problems, controversies regarding the treatment of incoming foreign direct investment and expropriation of foreign-owned businesses, patterns in extraterritoriality, problems of clashing legal standards affecting areas like labor and the environment, and projects for creating more uniform rules governing the conduct of international business. Throughout students will be encouraged to evaluate the policy dimensions of laws and to develop their own critical perspectives regarding these.
Taught by: Zaring
One-term course offered either term
Activity: Lecture
1 Course Unit

LGST 220 International Business Ethics
This course is a multidisciplinary, interactive study of business ethics within a global economy. A central aim of the course is to enable students to develop a framework to address ethical challenges as they arise within and across different countries. Alternative theories about acting ethically in global environments are presented, and critical current issues are introduced and analyzed. Examples include bribery, global sourcing, environmental sustainability, social reports, intellectual property, e-commerce, and dealing with conflicting standards and values across cultures. As part of this study, the course considers non-Western ethical traditions and practices as they relate to business.
One-term course offered either term
Also Offered As: LGST 820
Activity: Lecture
1 Course Unit

LGST 221 Constitutional Law and Free Enterprise
The course explores the fundamentals of U.S. constitutional doctrine and adjudication, with an emphasis on commercial and business issues and implications of constitutional law. The course starts by considering the Constitution and the structure and relationship of the governmental entities it establishes and upon which it depends. Special attention is given to the role of the federal courts, especially the Supreme Court, in interpreting and applying constitutional principles. From this foundation, the course moves on to examine in detail the major economic and business implications of constitutional law in different eras of the nation’s history. A core theme is how historical events and changing notions of public policy have affected and been affected by the evolution of constitutional doctrine.
Taught by: Sepinwall
One-term course offered either term
Activity: Lecture
1 Course Unit

LGST 222 Internet Law & Policy
The Internet has become central to business and daily life. This course looks at how courts, legislatures, and regulators confront the major legal issues that the Internet poses. The fundamental challenge is that law comes from governments and other institutions in specific places, but the Internet is global and virtual. Conflicts such as the shutdown of the Napster peer-to-peer file-sharing service and the debate over "network neutrality" regulations for broadband access illustrate the challenge. How does the legal system think about Google, Skype, Twitter, and Facebook? How should it? The material in the course ranges from the foundations of cyberlaw, developed during the e-commerce boom of the 1990s, to current leading-edge questions around social networks, user-generated content, location-based services, cloud computing, and broadband platforms. Major topics include: how legally-enforceable contracts are made online; how courts determine jurisdiction over online transactions; intellectual property rules around digital assets such as music, video, and online texts; control over Internet domain names; liability of intermediaries such as Internet Service Providers and search engines; and online privacy protections. No pre-existing legal or technical knowledge is required.
Taught by: Werbach
One-term course offered either term
Also Offered As: OIDD 222
Activity: Lecture
1 Course Unit
LGST 223 Securities Regulation
The course examines the federal securities laws and the operation of the Securities Exchange Commission. The legal responsibilities of corporate managers, accountants, underwriters, and broker-dealers, occasioned by the securities regulatory scheme, will be investigated. Students will be encouraged to evaluate, from a managerial perspective, the various aspects of securities regulation studied. The course will discuss the recent financial crisis and ask the question whether enhanced securities regulation will prevent such a crisis in the future. The material covered in the course will provide familiarity with the basic legal structure of securities regulation and will assist in understanding the current policy issues in securities law. The course should help students to develop the ability to read and learn further in the field and to improve their effectiveness of communication with attorneys. It will also suggest ways of detecting instances in which an attorney should be consulted. The course is particularly useful for those students pursuing careers in corporate finance, investment banking, mergers and acquisitions, sales and trading, venture capital, private equity, entrepreneurship, accounting, corporate management, and real estate.
Taught by: Buccola, Conti-Brown
One-term course offered either term
Also Offered As: LGST 807
Activity: Lecture
1 Course Unit

LGST 224 Human Rights and Globalization
The 2000 UN Global Compact has confirmed the role of TNCs as central actors in the UN system of international human rights law, but whether their role should be voluntary or legally mandated remains in dispute. This course introduces students to how globalization has led to projects for expanding international human rights law to capture the operations of TNCs and why this development is opposed in many quarters. Competing perspectives on the pros and cons of imposing human rights responsibilities on TNCs and on the respective roles that businesses and governments should play will be examined. The Positions of various governments, businesses, international institutions, academics, and NGOs will be considered, and a number of illustrative case studies will be analyzed.
Taught by: Bellace
One-term course offered either term
Also Offered As: LGST 524
Activity: Lecture
1 Course Unit

LGST 226 Markets, Morality & the Future of Capitalism
Markets play a central role in the life of a capitalist democracy. But is this a good thing? Should we let markets decide who is rich and who is poor? Who makes decisions and who follows them? Whose ideas get heard and whose ideas do not? The goal of this class will be to examine the market from the perspective of various social values to see whether we should want a market system and, if so, what kind of market system we should want. Among the issues we will examine are the following. Does the market contribute to the common good? If so, how? Does the market conflict with the idea that all human beings are of equal value? What is the relation between the market and freedom? Does the market liberate us or oppress us? Can we reconcile the market with our democratic ideals? What role should corporations play in a healthy democracy? What role should markets play in an increasingly globalized world? We will read several important philosophers, economists and political theorists writing on these issues, including Adam Smith, John Rawls, Amartya Sen, Friedrich Hayek, Karl Marx, Robert Nozick, Jurgen Habermas, and others. Grades will be based on three papers and class participation.
One-term course offered either term
Activity: Lecture
1 Course Unit

LGST 227 Literature of Success
This course explores the history, literature, and philosophy of two age-old questions: what does it mean to be successful and how does one achieve this elusive goal? It surveys some of the classics of the "success" genre - from Benjamin Franklin's Autobiography in the 18th century to Dale Carnegie's How to Win Friends and Influence People and Marcus Buckingham's Now, Discover Your Strengths in the 20th and 21st centuries. Case studies of remarkable achievements in business and society and Arthur Miller's play Death of a Salesman provide additional contexts within which to reflect on the questions at the center of the course. Students will keep a personal journal and use web-based tools to examine their own character strengths, talents, and achievement orientations. Grading is based on class attendance and participation, reading response papers, personal journals on assigned topics involving self reflection, a mid-term paper on an assigned research subject related to success, and a final, longer paper exploring, based on course readings and original research, each students personal philosophy of success. No final exam.
Taught by: Shell
One-term course offered either term
Activity: Lecture
1 Course Unit
LGST 228 Sports Law
This course focuses on the areas of association, contract, constitutional, labor, antitrust, and agency law as they apply to the sports industry. This course exposes the student to many of the legal issues facing stakeholders in sport organizations. Special attention is given to the regulation of professional sports leagues promoting competitive balance, as well as antitrust law and labor-management relations dealing with the organization structure of sports leagues. The course also takes an inside look at previous and newly formed collective bargaining agreements and the use of Salary Cap or lack thereof in professional sports leagues. The development of effective communication skills will be emphasized through class presentations, written assignments, and quizzes; leadership and interpersonal communications will be cultivated through small group projects and meetings, and critical thinking and problem solving skills will be fostered through the careful study of case law impacting the sports industry in a variety of facets.
Taught by: Ashe, McAfee
One-term course offered either term
Activity: Lecture
1 Course Unit

LGST 230 Social Impact and Responsibility: Foundations
What role can business play in helping to meet global societal needs, whether it involves the environment, improving health, expanding education or eradicating poverty? Is there any responsibility on the part of business to help meet those needs? What are models of successful business engagement in this area? How should success be measured?
Are there limits to what businesses can and should do, and what institutional changes will enable businesses and entrepreneurs to better succeed? This survey course provides students the opportunity to engage in the critical analysis of these and other questions that lie at the foundation of social impact and responsibility as an area of study. The course involves case studies, conceptual issues, and talks by practitioners. The course is designed to help students develop a framework to address the question: How should business enterprises and business thinking be engaged to improve society in areas not always associated with business? The course is required for the secondary concentration in Social Impact and Responsibility
Taught by: Gordon, Nichols
Activity: Lecture
1 Course Unit

LGST 240 Gamification for Business
Gamification means using the techniques of digital game design to serve business and social impact objectives. The video game industry is now bigger than Hollywood because well-designed games take advantage of both technology and psychology. Gamification takes the elements of games and applies them to real-world environments. Major companies and fast-growing startups now use it in marketing, human resources, innovation processes, health hand, education, and customer engagement. This course examines the mechanisms of gamification their effective use in business or other contexts. No particular technical skills or game knowledge are required. The focus is on gamification as a design practice, which it rooted in research on human motivation and implemented through online systems and social media. To illustrate these concepts, the course itself will be gamified.
Taught by: Werbach
One-term course offered either term
Also Offered As: OIDD 240
Activity: Lecture
1 Course Unit

LGST 241 Theories of the Business Enterprise
What is a business firm? How did various forms of business, including the corporation, arise historically? How do contemporary economic and financial theories explain how business firms evolve, grow, and die? What are the legal underpinnings of the forms of business enterprise, ranging from sole proprietorships to partnerships to family-owned enterprises to multinational corporate groups? How do business firms relate to politics and government, as well as religion? What about the environment? This interdisciplinary course offers an introduction to pursuing answers to these questions. Students will gain perspective on the nature of business enterprises from different points of view that will be useful in further research, as well as having practical application. Ubiquitous economic concepts such as agency costs, principal-agent relationships, transaction costs, and influence costs will be studied. Different legal structures of firms will also be introduced, including new hybrid organizations such as benefit corporations, which seek to meld non-profit and profit objectives.
In the course, we will read high-profile U.S. Supreme Court cases such as Citizens United and Hobby Lobby and debate appropriate boundaries (or not) between business and politics, as well as business and religion. Business ethics and the nature of any social responsibilities owed by business and business people will be topics too.
Taught by: Orts
One-term course offered either term
Also Offered As: LGST 641
Activity: Lecture
1 Course Unit

LGST 242 Big Data, Big Responsibilities: The Law and Ethics of Business Analytics
Significant technologies always have unintended consequences, and their effects are never neutral. A World of ubiquitous data, subject to ever more sophisticated collection, aggregation, and analysis, creates massive opportunities for both financial gain and social good. It also creates dangers in areas such as privacy, security, discrimination, exploitation, and iniquity, as well as simple hubris about the effectiveness of management by algorithm. Firms that anticipate these risks of these new practices will be best positioned to avoid missteps. This course introduces students to the legal, policy, and ethical dimensions of big data, predictive analytics, and related techniques. It then examines responses—both private and governmental—that may be employed to address these concerns.
Taught by: Werbach
Activity: Lecture
0.5 Course Units

LGST 292 Advanced Negotiations
This course is designed to teach negotiation principles and to enable students to develop their negotiation skills. This course assumes familiarity with the basic negotiation concepts covered in the prerequisite for this course: Negotiations. In this course, we extend the study and practice of negotiations and we develop a deeper understanding for how specific aspects of the negotiation process (e.g., emotions, deadlines, trust violations) impact outcomes. Through course lectures, readings, and case exercises, students will develop a rich framework for thinking about the negotiation process and acquire tools for guiding the negotiation process.
Taught by: Schweitzer, Staff
One-term course offered either term
Also Offered As: MGMT 292, OIDD 292
Prerequisite: LGST 206 Negotiations
Activity: Lecture
1 Course Unit
LGST 299 Seminar in Law and Society
A study of the nature, functions, and limits of law as an agency of societal policy. Each semester an area of substantive law is studied for the purpose of examining the relationship between legal norms developed and developing in the area and societal problems and needs.
One-term course offered either term
Activity: Seminar
1 Course Unit
Notes: See department for current offerings

LGST 524 Human Rts & Globalization
The 2000 UN Global Compact has confirmed the role of TNCs as central actors in the UN system of international human rights law, but whether their role should be voluntary or legally mandated remains in dispute. This course introduces students to how globalization has led to projects for expanding international human rights law to capture the operations of TNCs and why this development is opposed in many quarters. Competing perspectives on the pros and cons of imposing human rights responsibilities on TNCs and on the respective roles that businesses and governments should play will be examined. The positions of various governments, businesses, international institutions, academics, and NGOs will be considered, and a number of illustrative case studies will be analyzed.
Taught by: Bellace
One-term course offered either term
Also Offered As: LGST 224
Activity: Lecture
1 Course Unit

LGST 611 Responsibility in Global Management
This course uses the global business context to introduce students to important legal, ethical and cultural challenges they will face as business leaders. Cases and materials will address how business leaders, constrained by law and motivated to act responsibly in a global context, should analyze relevant variables to make wise decisions. Topics will include an introduction to the basic theoretical frameworks used in the analysis of ethical issues, such as right-based, consequentialist-based, and virtue-based reasoning, and conflicting interpretations of corporate responsibility. The course will include materials that introduce students to basic legal (common law vs. civil law) and normative (human rights) regimes at work in the global economy as well as sensitize them to the role of local cultural traditions in global business activity. Topics may also include such issues as comparative forms of corporate governance, bribery and corruption in global markets, human rights issues, diverse legal compliance systems, corporate responses to global poverty, global environmental responsibilities, and challenges arising when companies face conflicting ethical demands between home and local, host country mores. The pedagogy emphasizes globalized cases, exercises, and theoretical materials from the fields of legal studies, business ethics and social responsibility.
One-term course offered either term
Activity: Lecture
0.5 Course Units

LGST 612 Responsibility in Business
This course introduces students to important ethical and legal challenges they will face as leaders in business. The course materials will be useful to students preparing for managerial positions that are likely to place them in advisory and/or agency roles owing duties to employers, clients, suppliers, and customers. Although coverage will vary depending on instructor, the focus of the course will be on developing skills in ethical and legal analyses that can assist managers as they make both individual-level and firm-level decisions about the responsible courses of action when duties, loyalties, rules, norms, and interests are in conflict. For example, the rules of insider trading may form the basis for lessons in some sections. Group assignments, role-plays, and case studies may, at the instructor’s discretion, be used to help illustrate the basic theoretical frameworks. Course materials will highlight industry codes and professional norms, as well as the importance of personal and/or religious values.
One-term course offered either term
Activity: Lecture
0.5 Course Units

LGST 641 Theories of the Business Enterprise
What is a business firm? How did various forms of business, including the corporation, arise historically? How do contemporary economic and financial theories explain how business firms evolve, grow, and die? What are the legal underpinnings of the forms of business enterprise, ranging from sole proprietorships to partnerships to family-owned enterprises to multinational corporate groups? How do business firms relate to politics and government, as well as religion? What about the environment? This interdisciplinary course offers an introduction to pursuing answers to these questions. Students will gain perspective on the nature of business enterprises from different points of view that will be useful in further research, as well as having practical application. Ubiquitous economic concepts such as agency costs, principal-agent relationships, transaction costs, and influence costs will be studied. Different legal structures of firms will also be introduced, including new hybrid organizations such as benefit corporations, which seek to meld non-profit and profit objectives. In the course, we will read high-profile U.S. Supreme Court cases such as Citizens United and Hobby Lobby and debate appropriate boundaries (or not) between business and politics, as well as business and religion. Business ethics and the nature of any social responsibilities owed by business and business people will be topics too.
Taught by: Orts
One-term course offered either term
Also Offered As: LGST 241
Activity: Lecture
1 Course Unit
LING 001 Introduction to Linguistics
A general introduction to the nature, history and use of human language, speech and writing. Topics include the biological basis of human language, and analogous systems in other creatures; relations to cognition, communication, and social organization; sounds, forms and meanings in the world’s languages; the reconstruction of linguistic history and the family tree of languages; dialect variation and language standardization; language and gender; language learning by children and adults; the neurology of language and language disorders; the nature and history of writing systems. Intended for any undergraduate interested in language or its use, this course is also recommended as an introduction for students who plan to major in linguistics.
For BA Students: Natural Science and Math Sector
One-term course offered either term
Activity: Lecture
1 Course Unit

LING 051 Proto-Indo European Language and Society
Most of the languages now spoken in Europe, along with some languages of Iran, India and central Asia, are thought to be descended from a single language known as Proto-Indo-European, spoken at least six thousand years ago, probably in a region extending from north of the Black Sea in modern Ukraine east through southern Russia. Speakers of Proto-Indo-European eventually populated Europe in the Bronze Age, and their societies formed the basis of the classical civilizations of Greece and Rome, as well as of the Celtic, Germanic and Slavic speaking peoples. What were the Proto-Indo-Europeans like? What did they believe about the world and their gods? How do we know? Reconstruction of the Proto-Indo-European language, one of the triumphs of comparative and historical linguistics in the 19th and 20th centuries, allows us a glimpse into the society of this prehistoric people. In this seminar students will, through comparison of modern and ancient languages, learn the basis of this reconstruction – the comparative method of historical linguistics – as well as explore the culture and society of the Proto-Indo-Europeans and their immediate descendants. In addition, we will examine the pseudo-scientific basis of the myth of Aryan supremacy, and study the contributions of archaeological findings in determining the “homeland” of the Indo-Europeans. No prior knowledge of any particular language is necessary. This seminar should be of interest to students considering a major in linguistics, anthropology and archaeology, ancient history or comparative religion. (Also fulfills Cross-Cultural Analysis.)
For BA Students: History and Tradition Sector
Taught by: Noyer
Course not offered every year
Activity: Seminar
1 Course Unit
Notes: Freshman Seminar

LING 054 Bilingualism in History
This course introduces the foundations of linguistics - the scientific study of language - through exploration of multilingualism in the USA and in different societies around the world. Contacts between groups of people speaking different languages are documented from earliest records, and around the world it remains the norm to find more than one language in regular use in a single community. In this course we will see that multilingualism is a catalyst for linguistic change: sometimes languages are lost; sometimes new languages are created; sometimes the structure of a language is radically altered. We will consider: Which parts of linguistic structure are most susceptible to change under conditions of bilingualism? Does language contact - whether a result of trade, education, migration, conquest, or intermarriage - influence language structure in predictable ways? How do individual speakers handle multiple languages? How have attitudes to speakers of multiple languages changed through history? How have socio-historical events shaped the linguistic situation in the USA?
Course usually offered in fall term
Activity: Seminar
1 Course Unit
Notes: Freshman Seminar

LGST 920 Ethics in Business and Economics
The seminar explores the growing academic literature in business ethics. It also provides participants an opportunity to investigate an ethical issue of their choosing in some depth, using their field of specialty as context. The seminar assumes no previous exposure to business ethics. Different theories and frameworks for investigating issues will be discussed. In turn, these theories will be applied to a range of issues, both domestic and international. Such issues include: corruption in host countries, the management of values in modern corporations, the ethical status of the corporation, ethics in sophisticated financial transactions (such as leveraged derivative transactions), and gender discrimination in the context of cultural differences. Literature not only from business ethics, but from professional and applied ethics, law, and organizational behavior will be discussed. Often, guest speakers will address the seminar. At the discretion of the class, special topics of interest to the class will be examined. Students will be expected to write and present a major paper dealing with a current issue within their major field. The course is open to students across fields, and provides integration of ideas across multiple business disciplines.
Course not offered every year
Activity: Seminar
1 Course Unit
Notes: Ph.D Course

LGST 921 Foundations of Business Law
This course will introduce students to basic jurisprudential discussions and debates that relate to understanding business in society. Topics will include a general overview of the nature of law and its relationship to ethics; theories of contract, torts, and property; criminal law as it applies to business situations; and theories of the business enterprise and its regulation. Selected topics will also be chosen in accordance with the interest of participants in the seminar.
Course not offered every year
Activity: Seminar
1 Course Unit
Notes: Ph.D Course
LING 071 American Sign Language I
Introduction to learning and understanding American Sign Language (ASL); cultural values and rules of behavior of the Deaf community in the United States. Includes receptive and expressive readiness activities; sign vocabulary; grammatical structure; facial expressive, body movement, gestures signs; receptive and expressive fingerspelling; and Deaf culture.
For BA Students: Language Course
One-term course offered either term
Activity: Lecture
1 Course Unit
Notes: Offered through the Penn Language Center

LING 072 American Sign Language II
Increased communication skill in American Sign Language (ASL); cultural values and behavioral rules of the deaf community in the U.S.; receptive and expressive activities; sign vocabulary; grammatical structure; receptive and expressive fingerspelling and aspects of Deaf culture.
For BA Students: Language Course
One-term course offered either term
Prerequisite: LING 071 or Permission of the Instructor
Activity: Lecture
1 Course Unit
Notes: Offered through the Penn Language Center

LING 073 American Sign Language III
Expanded instruction of American Sign Language (ASL). Receptive and expressive activities; sign vocabulary; grammatical structure; receptive and expressive fingerspelling; narrative skills, cultural behaviors; and aspects of Deaf culture. Abstract and conversational approach.
For BA Students: Language Course
One-term course offered either term
Prerequisite: LING 072 or permission of instructor
Activity: Lecture
1 Course Unit
Notes: Offered through the Penn Language Center

LING 074 American Sign Language IV
Increases the emphasis on more abstract and challenging conversational and narrative range. Includes receptive and expressive readiness activities; sign vocabulary; grammatical structure; receptive and expressive fingerspelling; various aspects of Deaf culture and cultural behavior rules.
For BA Students: Last Language Course
One-term course offered either term
Prerequisite: LING 073 or permission of instructor
Activity: Lecture
1 Course Unit
Notes: Offered through the Penn Language Center

LING 075 American Sign Language V
This is an advanced ASL course in which students expand their conversational and narrative range. While receptive readiness activities continue to be an important part of the class, the emphasis moves toward honing expressive sign skills through narrative presentation and ASL-only class discussions. Various aspects of Deaf culture and cultural behavior rules will be incorporated into the course. A large component of the course is a unit on Deaf history in which students read and discuss major events and famous deaf people via readings, film, class lectures and discussions, and other outside resources.
For BA Students: Advanced Language Course
One-term course offered either term
Prerequisite: LING 074 or permission of instructor
Activity: Lecture
1 Course Unit
Notes: Offered through the Penn Language Center

LING 076 Deaf Literature, Performance, Art, and Film
This course is an advanced/conversational ASL course that explores several key topics related to Deaf culture and the Deaf experience's influence on literature (both written and signed), theatre, fine and visual arts, and film-both Deaf and hearing directed and acted. Using only ASL in class, students learn about various perspectives and approaches to each of the themes and topics of the course. Some questions to explore and answer in this course will be: What is Deaf Literature? The Deaf Lens: What is it? How is it different from a hearing perspective on film? How is Deafness expressed differently in each of the arts discussed in this course? Analysis and discussion will come from readings as well as viewings of various types of Deaf arts.
For BA Students: Advanced Language Course
Taught by: Dragana-Hawk
Course usually offered in spring term
Prerequisites: LING 074 and prior language experience or permission from instructor.
Activity: Seminar
1 Course Unit

LING 077 ASL/Deaf Studies - ABCS
For this course, students will attend Pennsylvania School for the Deaf on a weekly basis where they will participate in and contribute to the school community via tutoring or other mutually agreeable activities. Students will also have formal class on a weekly basis with discussions and activities centered on reflection of community experiences through linguistic as well as cultural lenses. Additionally, drawing from the required Linguistics and other ASL/Deaf Studies coursework, students will develop an inquiry question and conduct preliminary community-based research to analyze sociolinguistic variations of ASL and Deaf cultural attitudes, behaviors, and norms. Ongoing reflections and discussions-formal and informal-on Deaf cultural/theoretical topics drawing from readings as well as community experiences will be integral to the course experience. LING 078, Topics in Deaf Culture and permission from the instructor, are required for this course.
For BA Students: Advanced Language Course
Taught by: Fisher
Prerequisites: LING 078 and permission from instructor
Activity: Lecture
1 Course Unit
LING 078 Deaf Culture
This course is an advanced/conversational ASL course that explores several key topics related to Deaf Culture. Using only ASL in class, students will read and discuss books, articles, and films related to the following topics: What is Deaf Culture?, The History of the Deaf American, Communication Issues and Pathological Perspectives on Deafness, Deafness and Education, Deaf/Hearing Family Dynamics, and Deaf Theatre, Arts, and Poetry. Vocabulary, grammar, and idioms related to the topics will be presented through direct instruction as well as through the course of class conversation.
For BA Students: Advanced Language Course
Taught by: Fisher
One-term course offered either term
Prerequisite: LING 074 or permission from coordinator
Activity: Seminar
1 Course Unit
Notes: Offered through Penn Language Center

LING 081 Beginning Irish Gaelic I
Irish Gaelic, spoken primarily on the west coast of Ireland, is rich in oral traditions, song, poetry and literature. Knowledge of this language provides a foundation to understanding Celtic folklore and linguistics and also enhances the study of Anglo-Irish literature and history. The first-year course will include reading, conversation, listening and speaking.
Taught by: Blyn-LaDrew
Two terms. student may enter either term.
Activity: Lecture
1 Course Unit
Notes: Offered through the Penn Language Center

LING 082 Beginning Irish Gaelic II
Taught by: Blyn-LaDrew
One-term course offered either term
Prerequisite: LING 081 or permission from instructor
Activity: Lecture
1 Course Unit
Notes: Offered through Penn Language Center

LING 083 Intermediate Irish Gaelic I
Taught by: Blyn-LaDrew
One-term course offered either term
Prerequisite: LING 082 or equivalent
Activity: Lecture
1 Course Unit
Notes: Offered through the Penn Language Center

LING 085 Advanced Irish Gaelic I
Taught by: Blyn-LaDrew
One-term course offered either term
Prerequisite: LING 084 or equivalent
Activity: Lecture
1 Course Unit
Notes: Offered through Penn Language Center

LING 086 Advanced Irish Gaelic II
This course will emphasize reading of literary texts, and advanced aspects of grammar, composition, and conversation.
Taught by: Blyn-LaDrew
One-term course offered either term
Prerequisite: LING 085 or equivalent
Activity: Lecture
1 Course Unit
Notes: Offered through the Penn Language Center

LING 088 History of the Irish Language
From downloadable lists of computer terminology in Irish to Ogam inscriptions chiseled in stone in the 5th century, the history of the Irish language reflects the history of the people themselves. This course outlines the language's changes through time and emergence from the unwritten Celtic, proto-Celtic, and Indo-European speech of its ancestors. Beginning in the modern period, when the very status of Irish as a living language has been hotly debated, the course will look backwards at the Celtic cultural revival of the late 19th century, the impact of the famine, nationalism, colonialism, the arrival of Christianity and the Roman alphabet, and the position of Irish within the Celtic branch of the Indo-European language family. Term papers may be based on fieldwork in the Irish-American community, or research. Audio and visual resources will supplement the lectures. Knowledge of Irish Gaelic is not required.
Taught by: Blyn-LaDrew
Course usually offered summer term only
Activity: Lecture
1 Course Unit
Notes: Offered through the Penn Language Center

LING 091 American Sign Language III/IV
Expanded instruction of American Sign Language (ASL). Includes receptive and expressive readiness activities; sign vocabulary; grammatical structure; receptive and finger-spelling; narrative skills; cultural behaviors; and aspects of Deaf culture. Increases the emphasis on more abstract and challenging conversational and narrative range. Abstract and conversational approach.
For BA Students: Last Language Course
Course not offered every year
Prerequisite: LING072 or by permission of instructor
Corequisites: Expanded instruction of ASL.
Activity: Lecture
2 Course Units
Notes: Offered by Penn Language Center; permit from Penn Language Center required for admission.

LING 102 Introduction to Sociolinguistics
Human language viewed from a social and historical perspective. Students will acquire the tools of linguistic analysis through interactive computer programs, covering phonetics, phonology and morphology, in English and other languages. These techniques will then be used to trace social differences in the use of language, and changing patterns of social stratification. The course will focus on linguistic changes in progress in American society, in both mainstream and minority communities, and the social problems associated with them. Students will engage in field projects to search for the social correlates of linguistic behavior, and use quantitative methods to analyze the results.
For BA Students: Society Sector
Taught by: Tamminga
Course usually offered in spring term
Activity: Lecture
1 Course Unit
Notes: Satisfies Quantitative Data Analysis
LING 103 Introduction to Language: Language Structure and Verbal Art

The purpose of this course is to explore the relationship between linguistic structure and the use of language for artistic purposes. The syllabus is organized as a sequence of units, each built around a particular theme. These include the sound structure of poetry (meter, rhyme, and other linguistic patterns in Jabberwocky, the Odyssey, Shakespeare, the Troubadours, and others); how precise linguistic data can be used to solve an outstanding literary problem (determining the approximate date when Beowulf was composed); and the structure of folktales of various cultures and of narratives of everyday experience. For BA Students: Arts and Letters Sector

Course usually offered in fall term
Activity: Lecture
1 Course Unit

LING 105 Introduction to Cognitive Science

Cognitive Science is founded on the realization that many problems in the analysis of human and artificial intelligence require an interdisciplinary approach. The course is intended to introduce students to the problems and characteristic concepts of Cognitive Science, drawing on formal and empirical approaches from the parent disciplines of computer science, linguistics, neuroscience, philosophy and psychology. The topics covered include Perception, Action, Learning, Language, Knowledge Representation, and Inference, and the relations and interactions between such modules. The course shows how the different views from the parent disciplines interact, and identifies some common themes among the theories that have been proposed. The course pays particular attention to the distinctive role of computation in such theories, and provides an introduction to some of the main directions of current research in the field.

Taught by: Brainard/Ungar
Course usually offered in fall term
Also Offered As: CIS 140, COGS 001, PHIL 044, PPE 140, PSYC 207
Activity: Lecture
1 Course Unit
Notes: This is a Formal Reasoning course.

LING 106 Introduction to Formal Linguistics

In this course, we study formal mathematical tools for the analysis of language that help us understand and classify the complex structures and rules that constitute language and grammar. These tools include set theory, formal language and automata theory, as well as aspects of logic, and will be applied to the syntax and semantics of natural language. In addition to learning something about formal tools for analyzing language, this will also enhance your general skills in analytical reasoning.

Course usually offered in fall term
Activity: Lecture
1 Course Unit
Notes: This is a Formal Reasoning course.

LING 115 Writing Systems

The historical origin of writing in Sumeria, Egypt, China, and Mesoamerica; the transmission of writing across languages and cultures, including the route from Phoenician to Greek to Etruscan to Latin to English; the development of individual writing systems over time; the traditional classification of written symbols (ideographic, logographic, syllabic, alphabetic); methods of decipherment; differences between spoken and written language; how linguistic structure influences writing, and is reflected by it; social and political aspects of writing; literacy and the acquisition of writing.

For BA Students: History and Tradition Sector
Taught by: Buckley
Course usually offered in fall term
Activity: Lecture
1 Course Unit

LING 120 Introduction to Speech Analysis

This course focuses on experimental investigations of speech sounds. General contents include: the fundamentals of speech production and perception; speech analysis tools and techniques; and topics in phonetic studies. The course consists of integrated lectures and laboratory sessions in which students learn computer techniques for analyzing digital recordings.

Taught by: Kuang
One-term course offered either term
Activity: Lecture
1 Course Unit
Notes: Satisfies Quantitative Data Analysis

LING 160 Introduction to African American and Latino English

An introduction to the use and structure of dialects of English used by the African American and Latino communities in the United States. It is an academically based service learning course. The field work component involves the study of the language and culture of everyday life and the application of this knowledge to programs for raising the reading levels of elementary school children.

Course usually offered in fall term
Activity: Lecture
1 Course Unit

LING 230 Sound Structure of Language

An introduction to phonetics and phonology. Topics include articulatory phonetics (the anatomy of the vocal tract; how speech sounds are produced); transcription (conventions for representing the sounds of the world's languages); classification (how speech sounds are classified and represented cognitively through distinctive features); phonology (the grammar of speech sounds in various languages: their patterning and interaction) and syllable structure and its role in phonology.

Taught by: Noyer
Course usually offered in spring term
Also Offered As: LING 503
Prerequisites: Prerequisite: A prior course in linguistics or permission of instructor.
Activity: Lecture
1 Course Unit
LING 240 Structure of a Language
Designed to apply linguistic principles to the grammatical analysis of a particular language, this course focuses on a different language each time it is given, according to the decision of the instructor. It may be taken by students with prior knowledge of the language in question who have not taken previous courses in linguistics, and by students of linguistics who wish to explore a new language. The selected language will be announced prior to pre-registration for any semester in which it is given.
Course not offered every year
Activity: Lecture
1 Course Unit

LING 241 Language in Native America
This course is an introduction to linguistic perspectives on the languages native to the Americas (their nature and distribution, typological similarities and differences), with an emphasis on North America. The diverse languages of this region will be examined from the point of view of particular linguistic phenomena, such as phonology, morphology, and syntax; and in addition we will study their historical development and their place in culture, society, and thought.
Taught by: Buckley
Course not offered every year
Activity: Lecture
1 Course Unit

LING 242 Construct a Language
In this course, students construct their own language, one that is compatible with what is known about possible human languages. To this end, the course investigates language typology through lectures and examination of grammars of unfamiliar languages. Topics include language universals, points of choice in a fixed decision space, and dependencies among choices.
One-term course offered either term
Activity: Seminar
1 Course Unit
Notes: Students who have taken Ling 140: Construct a Language are not eligible to enroll in Ling 242.

LING 247 Structure of American Sign Language
This course covers the linguistic structure of American Sign Language (ASL), including its phonology (articulatory features, phonological constraints, nonmanuals), morphology (morphological constraints, compounds, incorporation, borrowing), and syntax (syntactic categories, basic phrase structure, common sentence types). Also discussed are the topics of classifiers and deixis. In keeping with the comparative perspective of linguistic theory, parallels and differences between ASL and other (primarily spoken) languages are pointed out where appropriate. Historical and sociolinguistic issues are addressed where they are relevant to elucidating linguistic structure. Though the course focuses on ASL, it necessarily touches on issues concerning sign languages more generally, notably the possible effects of modality (sign vs. speech) on linguistic structure and the implications of the signed modality for general linguistics.
Taught by: Fisher/Santorini
Prerequisite: Ling 001 or permission of instructor(s)
Activity: Lecture
1 Course Unit

LING 249 Introduction to Syntax
This course is an introduction to current syntactic theory, covering the principles that govern phrase structure (the composition of phrases and sentences), movement (dependencies between syntactic constituents), and binding (the interpretation of different types of noun phrases). Although much of the evidence discussed in the class will come from English, evidence from other languages will also play an important role, in keeping with the comparative and universalist perspective of modern syntactic theory.
Taught by: Santorini
Course usually offered in spring term
Activity: Lecture
1 Course Unit

LING 250 Introduction to Syntax
This course provides an introduction to the study of meaning in natural language. The first part of the course introduces a formal perspective on meaning in terms of truth conditions as well as the basic analytical tools necessary for this, primarily building on set theory and logic. The main part of the course covers a range of empirical investigations of phenomena related to meaning using experimental methods from psycholinguistics. Topics include a selection of issues on the semantics-pragmatics interface, such as conversational implicatures, presuppositions, reference resolution, and quantifier scope. Students will carry out a class project, possibly in groups, to develop (and, if possible, carry out) an experimental study of meaning-related phenomena of their own. Relevant tools for experimental design and the implementation of such studies will be introduced along the way. This provides students with the opportunity to engage in a scientific investigation of their own early on in their undergraduate career in a domain that is easily accessible and yet central to the general enterprise of the cognitive sciences.
Taught by: Schwarz
Course not offered every year
Activity: Lecture
1 Course Unit
Notes: NOTE TO PSYCHOLOGY MAJORS: Ling 255 can be counted towards the 'Additional Psych Courses', as specified in the Undergraduate Handbook. NOTE TO COGNITIVE SCIENCE MAJORS: Ling 255 counts towards Concentration 3: Language and Mind General Note: this course will be renumbered as Ling 455 in the future.

LING 255 Formal Semantics and Cognitive Science
This course provides an introduction to the study of meaning in natural language. The first part of the course introduces a formal perspective on meaning in terms of truth conditions as well as the basic analytical tools necessary for this, primarily building on set theory and logic. The main part of the course covers a range of empirical investigations of phenomena related to meaning using experimental methods from psycholinguistics. Topics include a selection of issues on the semantics-pragmatics interface, such as conversational implicatures, presuppositions, reference resolution, and quantifier scope. Students will carry out a class project, possibly in groups, to develop (and, if possible, carry out) an experimental study of meaning-related phenomena of their own. Relevant tools for experimental design and the implementation of such studies will be introduced along the way. This provides students with the opportunity to engage in a scientific investigation of their own early on in their undergraduate career in a domain that is easily accessible and yet central to the general enterprise of the cognitive sciences.
Taught by: Schwarz
Course not offered every year
Activity: Lecture
1 Course Unit
Notes: NOTE TO PSYCHOLOGY MAJORS: Ling 255 can be counted towards the 'Additional Psych Courses', as specified in the Undergraduate Handbook. NOTE TO COGNITIVE SCIENCE MAJORS: Ling 255 counts towards Concentration 3: Language and Mind General Note: this course will be renumbered as Ling 455 in the future.

LING 270 Language Acquisition
An introduction to language acquisition in children and the development of related cognitive and perceptual systems. Topics include the nature of speech perception and the specialization to the native language; the structure and acquisition of words; children's phonology; the development of grammar; bilingualism and second language acquisition; language learning impairments; the biological basis of language acquisition; the role in language learning in language change. Intended for any undergraduate interested in the psychology and development of language.
Taught by: Yang
Course not offered every year
Activity: Lecture
1 Course Unit
LING 300 Tutorial in Linguistics
This tutorial allows students to deal in a concentrated manner with selected major topics in linguistics by means of extensive readings and research. Two topics are studied during the semester, exposing students to a range of sophisticated linguistic questions.
Taught by: Legate
Course usually offered in fall term
Prerequisites: Senior status or permission of the instructor. Majors only.
Activity: Seminar
1 Course Unit

LING 301 Conference
An independent study for majors in linguistics.
One-term course offered either term
Activity: Independent Study
1 Course Unit

LING 302 Linguistic Field Methods
Instruction and practice in primary linguistic research, producing a grammatical sketch and a lexicon through work with a native-speaker consultant and some reference materials. Consultant work is shared with LING 502.
Taught by: Buckley/Legate
Course not offered every year
Also Offered As: LING 502
Prerequisites: Ling 230 and Ling 250
Activity: Seminar
1 Course Unit

LING 310 History of the English Language
This course traces the linguistic history of English from its earliest reconstructable ancestor, Proto-Indo-European, to the present. We focus especially on significant large-scale changes, such as the restructuring of the verb system in Proto-Germanic, the intricate interaction of sound changes in the immediate prehistory of Old English, syntactic change in Middle English, and the diversification of English dialects since 1750.
Taught by: Ringe/Kroch
Course usually offered in fall term
Activity: Lecture
1 Course Unit

LING 354 Language and Game Theory
This course is an introduction to game-theoretic pragmatics. It focuses on aspects of meaning that follow from rational, strategic decision making. The course covers an introduction to the theory of games with an emphasis on coordination games and cooperation. We develop a game theoretic account of truth conditional semantics using zero-sum games. We then cover Gricean implicature; focal points and coordination; polysemy vs homophony; and a game account of reference tracking and pronoun interpretation.
Taught by: Clark
Course not offered every year
Activity: Lecture
1 Course Unit

LING 380 Introduction to Semantics
This course provides an introduction to formal semantics for natural language. The main aim is to develop a semantic system that provides a compositional interpretation of natural language sentences. We discuss various of the aspects central to meaning composition, including function application, modification, quantification, and binding, as well as issues in the syntax-semantics interface. The basic formal tools relevant for semantic analysis, including set theory, propositional logic, and predicate logic are also introduced.
Taught by: Schwarz
Course usually offered in fall term
Also Offered As: LING 580
Prerequisite: Ling 250
Activity: Lecture
1 Course Unit

LING 398 Senior Thesis
One-term course offered either term
Activity: Independent Study
1 Course Unit

LING 404 Morphological Theory
This course will explore some issues concerning the internal structure of words. After a brief introduction to some basic terms and concepts, we will discuss the interaction of morphology with phonology. We will look both at how morphology conditions phonological rules and how phonology conditions morphology. Then we will turn to the interaction of syntax and morphology. We will look at some problems raised by inflectional morphology, clitics and compounds. The main requirement for the class will be a series of homework exercises in morphological analysis and a short paper at the end of the semester.
Taught by: Embick
Course not offered every year
Activity: Lecture
1 Course Unit

LING 411 Old English
The main purpose of this course is to teach students to read Old English ("Anglo-Saxon"), chiefly but not exclusively for research in linguistics. Grammar will be heavily emphasized; there will also be lectures on the immediate prehistory of the language, since the morphology of Old English was made unusually complex by interacting sound changes. In the first eight weeks we will work through Moore and Knott's "Elements of Grammar" and learn the grammar; the remainder of the term will be devoted to reading texts.
Taught by: Kroch
Course not offered every year
Activity: Seminar
1 Course Unit

LING 440 Pidgins and Creoles
The origins and development of pidgins (languages of intercommunication that have evolved for practical reasons in situations of trade, conquest, or colonization, and spoken as second or auxiliary languages) and creoles (languages with native speakers that have developed from previous pidgins); relations between creoles and other languages; implications of creole studies for general theories of language and language change.
Course offered fall; even-numbered years
Activity: Lecture
1 Course Unit
**LING 449 Language and Computation**
The computational study of natural language and its implications for linguistic theories. Topics include finite state tools, computational morphology and phonology, grammar and parsing, computational models of language learning in children and machines.
Taught by: Yang
Course not offered every year
Activity: Seminar
1 Course Unit

**LING 450 Languages in Contact**
Multilingualism from a societal, individual, and linguistic point of view. The different types of contacts between populations and between individuals which give rise to multilingualism. Second-language acquisition and the problem of the "critical age." Cognitive and cultural aspects of multilingualism; applications to the teaching of languages. "Bidialectalism." Code-switching (alternation), interference and integration: the mutual influences of languages in contact. Political and social aspects of multilingualism.
Course offered fall, odd-numbered years
Activity: Lecture
1 Course Unit

**LING 470 Narrative Analysis**
The course will develop our understanding of narrative structure on the basis of oral narratives of personal experience, told by speakers from a wide range of geographic backgrounds and social classes. It will link the principles governing oral narratives to the narratological examination of myth, literature and film by Propp, Greimas, Prince, Chatman, and others. The principles that emerge from the study of oral narrative will be re-examined in literary narrative, including Scandinavian, Greek and Hebrew epics, medieval romances, film, and modern novels, with attention to the differences between vernacular, literary and academic style. The class will then consider the work of psychologists on how narratives are remembered and understood, based on the causal network theory of Trabasso; and apply these principles to narratives written to teach children to read, particularly those designed to reflect the cultural and linguistic framework of African American children.
Course not offered every year
Also Offered As: AFRC 262, FOLK 470, LALS 260
Activity: Seminar
1 Course Unit

**LING 500 Research Workshop**
This course is intended for advanced graduate students who are interested in developing a research paper. Each student will present his or her topic several times during the semester as the analysis develops, with feedback from the instructor and other students to improve the organization and content of the analysis. The goal is an end product appropriate for delivery at a national conference or submission to a journal.
Course usually offered in fall term
Activity: Seminar
1 Course Unit

**LING 502 Linguistic Field Methods**
Instruction and practice in primary linguistic research, producing a grammatical sketch and a lexicon through work with a native-speaker consultant and some reference materials. Consultant work is shared with LING 302. Each student will write a final paper on some aspect of the language.
Taught by: Buckley/Legate
Course not offered every year
Also Offered As: LING 302
Prerequisites: LING 530 and Ling 550
Activity: Seminar
1 Course Unit

**LING 503 Sound Structure of Language**
An introduction to articulatory and acoustic phonetics; phonetic transcription; basic concepts and methods of phonological analysis.
Taught by: Noyer
Course usually offered in spring term
Also Offered As: LING 230
Activity: Lecture
1 Course Unit

**LING 505 Research Topics**
A reading course on specialized topics in linguistics. Arranged by instructor.
One-term course offered either term
Activity: Independent Study
1 Course Unit

**LING 510 Introduction to Historical and Comparative Linguistics**
Taught by: Ringe
Course usually offered in fall term
Activity: Lecture
1 Course Unit

**LING 511 Language Variation & Change**
Speech communities as a focus for the understanding of language evolution and change: language variation in time and space. The relationship between language structure and language use; between language change and social change. Populations as differentiated by age, sex, social class, race, and ethnicity, and the relationship of these factors to linguistic differentiation.
Taught by: Tamminga
Course usually offered in spring term
Activity: Lecture
1 Course Unit

**LING 515 Dynamics of Language**
This course introduces the tools, techniques, as well as current research on the approach to language as a dynamical system, which seeks to fruitfully integrate linguistic theory, psycholinguistics, corpus linguistics, and historical linguistics through the means of mathematical modeling. Topics include: string processing, dynamical systems and stability, stochastic processes, mathematical models of population dynamics, and dynamical models of language learning, processing, and change.
Taught by: Yang
One-term course offered either term
Prerequisite: Ling 510
Activity: Seminar
1 Course Unit
LING 520 Phonetics I
Speech: its linguistic transcription, its quantitative physical description, and its relationship to the categories and dimensions of language structure and use. The physical basis of speech: acoustics, vocal tract anatomy and physiology, hearing and speech perception, articulation and motor control. Phonetic variation and change. Prosody: stress, intonation, phrasing speech rate. Phonetic instrumentation, the design and interpretation of phonetic experiments, and the use of phonetic evidence in linguistic research, with emphasis on computer techniques. Introduction to speech signal processing. Speech technology: introduction to speech recognition, text-to-speech synthesis, speech coding. This course will emphasize the phonetics of natural speech, and its connections to issues in other areas of linguistics and cognitive science.
Taught by: Liberman/Kuang
Course usually offered in fall term
Prerequisites: An introductory course in linguistics, or consent of instructor
Activity: Lecture
1 Course Unit

LING 521 Phonetics II
This is a methodology course, which focuses on how to conduct phonetics research using very large speech corpora. Topics include scripting and statistical techniques, automatic phonetic analysis, integration of speech technology in phonetics studies, variation and invariability in large speech corpora, and revisiting classic phonetic and phonological problems from the perspective of corpus phonetics.
Taught by: Kuang/Liberman
Course usually offered in spring term
Prerequisite: LING 520
Activity: Lecture
1 Course Unit

LING 525 Computer Analysis and Modeling of Biological Signals and Systems
A hands-on signal and image processing course for non-EE graduate students needing these skills. We will go through all the fundamentals of signal and image processing using computer exercises developed in MATLAB. Examples will be drawn from speech analysis and synthesis, computer vision, and biological modeling.
Taught by: Liberman
Course usually offered in fall term
Also Offered As: CIS 558
Activity: Lecture
1 Course Unit

LING 530 Phonology I
First half of a year-long introduction to the formal study of phonology. Basic concepts in articulatory phonetics; the distribution of sounds (phonemes and allophones); underlying and surface forms, and how to relate them using both ordered-rule and surface-constraint approaches. The survey of theoretical topics in this term includes distinctive features (context, organization, underspecification); the autosegmental representation of tone; and the theory of phonological domains and their interaction with morphological and syntactic constituency. Emphasizes hands-on analysis of a wide range of data.
Taught by: Noyer
Course usually offered in fall term
Prerequisite: LING 503 or equivalent
Activity: Lecture
1 Course Unit

LING 531 Phonology II
Second half of a year-long introduction, continues LING 530. Topics to be surveyed include syllable structure and moraic theory; the prosodic hierarchy; the properties and representation of geminates; templatic and prosodic morphology; reduplication and emergence of the unmarked; and metrical phonology (properties of stress, foot typology, and issues of constituency). Emphasizes hands-on analysis of a wide range of data.
Taught by: Buckley
Course usually offered in spring term
Prerequisite: LING 530
Activity: Lecture
1 Course Unit

LING 538 Computational Methods in Linguistic Research
This course aims to provide students with the knowledge and skills needed to use computational techniques to facilitate linguistic research. It introduces the computer representation of linguistic data, the construction of linguistic databases, ways of searching for and extracting information of interest, and ways of generating useful displays of the results. Topics covered include the representation of text on computers (multilingual character encoding, mark-up schemes, means of converting among representations); regular expressions and their use in searching; context free grammars; basic parsing schemes; means of converting machine communication, in association with the IRCS IGERT program. The courses will be taught in a laboratory setting, and will emphasize practical skills as well as basic concepts.
Taught by: Liberman
Two terms. Student may enter either term.
Also Offered As: COGS 501, PSYC 501
Activity: Seminar
1 Course Unit

LING 545 Mathematical Foundations for Language and Communication Sciences I
This two-semester sequence will provide basic mathematical modeling and algorithmic tools for interdisciplinary research in animal, human or machine communication, in association with the IRCS IGERT program. Topics include signal processing, statistical modeling and machine learning, information theory, game theory, and formal language theory. The courses will be taught in a laboratory setting, and will emphasize practical skills as well as basic concepts.
Taught by: Liberman
Two terms. Student may enter either term.
Also Offered As: COGS 501, PSYC 501
Activity: Lecture
1 Course Unit

LING 546 Mathematical Foundations of Language and Communication Sciences II
This two-semester sequence will provide basic mathematical modeling and algorithmic tools for interdisciplinary research in animal, human or machine communication, in association with the IRCS IGERT program. Topics include signal processing, statistical modeling and machine learning, information theory, game theory, and formal language theory. The courses will be taught in a laboratory setting, and will emphasize practical skills as well as basic concepts.
Taught by: Liberman
Two terms. Student may enter either term.
Also Offered As: PSYC 646
Activity: Lecture
1 Course Unit
LING 550 Syntax I
A general introduction at the graduate level to the analysis of sentence structure. The approach taken is that of contemporary generative-transformational grammar.
Taught by: Kroch
Course usually offered in fall term
Activity: Lecture
1 Course Unit

LING 551 Syntax II
The second half of a year-long introduction to the formal study of natural language syntax. Topics to be covered include grammatical architecture; derivational versus representational statement of syntactic principles; movement and locality; the interface of syntax and semantics; argument structure; and other topics. The emphasis is on reading primary literature and discussing theoretical approaches, along with detailed case-studies of specific syntactic phenomena in different languages.
Taught by: Legate
Course usually offered in spring term
Prerequisite: LING 550 or permission of instructor
Activity: Lecture
1 Course Unit

LING 556 Historical Syntax
Introduction to the study of the syntax of languages attested only in historical corpora. The course will cover methods and results in the grammatical description of such languages and in the diachronic study of syntactic change.
Taught by: Kroch
Course not offered every year
Prerequisite: LING 551 or the equivalent
Activity: Seminar
1 Course Unit

LING 560 The Study of the Speech Community: Field Methods
For students who plan to carry out research in the speech community. Techniques and theory derived from sociolinguistic studies will be used to define neighborhoods, enter the community, analyze social networks, and obtain tape-recorded data from face-to-face interviews. Students will work in groups and study a single city block.
One-term course offered either term
Activity: Seminar
1 Course Unit

LING 562 Quantitative Study of Linguistic Variation
This course provides students with the opportunity to hone their statistical, computational, and organizational skillsets while conducting original linguistic research on data gathered in continuing fieldwork in the speech community. Topics include forced alignment and vowel extraction, auditory and automated variable coding, the application of linear and logistic regression, and techniques for effective data visualization.
Taught by: Tamminga
Course offered fall, odd-numbered years
Prerequisites: LING 560 and either STAT 500 or STAT 501 (or permission of instructor).
Activity: Seminar
1 Course Unit

LING 563 Sound Change in Progress
The study of current sound changes in the speech community through instrumental means. Causes of linguistic diversity and consequences for speech recognition.
Course not offered every year
Prerequisite: LING 520
Activity: Seminar
1 Course Unit

LING 568 Dialect Geography
This course traces the origins and characteristics of regional dialects. Beginning with a survey of the traditional dialectology literature beginning in the 19th century, we will discuss the influences of social, political, and physical geography on language change. We will then move on to examine the foundations of North American English dialect regions and the large-scale language changes that underlie their development. Students enrolled in 368 will complete a final project on American English accents; students enrolled in 568 will write an original research paper on a non-English dialect topic of their choosing.
Taught by: Tammenga
Course not offered every year
Also Offered As: LING 368
Activity: Lecture
1 Course Unit

LING 570 Developmental Psycholinguistics
This course is an overview of research in language acquisition with particular focus on the important connection between what children know and how they come to know it.
Taught by: Yang
Course usually offered in spring term
Activity: Seminar
1 Course Unit

LING 580 Semantics I
This course provides an introduction to formal semantics for natural language. The main aim is to develop a semantic system that provides a compositional interpretation of natural language sentences. We discuss various of the aspects central to meaning composition, including function application, modification, quantification, and binding, as well as issues in the syntax-semantics interface. The basic formal tools relevant for semantic analysis, including set theory, propositional logic, and predicate logic are also introduced.
Taught by: Schwarz
Course usually offered in fall term
Also Offered As: LING 380
Prerequisite: Ling 550
Corequisite: Ling 550
Activity: Lecture
1 Course Unit
LING 581 Semantics II
The first part of the course expands the system from LING 580 to include intensional contexts. In particular, we discuss analyses of modals, attitude verbs, and conditionals, as well as the scope of noun phrases in modal environments. The second part of the course discusses a selection of topics from current work in semantics, such as the semantics of questions, tense and aspect, donkey anaphora, indefinites, genericity, degree constructions, events and situations, domain restriction, plurality and focus.
Taught by: Schwarz
Course usually offered in spring term
Prerequisite: Ling 551
Corequisite: Ling 551
Activity: Lecture
1 Course Unit

LING 595 Game Theoretic Pragmatics
A great deal of linguistic meaning can be explained if we conceive of language as being a signaling system used by rational agents. Game theory provides an explicit mathematical account of rational, strategic interaction. This course will lay out the fundamentals of game theory, evolutionary game theory and multi-agent systems necessary to develop a theory of “radical pragmatics.” We will discuss game theoretic models of implicature; presupposition and accommodation; reference tracking; scalar implicature as well as a number of other phenomena.
Taught by: Clark
Course not offered every year
Activity: Lecture
1 Course Unit

LING 596 Pragmatics Workshop
Taught by: Clark
Course usually offered in fall term
Activity: Seminar
1 Course Unit

LING 603 Topics in Phonology
Topics are chosen from such areas as featural representations; syllable theory; metrical structure; tonal phonology; prosodic morphology; interaction of phonology with syntax and morphology.
Taught by: Buckley/Noyer
Course not offered every year
Prerequisite: LING 530-531
Activity: Seminar
1 Course Unit

LING 608 Topics in Semantics and Pragmatics
Taught by: Clark/Schwarz
Course not offered every year
Activity: Seminar
1 Course Unit

LING 609 Seminar in Historical and Comparative Linguistics
Selected topics either in Indo-European comparative linguistics or in historical and comparative method.
Taught by: Ringe
One-term course offered either term
Also Offered As: GRMN 602
Activity: Seminar
1 Course Unit

LING 615 Comparative Indo-European Grammar
A survey of phonology and grammar of major ancient Indo-European languages and the reconstruction of Proto-Indo-European. A knowledge of at least one ancient Indo-European language is required.
Taught by: Ringe
Two terms. student must enter first term.
Activity: Seminar
1 Course Unit

LING 616 Comparative Indo-European Grammar II
A survey of phonology and grammar of major ancient Indo-European languages and the reconstruction of Proto-Indo-European. A knowledge of at least one ancient Indo-European language is required.
Taught by: Ringe
One-term course offered either term
Activity: Seminar
1 Course Unit

LING 620 Topics in Phonetics
Taught by: Liberman/Kuang
Course not offered every year
Activity: Seminar
1 Course Unit

LING 630 Seminar in Morphology
Readings in modern morphological theory and evaluation of hypotheses in the light of synchronic and diachronic evidence from various languages.
Taught by: Noyer/Embick
Course not offered every year
Prerequisite: LING 530
Activity: Seminar
1 Course Unit

LING 650 Topics in Natural-Language Syntax
Detailed study of topics in syntax and semantics, e.g., pronominalization, negation, complementation. Topics vary from term to term.
Taught by: Kroch/Legate
One-term course offered either term
Prerequisite: LING 551 or permission of instructor
Activity: Seminar
1 Course Unit

LING 653 Topics in the Syntax-Semantics Interface
Topics in the Syntax-Semantics Interface
Taught by: Kroch
Activity: Seminar
1 Course Unit

LING 656 Seminar in Historical Syntax
This course analyzes several well documented syntactic changes in the European languages with the tools of modern grammatical and quantitative analysis. The focus is on the competition between forms and systems as in the loss of the verb-second constraint in English and French and the competition between head initial and head final word orders in the several West Germanic languages.
Taught by: Kroch
Course not offered every year
Activity: Seminar
1 Course Unit
LING 660 Research Seminar in Sociolinguistics
Students approaching the dissertation level will explore with faculty frontier areas of research on linguistic change and variation. Topics addressed in recent years include: experimental investigation of the reliability of syntactic judgments; the development of TMA systems in creoles; transmission of linguistic change across generations. The course may be audited by those who have finished their course work or taken for credit in more than one year.
Course not offered every year
Activity: Seminar
1 Course Unit
Notes: This course will have different topics each term.

LING 662 Topics in Experimental Sociolinguistics
Activity: Seminar
1 Course Unit

LING 670 Topics in the Cultural Evolution of Language
Readings in the cultural evolution of language. This encompasses research on the contribution of processes of cultural change to the emergence of language in the human species, the emergence of new languages, and language change viewed as a cultural-evolutionary process. There will be an emphasis on research employing empirical methods, particularly experimentation. Otherwise focus varies from term to term.
Taught by: Roberts
Activity: Seminar
1 Course Unit

LING 999 Independent Study and Research
One-term course offered either term
Activity: Independent Study
1 Course Unit
Notes: Student must submit brief proposal for approval. May be repeated for credit.

Logic, Information and Computation (LGIC)
LGIC 010 Ideas in Logic and Computation
This course provides an introduction to some of the fundamental ideas of logic and computation. Topics will include truth functional logic, quantification logic, and logical decision problems.
Taught by: Weinstein
Course usually offered in spring term
Also Offered As: PHIL 005
Activity: Lecture
1 Course Unit
Notes: This is a Formal Reasoning course.

LGIC 210 Applied Mathematics of Information and Computation I
The first semester of a two-semester course designed to introduce students to a range of mathematical subjects useful in the analysis of information and computation. This course will treat topics chosen from set theory, combinatorics, graph theory, and number theory.
Taught by: Scedrov, Towsner
Course usually offered in fall term
Also Offered As: MATH 340
Prerequisite: MATH 114 or MATH 115 or permission of the instructor
Activity: Lecture
1 Course Unit

LGIC 220 Applied Mathematics of Information and Computation II
The second semester of a two-semester course devoted to mathematical subjects useful in the analysis of information and computation. Topics will be drawn from automata theory, formal languages, computability and complexity, and information theory.
Taught by: Scedrov, Towsner
Course not offered every year
Also Offered As: MATH 341
Prerequisite: LGIC 210 or permission of the instructor
Activity: Lecture
1 Course Unit

LGIC 310 Logic I
Taught by: Scedrov, Towsner, Weinstein
One-term course offered either term
Also Offered As: MATH 570, PHIL 410
Prerequisite: Math 371 or Math 503
Activity: Lecture
1 Course Unit

LGIC 320 Logic II
The second semester of a two-semester course on the fundamental results and techniques of mathematical logic. Topics will be drawn from model theory, proof theory, recursion theory, and set theory. Connections between logic and algebra, analysis, combinatorics, computer science, and the foundations of mathematics will be emphasized.
Taught by: Scedrov, Towsner, Weinstein
One-term course offered either term
Also Offered As: MATH 571, PHIL 412
Prerequisite: LGIC 310 or permission of the instructor
Activity: Seminar
1 Course Unit

Malayalam (MLYM)
MLYM 408 Beginning Malayalam Part I
This course is designed to develop skills in reading, writing, and speaking. It will focus on the alphabet, basic vocabulary, nouns (cases, gender and number), verbs and their basic tenses, numerals, rules of joining words, adjectives, adverbs, and sentence structure. Guided conversation will be a part of every class. Students will receive considerable training in speaking and writing their own sentences and paragraphs.
For BA Students: Language Course
Taught by: Kurichi
Course usually offered in fall term
Activity: Lecture
1 Course Unit
MLYM 409 Beginning Malayalam Part II
This course is designed to develop skills in reading, writing, and speaking. It will focus on the alphabet, basic vocabulary, nouns (cases, gender and number), verbs and their basic tenses, numerals, rules of joining words, adjectives, adverbs, and sentence structure. Guided conversation will be a part of every class. Students will receive considerable training in speaking and writing their own sentences and paragraphs.
For BA Students: Language Course
Taught by: Kurichi
Prerequisites: Beginning Malayalam Part I or equivalent ascertained through placement test or permission of instructor.
Activity: Seminar
1 Course Unit

MLYM 428 Intermediate Malayalam Part I
This course is designed to further the language skills learned in Beginning Malayalam. Direct and indirect speech, passive voice, postpositions, and rules of joining words, will be included. Reading and discussion of texts from current Malayalam literature (essays, narration, short stories, and poems) will be a major portion of the course.
For BA Students: Language Course
Taught by: Kurichi
Two terms. student must enter first term.
Activity: Lecture
1 Course Unit

MLYM 429 Intermediate Malayalam Part II
This course is designed to further the language skills learned in Beginning Malayalam. Direct and indirect speech, passive voice, postpositions, and rules of joining words, will be included. Reading and discussion of texts from current Malayalam literature (essays, narration, short stories, and poems) will be a major portion of the course.
For BA Students: Last Language Course
Taught by: Kurichi
Course usually offered in spring term
Prerequisites: Intermediate Malayalam Part I or equivalent ascertained through placement exam or permission of instructor.
Activity: Seminar
1 Course Unit

Management (MGMT)

MGMT 000 Study Abroad
Activity: Lecture
1 Course Unit

MGMT 100 Leadership and Communication in Groups
Through the process of action, reflection, and experimentation, and application, MGMT 100 aims to develop your leadership, teamwork, and communication skills. The course provides many occasions to strengthen your ability to exercise leadership through service, to speak and write persuasively, and to work collaboratively with a diverse group of individuals. Through the course of the term, you will have a heightened sense of your individual strengths and opportunities for growth. Eleven sections of approximately 60 students are scheduled each year (nine in the fall; two in the spring). Attached to each section are six recitations. Your recitation determines your project team. Whether you are in lecture participating in role plays or simulations, in recitation doing impromptu speeches, or out in the field working on your project, Management 100 is highly interactive and participative. The hallmark of the course is experiential learning.
Activity: Recitation
1 Course Unit
Notes: This course is exclusively reserved for Wharton undergraduate students.

MGMT 104 Industrial Relations and Human Resource Management
This undergraduate core course introduces students to a combination of basic concepts and timely topics around work and employment. As such, it is divided into two main sections and two quarters within each of those. The first main section deals with micro-level work issues, while the second main section deals with macro-level work issues. Within each of those sections, the first quarter focuses on basic concepts, while the quarter section deals with more applied topics.
One-term course offered either term
Prerequisite: None
Activity: Lecture
1 Course Unit

Also Offered As: SOCI 105
Prerequisite: MGMT 100 & MGMT 101
Activity: Lecture
1 Course Unit
MGMT 111 Multinational Management
Multinational management is the study of the international corporation and the global political and economic environment. This course provides an introduction to the more advanced offerings. It covers the historical origins of the multinational corporation, the economics of trade, money and investment in the world economy, and the policies and behavior of governments and international organizations. We place considerable emphasis in understanding the national and historic origins of the international firm, as well as on current issues regarding emerging economies and shifts in the political economy of global markets.
Prerequisite: MGMT 100 & MGMT 101
Activity: Lecture
1 Course Unit

MGMT 205 Multinational Corporate Strategies
This course focuses on the creation of competitive advantage in the multinational firm. It examines the nature of global competition by exploring the characteristics of global versus non-global industries and firms. We also explore different types of international strategy and structure and examine the specific challenges of managing in multiple countries and markets. Finally, we consider the strategic allocation of resources along the value chain and the role of strategic alliances as a crucial element of an effective global strategy.
Course usually offered in spring term
Prerequisites: MGMT 100, MGMT 101, & MGMT 111
Activity: Lecture
1 Course Unit

MGMT 208 Globalization and International Political Economy
Globalization and International Political Economy is an upper level undergraduate course designed to provide the background necessary to understand globalization and the changes taking place in the international political-economy. The course objective is to help students develop a conceptual framework that will provide an understanding of the current international political-economic environment, provide a basis for thinking about the fundamental changes which are now taking place, and to build a solid foundation to which new material can be added throughout the students’ careers. Format: Class discussions will be interactive and structured to encourage maximum student participation.
Course usually offered in spring term
Activity: Lecture
1 Course Unit

MGMT 209 The Political Environment of the Multinational Firm
Are you well prepared to manage or analyze business challenges and competitive threats in a variety of political and social environments? For example, what should you do to dissuade or counter an individual critic armed with a camera phone a YouTube account? Or a decentralized grassroots organization that seemingly pops up overnight, appears to have no single leader or headquarters, and yet is quite successful in capturing media attention? Or a government official who because of a tight reelection campaign or an internal challenge from a populist general turns on you? Lone individuals, small activist groups and unexpected political shifts have done extensive damage to the reputations - and value - of multinationals in recent years. And yet most companies don’t plan for, or even think about, investing in building the kinds of solid relationships with community leaders, governments, NGOs, and other key players that can help them avoid such crises and, when necessary, draw upon their reservoir of stakeholder capital to respond quickly and decisively when a challenge or threat emerges. This semester-long class provides an integrative perspective towards the management of these risks and opportunities. It highlights that better assessment of stakeholder opinion, understanding of how stakeholders impact firm value and of how to infuse stakeholder relationships with trust to unlock that value are increasingly critical elements of a firm’s long-term success, particularly in emerging markets. Firms must also focus on continual improvement in their stakeholder engagement, reinforcing their actions with strategic communications and via organizational culture. The course will give students a combination of practical tools and the latest academic thinking in the emerging field of corporate diplomacy.
Activity: Lecture
1 Course Unit

MGMT 211 Competitive Strategy
This is an advanced course in competitive strategy. The course will apply the tools of industrial organization economics and game theory to examine the strategic decisions that managers make. We will examine those decisions concerning pricing, capacity investment, advertising, new product introductions, and research and development. Emphasis will be placed on the strategic interaction among rival sellers. In particular we will look at the various methods of entry deterrence and strategic commitment. The course will attempt to integrate traditional economic models with case study materials.
Course usually offered in fall term
Prerequisites: MGMT 100 & MGMT 101 and some knowledge of microeconomics is suggested. The course will be discussion oriented and based largely on case materials and mini-lectures.
Activity: Lecture
1 Course Unit
MGMT 212 Social Entrepreneurship
This is a course on creating a business to attack a social problem and thereby accomplish both social impact and financial sustainability. For this course, social entrepreneurship is defined as entrepreneurship used to profitably confront social problems. This definition therefore views social entrepreneurship as a distinct alternative to public sector initiatives. The basic thesis is that many social problems, if looked at through an entrepreneurial lens, create opportunity for someone to launch a venture that generates profits by alleviating that social problem. This sets in motion a virtuous cycle - the entrepreneur is incented to generate more profits and in so doing, the more the profits made, the more the problem is alleviated. Even if it is not possible to eventually create a profit-making enterprise, the process of striving to do so can lead to a resource-lean not-for-profit entity. Creating a profitable social entrepreneurship venture is by no means a simple challenge. It involves deeply understanding how to prioritize a multi-mission entity, how to analyze and engage traditional agencies, how to formulate political strategies to develop influence and social assets in the target beneficiary markets, how to forge negotiating strategies for securing resources, how to capture publicity for the enterprise, and generally how to minimize resource requirements. Students in teams will develop a PowerPoint deck proposing a social enterprise start up using the tools and principles of the course.
Course usually offered in spring term
Also Offered As: MGMT 810
Prerequisite: MGMT 230 Recommended
Activity: Lecture
1 Course Unit

MGMT 214 Market Dynamics and Technical Change
The course is designed to meet the needs of future managers, entrepreneurs, consultants and investors who must analyze and develop business strategies in technology-based industries. The emphasis is on learning conceptual models and frameworks to help navigate the complexity and dynamism in such industries. This is not a course in new product development or in using information technology to improve business processes and offerings. We will take a perspective of both established and emerging firms competing through technological innovations, and study the key strategic drivers of value creation and appropriation in the context of business ecosystems. There is definitely an overlap in content with other courses in intermediate microeconomics, or managerial economics. Nevertheless, the treatment is sufficiently distinctive to make it complementary to those other treatments for a student who is particularly interested in economic change, or is otherwise interested in acquiring a broader view of economics.
Prerequisites: Students need to have taken a first college course in economics. Multivariate calculus is generally useful in economic theory at this level, but does not carry significant weight in this course. Similarly, an understanding of basic linear algebra enhances the value of the linear programming analysis of the firm, but is not a prerequisite.
Activity: Lecture
1 Course Unit

MGMT 223 Business Strategy
This course encourages students to analyze the problems of managing the total enterprise in the domestic and international setting. The focus is on the competitive strategy of the firm, examining issues central to its long- and short-term competitive position. Students act in the roles of key decision-makers or their advisors and solve problems related to the development or maintenance of the competitive advantage of the firm in a given market. The first module of the course develops an understanding of key strategic frameworks using theoretical readings and case-based discussions. Students will learn concepts and tools for analyzing the competitive environment, strategic position and firm-specific capabilities in order to understand the sources of a firm's competitive advantage. In addition, students will address corporate strategy issues such as the economic logic and administrative challenges associated with diversification choices about horizontal and vertical integration. The second module will be conducted as a multi-session, computer-based simulation in which students will have the opportunity to apply the concepts and tools from module 1 to make strategic decisions. The goal of the course is for students to develop an analytical tool kit for understanding strategic issues and to enrich their appreciation for the thought processes essential to incisive strategic analysis. This course offers students the opportunity to develop a general management perspective by combining their knowledge of specific functional areas with an appreciation for the requirements posed by the need to integrate all functions into a coherent whole. Students will develop skills in structuring and solving complex business problems.
Prerequisites: MGMT 100 & 101; seniors and juniors that have completed introductory courses in finance, marketing, and accounting.
Activity: Lecture
1 Course Unit

MGMT 224 Leading Diversity in Org
People in the workplace are constantly interacting with peers, managers, and cu
One-term course offered either term
Activity: Lecture
0.5 Course Units
MGMT 225 Value Creation and Value Capture in American Business History
This course concerns the history of capitalism in America viewed from the perspective of the people who operated (and in some cases owned) the firms. Its focus is on the activities of value creation and value capture and on how evolving opportunities and selection pressures have conditioned the historic development of competition, strategic analysis and initiatives, organizational structures, merger-and-acquisition activity, entrepreneurship, and the like. Accounting and control are also part of the story: the course in fact considers issues arising in a variety of different management disciplines and shows off their interrelationships. The maintenance (or otherwise) of value capture over the cycle and over time is a running theme. The course has a narrative element (running from Franklin's days through the early twenty-first century) but its deeper purpose is to give students some idea of how to think about the future evolution of firms and industries. It proceeds through a consideration of actual business decisions and performance in a series of challenging and otherwise interesting moments in the evolution of the American business environment. The materials are unusual for the Wharton School— they are often case-like and when possible draw on documents contemporary to the decisions such as correspondence, memoranda, minutes of meetings, old newspaper and magazine stories, and eyewitness accounts. They require thoughtful preparation. This course is much more focused on the students than many and a successful experience of its demands that the students both engage with the materials and take an active role in the class discussion. The largest single element in the grading is a substantial term paper on a topic agreeable to both the student and the instructor. For more information, please contact the instructor: raff@wharton.upenn.edu.
Also Offered As: MGMT 714
Prerequisites: MGMT 100 & MGMT 101.
Activity: Lecture
1 Course Unit

MGMT 230 Entrepreneurship
MGMT 230 integrates the material introduced in business fundamental courses and applies it to the design and evaluation of new ventures. The purpose of this course is to explore the many dimensions of new venture creation and growth and to foster innovation and new business formations in independent and corporate settings. The course addresses both a theoretical perspective on venture initiation and the application of writing an actual business plan. In this course you are asked to get out of the habit of being a receiver of ideas, facts, concepts and techniques, and get into the habit of generating ideas, identifying problems, analyzing and evaluating alternatives, and formulating workable action plans, thus putting textbook knowledge into practice. Students will get this hands-on experience in the following ways: Through the formation and ongoing work of venture teams that will design a comprehensive business development plan for a particular start-up company. Teams are expected to utilize the tools and analytical approaches discussed in class to their venture, through lectures and class discussions that are designed to familiarize students with the many dimensions of entrepreneurship and new venture initiation. Class format varies throughout the course: in some class sessions, there will be a lecture on specific topics; other sessions will consist of case discussions of a particular topic or a discussion of the business concepts that students are developing; guest speakers also lead and participate in some class sessions.
Prerequisites: Completion of all business fundamental courses and second semester sophomore standing. Ideally you will also have mastered the concepts of business policy.
Activity: Lecture
1 Course Unit

MGMT 231 Entrepreneurial Venture Initiation
This advanced course on entrepreneurship focuses on developing a validated opportunity into a venture that is ready for seed financing and/or launching the product or service. Participants in the workshop must previously have developed a validated opportunity, either in a previous course or through independent efforts. Students may participate as a team of up to three people. Ideally, participants are committed to pursuing their opportunity commercially, or at least to seriously explore that possibility. The workshop provides a practical guidance for developing the product or service, forming the entity, raising capital, building the team, establishing partnerships, and sourcing professional services. After completing the course, you will be "pitch ready" - whether submitting to campus venture competitions or to outside investors. Most coursework is focused on applying concepts and frameworks to project tasks in developing the venture. Format: Readings, discussion, and developing an implementation plan for a real venture.
Course usually offered in spring term
Also Offered As: MGMT 806
Prerequisites: MGMT 230 (recommended).
Activity: Lecture
1 Course Unit

MGMT 233 Strategies and Practices of Family-Controlled Companies
This course is designed for those persons who desire to understand the distinct strategies and practices of family-controlled companies and family wealth creation. It will focus on stakeholder decision making; financial and resource driven options for long-run competitiveness, organizational structures, management team issues; strategic planning from a resource-based perspective; transition planning for the corporate entity, family dynamics and communication issues; and leadership empowerment. The course is intended for those who plan to consult or provide professional services to family-controlled companies and for those planning a career in a family firm. Format: The class is structured around topical lectures with frequent utilization of case studies. There will be in-class discussion, as well as on-site and off-site project work time.
Course usually offered in spring term
Also Offered As: MGMT 833
Prerequisite: None
Activity: Lecture
1 Course Unit

MGMT 234 International Comparative Management: The Challenge of Diversity and Integration
This course focuses on the comparative institutional environments in which business, government, and society interact. It provides students with a set of conceptual tools and analytical frameworks to navigate the complexities and ambiguities of the global economy. It provides an understanding of how to identify, measure and interpret the economic, social, political and cultural factors that shape regulatory policy, business strategy and market outcomes. It does so by traversing a rich empirical terrain that cuts across developing and industrialized countries, and is especially attentive to change over time. The course is deeply inter-disciplinary and brings insights from economics, political science, sociology, anthropology, geography and history.
Course usually offered in spring term
Also Offered As: MGMT 875
Activity: Lecture
1 Course Unit
Notes: This course is comprised of lectures with case discussions, group and individual short papers and quizzes on the readings.
MGMT 235 Technological Innovation and Entrepreneurship
The focus of this course is on analysis of the issues and options which must be faced in developing a successful technological venture and on the creation of a winning business plan. Particular attention is directed to the identification of technology-based venture opportunities, evaluation of technical feasibility and commercial potential, and planning for successful commercialization.
Course usually offered in fall term
Prerequisites: MGMT 100 & MGMT 101; Management & Technology students only. Others can enroll by instructor’s permission.
Activity: Lecture
1 Course Unit

MGMT 237 Management of Technology
The course is designed to meet the needs of the future managers, entrepreneurs, consultants and investors who must analyze and develop business strategies in technology-based industries. The emphasis is on learning conceptual models and frameworks to help navigate the complexity and dynamism in such industries. This is not a course in new product development or in using information technology to improve business processes and offerings. We will take a perspective of both established and emerging firms competing through technological innovations, and study the key strategic drivers of value creation and appropriation in the context of business ecosystems.
Course usually offered in spring term
Prerequisites: MGMT 100 & MGMT 101; this section is based on seniority and open to Wharton students.
Activity: Lecture
1 Course Unit

MGMT 238 Organizational Behavior
Management 238 is an organizational behavior course, examining individual, interpersonal, and group effectiveness at work. Topics range from decision-making, motivation, and personality to networks, influence, helping, leadership, teamwork, and organizational culture. The learning method is heavily experiential, with a focus on applying key principles to the human side of management in role-play exercises, simulations, a mini-TED talk, and group projects in local organizations. This course requires the instructor’s permission. Registration is by application only; Penn InTouch requests will not be processed. The link to the application form will be available on the Management Department’s website: https://mgmt.wharton.upenn.edu/programs/undergraduate, beginning March 13, 2017. The deadline for applications is March 20, 2017 at 5 PM. Students will be notified after March 30, 2017 regarding the status of their application.
Prerequisite: MGMT 100 & MGMT 101
Activity: Lecture
1 Course Unit

MGMT 240 Group Dynamics
Section 001 – Open to all sophomores, juniors, and seniors. This course develops your knowledge and skills for designing, leading, and consulting with teams in organizations. The goals are to provide both the conceptual understanding and the behavioral skills required to improve team effectiveness. This course makes use of analytic and reflective writing, peer feedback and coaching, simulations, and an intensive field project with a real team in the Philadelphia area. There are four kinds of teams that are the focus of your study: teams of which you’ve been a member in the past; your 240 Team, with three or four other classmates; a team outside of 240 that your 240 Team will observe, analyze, and report on – your Host Team; and a team you expect to be on in the future. The primary case material for applying course concepts (learned from readings and lectures) will be these teams you know from direct observation and experience. Expect to leave this course with new knowledge of how to diagnose and intervene – as leader, member, or consultant – to improve the performance sustainability, and impact on the members of any team. Prerequisite: Sophomore standing or above. Special registration for MGMT 240 Section 001: Enrollment in this section of MGMT 240 is by permission of the instructor, Professor Stew Friedman. To apply for admission, please contact him via email: friedman@wharton.upenn.edu.
Activity: Lecture
1 Course Unit

MGMT 241 Knowledge for Social Impact: Analyzing Current Issues & Approaches
Recent technological changes have raised awareness of the magnitude and devastating long-term effects of poverty, food insecurity, limited and unequal access to education, and other social issues. Coupled with growing awareness of these issues is the emerging sense that traditional government programs and charities may be unable to solve these problems - at least, not alone. What may be needed are new strategies - strategies borne of (a) a deep understanding of the issues; (b) interdisciplinary collaboration; and (c) access to business knowledge, frameworks, and resources. This course is designed to provide the information, strategies, examples, and analytical mindset to make students more rigorous, insightful, and effective in analyzing social ills and crafting potential solutions. Together, a cross-disciplinary group of undergraduate students, including students in Wharton, the College, and other Penn Schools, will examine the nature and extent of two pressing social problems - food insecurity and barriers to post-secondary education - and current approaches to solving these problems.
Taught by: Klein, Katherine
Activity: Lecture
1 Course Unit

MGMT 247 Employment Law
Also Offered As: LGST 208
Activity: Lecture
1 Course Unit
MGMT 249 Mergers and Acquisitions
This course explores the role of mergers and acquisitions and alternative methods of corporate development in advancing the strategies of operating business. Emphasis is on the way companies use acquisitions to alter business mixes; seize opportunities in new products, technologies and markets; enhance competitive positioning; adjust to changing economics, and promote value-creating growth. Although the course will emphasize strategic acquisitions, it also will explore leveraged buy-outs and hostile financial acquisitions as well as their influence on corporate buyers. Please note that you must fulfill the prerequisites in order to enroll in this class.
Prerequisite: MGMT 100 & MGMT 101
Activity: Lecture
1 Course Unit

MGMT 251 Consulting to Growth Companies
This course offers students a unique opportunity to develop consulting skills and entrepreneurial expertise by working as consultants to thriving entrepreneurial ventures in the Philadelphia area. This capstone course combines both fieldwork and class work and allows students to apply knowledge and skills acquired through other course work to real world issues that must be addressed by operating companies. An understanding of characteristics producing rapid entrepreneurial growth and skills related to effective communications and management of a business relationship are emphasized. Team term consulting assignment, lectures, case analysis, and small group discussions.
Course usually offered in fall term
Prerequisites: Junior or Senior Standing Recommended.
Activity: Lecture
1 Course Unit

MGMT 264 Venture Capital and Entrepreneurial Management
This course focuses on venture capital management issues in the context of a high-growth potential start-up company. The course is motivated by rapid increases in both the supply of and demand for private equity over the past two decades. The topic is addressed from two distinct perspectives: issues that relate to the demand for private equity and venture capital (the entrepreneur’s perspective) on the one hand, and issues that relate to the supply of capital (the investor’s perspective) on the other. As well, we will address management issues that relate to how the VC and the entrepreneur work together once an investment has been made, compensation issues, and governance issues in the privately held venture capital backed company. Format: Case/discussion format, supplemented by lectures and guest speakers.
Course usually offered in fall term
Prerequisite: Junior or Senior Standing Recommended
Activity: Lecture
1 Course Unit

MGMT 265 Culture of Technology: Culture & Institutions of the Tech Sector--Bridging Research and Practice
Academics, students and practitioners alike are fascinated by the culture of tech sector - it’s people, practices, and organization. In this course we explore this sector using a combination of research papers, press coverage, and practitioner involvement. Each class session will be devoted to discussion of a single research article, during which we will be joined via state-of-the-art videoconferencing by a Wharton alum from the tech sector whose expertise is relevant to the paper topic. Therefore, the learning objectives half-credit course are to: 1) understand the managerial, organizational, and regional institutions that characterize the tech sector, with particular emphasis on the case of Silicon Valley 2) Bridge research and practice by critical analysis of academic research papers in conjunction with practitioner input 3) Forge connections with tech sector practitioners, particularly with our west coast alumni base.
Registration is by application only; Penn In Touch requests will not be processed. Enrollment is limited. Enrollment decisions for applications that have been submitted will be announced on Wednesday, March 29. Other applications will be taken on a rolling basis and students will be notified. The link is available on the Management Department’s website under Undergraduate Information: https://mgmt.wharton.upenn.edu/programs/undergraduate/.
Taught by: Vice Dean Lori Rosenkopf
Activity: Lecture
0.5 Course Units

MGMT 266 Family Enterprise Mgmt.
This class will examine the causes and consequences of the creation of family fortunes, with a focus on the practical implications for family decision-making. We will discuss psychological characteristics associated with the typically entrepreneurial creators of family wealth; with their children, whose childhood development takes place in the context of growing businesses and accumulating wealth; and with their grandchildren and beyond, whose childhood development occurring in the context of established and often very public wealth, to build a comprehensive view of the interplay between family dynamics and economic decision making. Note that this class focus will be on behavioral aspects of family dynamics in a wide range of decision settings, rather than on management of an operating business per se. While this class will be particularly relevant to individuals aspiring to create their own family fortunes or whose ancestors have already done so, it will also be useful for individuals interested in foundation management, non-profit fund-raising or business catering to the very wealthy such as asset management and luxury retail.
Also Offered As: MGMT 766
Activity: Lecture
1 Course Unit
MGMT 272 Power and Politics in Organizations
The purpose of this course is to introduce you to the power dynamics in organizations. The course is designed so that you will learn concepts that are useful for understanding, analyzing, and harnessing power. But beyond discovering ways to extend your own power, influence and political skill in organizations, we will also uncover lessons about ways in which power and politics can blind you, and how to navigate situations in which you are up against powerful people. Using a range of theoretical and business articles, cases, exercises, assessments and simulations, we will extract a variety of lessons about power and politics in organizations. Topics include political skill, influence, issue selling, change management, networks, hierarchy, political conflict, corruption, coping with intolerable bosses, speaking up, redemption, and downsizing. Thematically, this course highlights how your relationships with organizational stakeholders and an understanding of the organizational context are crucial to successfully navigating the political terrain of organizations. Organizations are inherently political arenas that require social astuteness, and an understanding of the "rules of the game." This course is designed for students aiming to develop their leadership, general management and career skills through a better understanding of power and politics, and relates to other courses on these topics in the Management department.
Activity: Lecture
1 Course Unit

MGMT 276 Cultivating Judgment Skills: Forecasting in Business Politics
This course will explore the diverse ways in which scholars and practitioners have defined "good judgment." And it will introduce students to practical tools for assessing and improving judgment, with special emphasis on probabilistic reasoning. Students will have the opportunity both to fine-tune their personal judgment skills as well as to master and then weave together insights from several bodies of scientific knowledge, including frequentist and Bayesian statistics, psychological work on judgment and choice, group dynamics, organizational behavior and political science (key concepts discussed in Tetlock's (2015) book "Superforecasting"). We will focus on bottom-line accuracy in sizing up real world problems. Class work will be primarily exercises, including working as an individual and in teams. You will have opportunities to forecast on a wide range of political, business, and macro-economic questions, which we will use as feedback tools to help you calibrate your judgment. Assessments include a weekly concept test and a final group presentation aimed to help you improve your judgment. The goal is to launch you on the lifelong process of learning how much trust you should place in your judgments of trustworthiness.
Activity: Lecture
1 Course Unit

MGMT 288 Managing and Competing in China
This course provides an examination of some of the largest businesses in the Peoples Republic of China, acquainting students with the governance and management (both management structure and management teams) of some of the largest and best known Chinese firms. Students will also become acquainted with the capabilities and liabilities of Chinese firms and their strategic options. Tools needed to assess the investment potential of Chinese firms will be provided, and students will have an opportunity to do original research on issues of governance and management of Chinese firms.
Course usually offered in fall term
Also Offered As: MGMT 788
Activity: Lecture
1 Course Unit

MGMT 291 Negotiations
This course includes not only conflict resolution but techniques which help manage and even encourage the valuable aspects of conflict. The central issues of this course deal with understanding the behavior of individuals, groups, and organizations in conflict management situations. The purpose of this course is to understand the theory and processes of negotiations as it is practiced in a variety of settings. The course is designed to be relevant to the broad spectrum of problems that are faced by the manager and professional including management of multinationals, ethical issues, and alternative dispute resolutions. Cross listed w/ LGST 206 & OIDD 291.
Also Offered As: LGST 206, OIDD 291
Prerequisite: MGMT 100 & MGMT 101
Activity: Lecture
1 Course Unit

MGMT 292 Advanced Negotiation.
Also Offered As: LGST 292, OIDD 292
Activity: Lecture
1 Course Unit

MGMT 353 Wharton Field Challenge
http://fap.wharton.upenn.edu/353 Students Info.htm
Taught by: Weigelt and Staff.
Activity: Lecture
1 Course Unit

MGMT 610 Foundations of Teamwork and Leadership
Management 610 is the first core course in the MBA Program and it cannot be waived. The first week of the fall term (in August) is dedicated to this formative and foundational experience. This course focuses on developing students’ knowledge and skill set for teamwork and leadership. It is meant to be an intense immersion experience that draws strongly on the pedagogy of the Wharton Teamwork and Leadership Simulation, a team-based, highly interactive simulation that was custom-designed specifically to allow students to experience the core concepts they learn in this class. The three goals of this course are for students to learn: 1. Leadership behaviors: how to enact the skills that contribute to a team’s effective performance. 2. Team dynamics: how to be an effective team member, as well as how to best design work teams; 3. Organizational awareness: understanding organizational culture. Format: A custom-designed Wharton-only simulation is paired with course sessions to deliver a unique learning experience. Classes will include experiential learning combined with debriefings, lectures, readings, class discussion and personal and group performance feedback. This course reflects the realities that informal leadership occurs in teams on an ongoing basis, that being a good team player is a part of leadership, and that many of one’s early experiences with leadership will occur while working on teams. Because of the team-based nature of this course, and time intensive nature of this experience, attendance is mandatory for ALL five sessions of this class.
Activity: Lecture
0.5 Course Units
MGMT 611 Managing Established Enterprises
The management of large, established enterprises creates a range of multi-facet challenges for the general manager. A general manager needs to understand the internal workings of a firm, how to assess and create a strategy, and how to take into account increasing, globalization. While these issues are distinct, they are very much intertwined. As a result, this course will provide you with an integrated view of these challenges and show you that effective of an established enterprise requires a combination of insights drawn from economics, sociology, psychology and political economy.
Activity: Lecture
1 Course Unit

MGMT 612 Management of Emerging Enterprises
Emerging enterprises, the focus in this course, are small, new, fast-growing organizations. Their founders and managers face multifaceted challenges: how to assess the competitive position of their business model and develop a strategy; how to develop the internal organizational structure, culture, and policies for selecting and managing employees; and how to pursue global opportunities. We cover these challenges in separate modules on strategy, human and social capital, and global issues. The human and social capital module covers classic management challenges of aligning interests of the individual and the organization; managing individual psychological needs and social influences; and developing employee capabilities that provide competitive advantage. Also covered are unique challenges that young organizations face, i.e. building an effective culture; recruiting, selecting, and retaining talent; building systematic approaches to motivating employees; coping with the stresses of rapid growth; and leveraging the benefits (and avoiding the liabilities) of the founder's powerful imprint. The strategy module covers fundamental issues central to the competitiveness of the enterprise. Because the strategy field is broad, MGMT 612 emphasizes topics and frameworks that are most relevant for younger firms, such as innovation, disruption, managing resource constraints, and building capabilities. However, a key insight of the module is the importance of seeing the playing field from the perspective of the competition. Thus, by the end of this section, students will have a robust grounding in strategy that will allow them to succeed, whether their career path leads to a Fortune 100 firm or a garage start up.
Activity: Lecture
1 Course Unit

MGMT 613 Career Planning
One-term course offered either term
Activity: Lecture
1 Course Unit

MGMT 624 Leading Diversity in Org
Course not offered every year
Activity: Lecture
0.5 Course Units

MGMT 625 Corporate Governance, Executive Compensation and the Board
This course examines the relationships between corporate managers, the boards of directors charged with overseeing them, and investors. We'll review the responsibilities of the board, including financial statement approval, CEO performance assessment, executive compensation, and succession planning. While boards are legally bound to represent the interests of equity investors, in the course of carrying out this role they are often called on to respond to the needs of numerous other stakeholders, including customers, employees, government and society at large. With global brands at risk and mistakes instantly transmitted via Internet and social media, the reputational stakes are very high. The course is a combination of lecture, guest lecture, discussion, case analysis and in-class research workshops. We will review some of the theory underlying modern governance practice, drawing from theories and evidence provided by research across diverse fields, including finance, sociology, and organization and management theory. We'll study specific situations where boards and management teams faced governance challenges, and assess the strategies used to deal with them. Finally, we'll examine the ways in which governance arrangements and external stakeholder involvement in governance affects corporate social behavior and global citizenship.
Taught by: Mary-Hunter McDonnell
Activity: Lecture
0.5 Course Units

MGMT 701 Strategy and Competitive Advantage
This course is concerned with strategy issues at the business unit level. Its focus is on the question of how firms can create and sustain a competitive advantage. A central part of the course deals with concepts that have been developed around the notions of complementarities and fit. Other topics covered in the course include the creation of competitive advantage through commitment, competitor analysis, and fit. Other topics covered in the course include the creation of competitive advantage through commitment, competitor analysis, different organizational responses to environmental changes, modularity, and increasing returns. An important feature of the course is a term-length project in which groups of students work on firm analyses that require the application of the course concepts.
Prerequisites: Mgmt. 611 and Mgmt. 612
Activity: Lecture
1 Course Unit

MGMT 711 Competitive Strategy and Industrial Structure
This is a course in analyzing competitive interactions. The course emphasizes a vision of strategy in which each competitor simultaneously chooses its strategy, taking into account the strategies of its opponents. Crucial to this vision is the anticipation of the moves of your opponent and, in particular, the expectation that your opponent is (almost) as smart as you are. Equal attention will be given to the development of techniques for analyzing competitive interactions and to the application of those techniques. Game theory and the economics of industrial organization provide the basis for the theoretical constructs developed in the course. Topics that will be explored include: market failures and profitabiliy, competitive bidding, signaling, entry deterrence, agenda setting, regulations, and price wars.
Course usually offered in fall term
Activity: Lecture
1 Course Unit
MGMT 712 Managing strategic partnerships
This course explores the management of strategic partnerships between firms, which have surged in recent years in response to globalization, technological evolution, deregulation, shortened product life cycles, and intensified competition. Today's alliances drive corporate growth and change, and vary greatly in terms of partner type, commitment, equity investment, degree of control, between scale, and scope. They range from bilateral arrangements to ecosystems to outsourcing, often blurring traditional organizational boundaries and leading to the creation of globally distributed enterprises. In view of these contemporary developments, the objectives of the course are two-fold: (1) to arm you with a set of tools to facilitate the selection of an appropriate alliance strategy in a given situation; and, (2) to provide you with frameworks to help the initiate and implement different kinds of partnerships. The emphasis lies on strategic and organizational aspects in the formation and management of these transactions, rather than financial considerations. Alternative growth strategies to strategic alliances (e.g., acquisitions), the impact of these partnerships on competition within an industry, and regulatory constraints will also be discussed. In terms of its pedagogical approach, this is designed to be an interactive, applied, case-based course with accompanying conceptual readings to help structure your thinking. Given the nature of the course, we will also apply the lessons from the cases to understand the challenges and implications of relevant recent and on-going deals. In addition, guest speakers with experience in investment banking, consulting, and industry will be invited to share their perspectives. A group project is intended to give you the opportunity to apply your learning from the course to a context that is most interesting and relevant to you.
Course not offered every year
Prerequisite: MGMT 611 or MGMT 612
Activity: Lecture
0.5 Course Units

MGMT 714 Value Creation and Value Capture in American Business History
This course examines how the kind of firms in which most Wharton students will spend the next stage of their careers came to be as they are today. At a superficial level, the course's objectives are descriptive and narrative. Its deeper purpose is to give students some idea of how to think about the future evolution of firms and industries. The course will discuss the historical development of the business enterprise as an institution. It will also cover the evolution of competition and strategy and of corporate finance. The focus will be on American developments, since many of the innovations took place here, but there is scope for comparison with institutions in Japan and the leading European economies if there is student interest. The course considers issues arising in anumber of different management disciplines and shows off their interrelationships. In terms of the Wharton curriculum and of recent research, strategy issues, and in particular the set of issues concerning how value can be created and captured at the enterprise level, are a running theme. Format: There will be occasional lecturing but this is principally a discussion course. The readings are predominantly primary source documents, supplemented when helpful by background notes from the instructor, with occasional readings from secondary sources. Evaluation is based on class participation, weekly brief written responses to the readings, and a term paper, with the great bulk of the grade weight on the last of these.
Taught by: Raff.
Also Offered As: MGMT 225
Prerequisite: MGMT 611 or MGMT 612
Activity: Lecture
1 Course Unit

MGMT 715 Political Environment of the Multinational Firm
Managing effectively in challenging socio-political environments (e.g., emerging markets) requires a melding of art and skill in engaging external stakeholders to advance corporate interests. This means crafting international coalitions of stakeholders spanning politicians, regulators, bureaucrats, analysts, investors, lawyers, reporters, consumers, nonprofits, activists and local communities. It involves influencing these stakeholders' opinions, perceptions, behaviors and decisions so as to secure a favorable policy outcome, collective decision, shift in group opinion or pooling of resources that enhances the corporation's ability to generate a profit by satisfying a market demand. This course surveys the managerial, political, economic, sociological and psychological foundations of corporate diplomacy as well as case study examples of successful and failed implementation in order to develop an interdisciplinary framework for navigating complex socio-political environments. The insights gained can be applied to influence team decision-making and organizational politics as well as by individuals and organizations in lobbying, marketing, product development, distribution and sales, political campaigns and corporate, national or multilateral projections of soft power.
Activity Lecture
0.5 Course Units

MGMT 720 Corporate Diplomacy
Are you well prepared to manage or analyze business challenges and competitive threats in a variety of political and social environments? For example, what should you do to dissuade or counter an individual critic armed with a camera phone a YouTube account? Or a decentralized grassroots organization that seemingly pops up overnight, appears to have no single leader or headquarters, and yet is quite successful in capturing media attention? Or a government official who because of a tight reelection campaign or an internal challenge from a populist general turns on you? Lone individuals, small activist groups and unexpected political shifts have done extensive damage to the reputations - and value - of multinationals in recent years. And yet most companies don't plan for, or even think about, investing in building the kinds of solid relationships with community leaders, governments, NGOs, and other key players that can help them avoid such crises and, when necessary, draw upon their reservoir of stakeholder capital to respond quickly and decisively when a challenge or threat emerges. This semester-long class provides an integrative perspective towards the management of these risks and opportunities. It highlights that better assessment of stakeholder opinion, understanding of how stakeholders impact firm value and of how to infuse stakeholder relationships with trust to unlock that value are increasingly critical elements of a firm's long-term success, particularly in emerging markets. Firms must also focus on continual improvement in their stakeholder engagement, reinforcing their actions with strategic communications and via organizational culture. The course will give students a combination of practical tools and the latest academic thinking in the emerging field of corporate diplomacy.
Taught by: Witold Henisz
Prerequisites: There are no formal prerequisites but participants should be able to contribute some individual expertise from previous coursework, training, and work experience and will, at other times, rely heavily on their peers to summarize and introduce key concepts and perspectives from other disciplines, industries or countries with which they may be less familiar.
Activity: Lecture
1 Course Unit
MGMT 721 Corporate Development: Mergers and Acquisitions
This course explores the role of mergers and acquisitions and alternative methods of corporate development in advancing the strategies of operating business. Emphasis is on the way companies use acquisitions to alter business mixes; seize opportunities in new products, technologies and markets; enhance competitive positioning; adjust to changing economics, and promote value-creating growth. Although the course will emphasize strategic acquisitions, it also will explore leveraged buy-outs and hostile financial acquisitions as well as their influence on corporate buyers. Please note that you must fulfill the prerequisites in order to enroll in this class.
Prerequisite: MGMT-611 or MGMT-612
Activity: Lecture
1 Course Unit

MGMT 729 Intel Property Strategy
Also Offered As: LGST 729
Activity: Lecture
0.5 Course Units

MGMT 731 Technology Strategy
The course is designed to meet the needs of future managers, entrepreneurs, consultants and investors who must analyze and develop business strategies in technology-based industries. The emphasis is on learning conceptual models and frameworks to help navigate the complexity and dynamism in such industries. This is not a course in new product development or in using information technology to improve business processes and offerings. We will take a perspective of both established and emerging firms competing through technological innovations, and study the key strategic drivers of value creation and appropriation in the context of business ecosystems. The course uses a combination of cases, simulation and readings. The cases are drawn primarily from technology-based industries. Note, however, that the case discussions are mainly based on strategic (not technical) issues. Hence, a technical background is not required for fruitful participation.
Activity: Lecture
1 Course Unit

MGMT 740 Leading Effective Teams
This course develops your knowledge and skills for designing, leading, and consulting with teams in organizations. The goals are to provide both the conceptual understanding and the behavioral skills required to improve effectiveness. This course emphasizes class participation, readings, analytic and reflective writing, assessments, peer feedback and coaching, lectures simulations and an intensive field project. with a real team in the Philadelphia area. Four kinds of teams are the focus of study: teams of which you've been a member in the past; your 740 team, with three or four classmates; a team outside of 740 that your 740 Team will observe, analyze, and report on --your Host Team; and a team that you expect to be on in the future. The case material for learning and applying course concepts will be these teams that you know from direct observation and experience. Expect to leave this course with new knowledge of how to diagnose and intervene - as leader, member, or consultant - to improve the performance, sustainability, and impact on the members of any team in any setting. The text is by J. Richard Hackman, Leading Teams (Harvard Business).
Prerequisite: MGMT 610
Activity: Lecture
1 Course Unit

MGMT 751 Strategic Management of Human Assets
Successful firms often excel in the capability of employing and deploying human assets (resources) to achieve the effective implementation of business strategy. To understand this capability, this course will address two central themes: 1) How to think systematically and strategically about various aspects of managing the organization's human assets; and 2) What really needs to be done to implement these policies and achieve competitive advantage. In order to think "systematically" about this topic for any particular organization, we will consider the bundles of work practices and human resources processes that make up the overall system for managing people and evaluate whether these are internally consistent and aligned ("internal fit"). To think "strategically," we will then assess the relationship between practices/processes of managing people and the firm's strategy and strategic context, e.g. industry structure, competitive landscape, political, social, and economic environment -- for evidence of external fit. By paying attention to implementation, we will recognize that although many organizations recognize the importance of managing the workforce effectively (and even "know" what approaches have been effective elsewhere), firms and managers very often fail to implement these approaches. The course is organized in four sections: 1) Setting out basic frameworks for viewing the strategic management of human assets as a source of competitive advantage for firms; 2) Comparing and contrasting four different approaches to organizing human assets: "Control", "Commitment" model, "Talent" model, and "Collaborative", 3) Addressing the "make" vs. "buy" decision for human assets, i.e. when to upgrade the internal skills of existing employees (including promotion from within) in order to boost capabilities and compete in new areas vs. when to hire people who already have the necessary skills, via external hires and/or hiring individuals on contract; and 4) Analyzing the relationships among culture, HR systems, and organization change when faced with strategic shifts; leadership crises; rapid growth, and global expansion. The strategic management of human assets is only one source of competitive advantage. Yet many managers recognize (and many successful organizations embody) the reality that the competitive edge gained from the newest technology, the latest marketing strategy, or the most creative product design may be relatively short-lived as competitors rush to imitate and follow.
Also Offered As: MGMT 244
Prerequisites: MGMT 611 or MGMT 612.
Activity: Lecture
0.5 Course Units
MGMT 765 Venture Capital and Entrepreneurial Management: Practices and Institutions of Silicon Valley

This elective half-semester course will highlight venture capital and entrepreneurship in general and will explore selected aspects of this industry, including: industry trends and dynamics in Silicon Valley and the South of Market area (SOMA) of San Francisco; the recent emergence of alternative sources of startup financing, including incubators/accelerators and crowdfunding platforms, angel groups and stage-agnostic institutional investors; business and operational aspects of early stage companies in transition to mezzanine-level stages of growth; and company “exits,” including both initial public offerings and merger/sale transactions. MGMT765 and MGMT804 cover separate issues within the same general industry and are not redundant. This course addresses issues faced by later stage VC backed firms, while MGMT804 centers on early stage, pre-revenue startups. The format of this course relies heavily on site visits and recognized leaders within the Bay Area to bring forth on-the-ground perspectives of a changing and important industry. While MGMT804 is not a prerequisite, the two courses are complementary. Prerequisite: MGMT 801 recommended

Activity: Lecture
1 Course Unit

Notes: Requirements: Individual participation in lectures, discussions, and company visits, student presentations, and final paper.

MGMT 766 Family Enterprise Mgmt.

This class will examine the causes and consequences of the creation of family fortunes, with a focus on the practical implications for family decision-making. We will discuss psychological characteristics associated with the typically entrepreneurial creators of family wealth; with their children, whose childhood development takes place in the context of growing businesses and accumulating wealth; and with their grandchildren and beyond, whose childhood development occurs in the context of established and often very public wealth, to build a comprehensive view of the interplay between family dynamics and economic decision making. Note that this class focus will be on behavioral aspects of family dynamics in a wide range of decision settings, rather than on management of an operating business per se. While this class will be particularly relevant to individuals aspiring to create their own family fortunes or whose ancestors have already done so, it will also be useful for individuals interested in foundation management, non-profit fund-raising or business catering to the very wealthy such as asset management and luxury retail. Format: The class will consist of a mixture of lectures, case discussions and class exercises. Submission of several written case studies, and a final examination are required.

Also Offered As: MGMT 266

Activity: Lecture
1 Course Unit

MGMT 772 Power and Politics in Organizations

The purpose of this course is to introduce you to the power dynamics in organizations. The course is designed so that you will learn concepts that are useful for understanding, analyzing, and harnessing power. But beyond discovering ways to extend your own power, influence and political skill in organizations, we will also uncover lessons about ways in which power and politics can blind you, and how to navigate situations in which you are up against powerful people. Using a range of theoretical and business articles, cases, exercises, assessments, and simulations, we will extract a variety of lessons about power and politics in organizations. Topics include political skill, influence, issue selling, change management, networks, hierarchy, political conflict, corruption, coping with intolerable bosses, speaking up, redemption, and downsizing. Thematically, this course highlights how your relationships with organizational stakeholders and an understanding of the organizational context are crucial to successfully navigating the political terrain of organizations. Organizations are inherently political arenas that require social astuteness, and an understanding of the “rules of the game.” This course is designed for students aiming to develop their leadership, general management and career skills through a better understanding of power and politics, and relates to other courses on these topics in the Management department.

Activity: Lecture
1 Course Unit

MGMT 773 Managing Organizational Change

During the last decade it has become clear that in the global economy, firms must constantly adapt to changing technological, competitive, demographic and other environmental conditions in order to survive and prosper. The importance of acquiring the knowledge and tools for changing organizations successfully cannot be overemphasized (particularly for students headed for consulting and general management careers, although not limited to them). This course focuses on specific concepts, theories and tools that can guide executives entrusted with the task of leading organizational change to successful execution. Among other topics, the course will focus on various change strategies such as leading change, managing cultural change, and mergers or acquisitions, corporate transformation, managing growth, building the customer centric organization, business process outsourcing both from client and provider perspectives, and managing radical organizational change. The perspective of the course is integrative and the focus is on successful execution.

Prerequisites: MGMT 611 or MGMT 612.

Activity: Lecture
1 Course Unit
MGMT 776 Cultiv Judgment Skills
A world-class poker player defined the difference between serious players and amateurs this way: serious players know the difference between 40-60 and 60-40 propositions. In other words, serious players are well calibrated (skilled at distinguishing what they know from what they don't). This course gives you chances to explore how well calibrated you are in a low-risk setting. The course should appeal to students with interests in strategy, international business, political-risk analysis, and the managerial challenges of maximizing the judgmental accuracy of key personnel. The class will pit its wits against competitors in a global-forecasting tournament sponsored by the Intelligence Advanced Research Projects Agency (IARPA) - as well as design forecasting exercises around your individual career and business plans. Key challenges include: (a) learning to translate "interesting questions" into "testable propositions," (b) getting into the habit of translating vague hunches into probability metrics and making good use of feedback on how well calibrated you are, (c) applying tools for enhancing accuracy, (d) making solo forecasts - and exploring methods of making team forecast more than the sum of their individual-contributor parts.
Prerequisites: None (but an interest in links between business and politics is helpful).
Activity: Lecture
0.5 Course Units

MGMT 782 Strategic Implementation
This course is directed toward the attainment of five interdependent objectives 1) to develop an understanding of strategy implementation in complex organizations; 2) to understand how organizational planning, design, control and human resources are interdependent and critical to successful implementation; 3) to develop a sensitivity to the "realities" of strategy implementation in "real world" organizations; 4) to obtain a deeper understanding of your personal management style and how it may help or hinder strategy implementation; and 5) to become a better communicator and implementer of strategy. To meet these course objectives, the emphasis will be on learning powerful ideas about how to be systematic in strategy implementation efforts, making use of research about case problems, class discussions, in class exercises, and student presentations. Much of the learning will take place in group discussions outside the classroom in preparation for the time we meet in the classroom.
Activity: Lecture
1 Course Unit

MGMT 794 Understanding Careers and Executive Labor Markets
This course examines the structure of executive careers in order to help understand how those careers can be managed most effectively. By drawing on extensive economic, sociological and psychological research on careers, we will examine such questions as when executives should move on to the next job or even change fields altogether, and what are effective means of finding jobs, achieving promotions, managing networks, and achieving work-life balance. The first few sessions of the course explore the basic building blocks of the career, outlining our knowledge on the different orientations that individuals take to their careers, how approaches to the career change as people get older, and how different kinds of job moves within and across firms advance careers. The second part of the course explores in more detail the social resources that affect careers, notably social networks and relationships with mentors. The third section of the course then examines a number of the most important and difficult issues affecting modern careers, including making successful transitions, the effects of gender on careers, work life balance, and international careers.
Prerequisites: There are no prerequisites for this course.
Activity: Lecture
0.5 Course Units

MGMT 801 Entrepreneurship
Management 801 is the foundation course in the Entrepreneurial Management program. The purpose of this course is to explore the many dimensions of new venture creation and growth. While most of the examples in class will be drawn from new venture formation, the principles also apply to entrepreneurship in corporate settings and to non-profit entrepreneurship. We will be concerned with content and process questions as well as with formulation and implementation issues that relate to conceptualizing, developing, and managing successful new ventures. The emphasis in this course is on applying and synthesizing concepts and techniques from functional areas of strategic management, finance, accounting, managerial economics, marketing, operations management, and organizational behavior in the context of new venture development. The class serves as both a stand alone class and as a preparatory course to those interested in writing and venture implementation (the subject of the semester-long course, MGMT806).
Format: Lectures and case discussions
Prerequisites: Wharton MBA students only.
Activity: Lecture
0.5 Course Units

MGMT 802 Change, Innovation & Entrepreneurship
Designed for students with a serious interest in entrepreneurship, this course will provide you with an advanced theoretical foundation and a set of practical tools for the management of startups and entrepreneurial teams in fast-changing and innovative environments. Building on the skills of Management 801, every class session is built around an experience where you have to put learning into practice, including the award-winning Looking Glass entrepreneurial simulation, role-playing exercises, and a variety of other games and simulations. The goal is to constantly challenge you to deal with entrepreneurial or innovative experiences, as you learn to navigate complex and changing environments on the fly, applying what you learned to a variety of scenarios. Management 802 is built to be challenging and will require a desire to deal with ambiguous and shifting circumstances.
Format: Lectures, discussion, interim reports, class participation, readings report, and presentations, and an innovation assessment in PowerPoint format.
Prerequisites: MGMT801 strongly recommended.
Activity: Lecture
0.5 Course Units
MGMT 804 Venture Capital and Entrepreneurial Management
This elective half-semester course focuses on venture capital management issues in the context of the typical high-growth potential early stage start-up company. The course is fundamentally pragmatic in its outlook. It will cover seven principal areas relevant to the privately held high-growth start-up which include: commentary on the venture capital industry generally, as well as a discussion of the typical venture fund structure and related venture capital objectives and investment strategies; common organizational issues encountered in the formation of a venture backed start-up, including issues relating to initial capitalization, intellectual property and early stage equity arrangements; valuation methodologies that form the basis of the negotiation between the entrepreneur and the venture capitalist in anticipation of a venture investment; the challenges of fundraising, financing strategies and the importance of the business plan and the typical dynamics that play out between VC and entrepreneur; typical investment terms found in the term sheet and the dynamics of negotiation between the entrepreneur and the venture capitalist; compensation practices in a venture capital backed company; and corporate governance in the context of a privately-held, venture capital-backed start-up company and the typical dynamics that play out between VC and entrepreneur in an insider-led, "down round" financing.
Prerequisite: MGMT 801 recommended
Activity: Lecture
0.5 Course Units

MGMT 806 Formation and Implementation of Entrepreneurial Ventures
This advanced course on entrepreneurship focuses on developing a validated opportunity or concept into a venture that is ready for seed financing and/or launching the product or service. Participants in this course must previously have developed a validated opportunity, either in a previous course or through independent efforts. Students may participate as a team of up to three people. Ideally, participants are committed to pursuing their opportunity commercially, or at least to seriously explore that possibility. The course provides a practical guidance for developing the product or service, forming the entity, raising capital building the team, establishing partnerships, and sourcing professional services. After completing the course, you will be "pitch ready" - whether submitting to campus venture competitions or to outside investors.
Most coursework is focused on applying concepts and frameworks to project tasks in developing the venture. Students must have successfully completed MGMT 801 before enrolling in this course. Students must have successfully completed MGMT801 before enrolling in this course.
Format: Highly interactive
Also Offered As: MGMT 231
Prerequisites: MGMT 801 REQUIRED.
Activity: Lecture
1 Course Unit

MGMT 809 Private Equity in Emerging Markets
The course investigates the private equity industry in emerging markets. The goal of the course is to give students a realistic understanding of the roles, responsibilities and analytical skills required of market practitioners, as well as the tensions that arise between various stakeholders, including government officials, investors, entrepreneurs, and the press. The underlying premise is that private equity in those countries has evolved as a distinctly different asset class from private equity in industrialized countries in areas such as valuations, governance, structure, contract enforcement and regulatory transparency. The course will require high level of preparation and class participation. Classes will be a mix of guest speakers from the industry and business cases, to provide students with a practical grasp of the private equity industry and the particular issues involved with how the business works in emerging markets. Cases will highlight the challenges and tasks at each stage of the investment cycle, such as structuring a new fund, originating new deals, conducting due diligence, creating value and monitoring performance of portfolio companies, and exiting.
Prerequisites: Completion or waiver of FNCE601.
Activity: Lecture
0.5 Course Units

MGMT 810 Social Entrepreneurship
This is a course on creating a business to attack a social problem and thereby accomplish both social impact and financial sustainability. For this course, social entrepreneurship is defined as entrepreneurship used to profitably confront social problems. This definition therefore views social entrepreneurship as a distinct alternative to public sector initiatives. The basic thesis is that many social problems, if looked at through an entrepreneurial lens, create opportunity for someone to launch a venture that generates profits by alleviating that social problem. This sets in motion a virtuous cycle - the entrepreneur is incented to generate more profits and in so doing, the more the profits made, the more the problem is alleviated. Even if it is not possible to eventually create a profit-making enterprise, the process of striving to do so can lead to a resource-lean not-for-profit entity. Creating a profitable social entrepreneurship venture is by no means a simple challenge. It involves deeply understanding how to prioritize a multi-mission entity, how to analyze and engage traditional agencies, how to formulate political strategies to develop influence and social assets in target beneficiary markets, how to forge negotiating strategies for securing resources, how to capture publicity for the enterprise, and generally how to minimize resource requirements. Students in teams will develop a PowerPoint deck proposing a social enterprise start up using the tools and principles of the course.
Also Offered As: MGMT 212
Prerequisite: MGMT 801 strongly recommended
Activity: Lecture
1 Course Unit

MGMT 811 Entrepreneurship Through Acquisition
MGMT 811 focuses on the theoretical, strategic, analytics, and practical issues of acquiring a business. Topics include: locating a business, due diligence, reviewing and analyzing data, valuation, raising capital/financing the deal, structuring the acquisition, letters of intent, contracts/asset purchase agreements, and integrating the target. Format: The class consists of lectures, in-class discussions of caselets, assigned readings, homework problems, and a group or individual project.
Prerequisite: MGMT 801 Recommended
Activity: Lecture
0.5 Course Units
MGMT 815 Sports Business Management
See LGST 809.
Also Offered As: LGST 809
Activity: Lecture
1 Course Unit

MGMT 833 Strategies and Practices of Family-controlled Companies
This course is designed for those persons who desire to understand the distinct strategies and practices of family-controlled companies and family wealth creation. It will focus on stakeholder decision making; financial and resource driven options for long-run competitiveness, organizational structures, management team issues; strategic planning from a resource-based perspective; transition planning for the corporate entity, family dynamics, communication issues; and leadership empowerment. The course is intended for those who plan to consult or provide professional services to family-controlled companies and for those planning a career in a family firm. The class is structured around topical lectures with frequent utilization of case studies requiring active class participation, as well as on-site and off-site project work time. Submission of several written case studies, and a term project are required.
Also Offered As: MGMT 233
Prerequisites: Open to Wharton MBA and Penn graduate students
Activity: Lecture
1 Course Unit

MGMT 896 Decision Making Ldrship
Activity: Independent Study
0.5 Course Units

MGMT 900 Economic Foundations of Management
This course examines some of the central questions in management with economic approaches as a starting point, but with an eye to links to behavioral perspectives on these same questions. It is not a substitute for a traditional microeconomics course. Economics concerns itself with goal directed behavior of individuals interacting in a competitive context. We adopt that general orientation but recognize that goal directed action need not take the form of maximizing behavior and that competitive processes do not typically equilibrate instantaneously. The substantive focus is on the firm as a productive entity. Among the sorts of questions we explore are the following: What underlies a firms capabilities? How does individual knowledge aggregate to form collective capabilities? What do these perspectives on firms say about the scope of a firms activities, both horizontally (diversification) and vertically (buy-supply relationships)? We also explore what our understanding of firms says about market dynamics and industry evolution, particularly in the context of technological change. A central property of firms, as with any organization, is the interdependent nature of activity within them. Thus, understanding firms as “systems” is quite important Among the issues we explore in this regard are the following. Organizational “systems” have internal structure, in particular elements of hierarchy and modularity. Even putting aside the question of individual goals and objectives and how they may aggregate, the question of organizational goal is non-trivial. To say that a firms objective is to maximize profits is not terribly operational. How does such an overarching objective get decomposed to link to the actual operating activities of individual subunits, including individuals themselves. This issue of goals has links to some interesting recent work that links the valuation process of financial markets to firm behavior. Financial markets are not only a reflection of firm value, but may guide firms initiatives in systematic ways.
Course usually offered in fall term
Activity: Seminar
1 Course Unit

MGMT 918 Personnel Economics A
This is a half-semester PhD course in the Management Department that is also open to any current PhD students at Wharton. The canonical model in economics views an agent as a fully rational, atomistic individual making optimal choices under scarcity. This approach has been very powerful theoretically and empirically to explain and to predict behavior in the workplace. This model has also been enriched to accommodate other phenomena arguably affecting behavior in the workplace like the social context (e.g. peer effects, altruism, or social comparison), non-standard time preferences, loss aversion, and cognitive costs. Incorporating these ideas into the standard model can be accomplished in various ways but the real stress test for these theories is whether they predict behavior more generally (i.e. we don’t just use theory to explain one choice but choices more generally) and to generate empirical predictions that can be tested using experiments. In this mini-course we start-off with a tour de force of the fundamental principal-agent model and the various behavioral extensions. The core of the course is, however, not theoretical but a practical course on how to design field experiments to test these ideas.
Activity: Seminar
0.5 Course Units

MGMT 919 Personnel Economics B
This is a half-semester PhD course in the Management Department that is also open to any current PhD students at Wharton. It is a continuation and builds on MGMT 918 - please see the course description for MGMT 918. As in MGMT 918 we expand on the canonical model in economics and introduce views from behavioral economics and introduce views from behavioral economics to derive novel theories with empirically testable implications on workplace behavior and individual performance in labor markets and health. In this mini-course the focus is on continuing our review of the literature but the primary aim is to work towards a project description and paper that can be developed into a PhD chapter or journal article.
Activity: Seminar
0.5 Course Units

MGMT 920 Sem in Hum Res Research
This class is designed to give students an overview of the fundamental topics and arguments in the area of employment, how different social science paradigms consider employment topics, and some the new and emerging approaches to this topic.
Activity: Seminar
0.5 Course Units

MGMT 925 Sem Corp Strategy
Course usually offered in spring term
Activity: Seminar
0.5 Course Units

MGMT 926 Corp Trans & Strategy
Activity: Seminar
0.5 Course Units
MGMT 933 Psychological and Sociological Foundations of Research in Management
This course, is required of all first-year doctoral students in Management and open to other Penn students with permission, provides an introduction to the psychological and sociological roots of management theory and research. The courses are predicated on the belief that to be effective as a contemporary management scholar one needs a background in "the classics." Therefore, we will be reading classics from the fields of psychology and sociology in their original form during this semester.
Course usually offered in fall term
Activity: Seminar
0.5 Course Units

MGMT 937 Entrep. Research Seminar
The seminar seeks to expose students to theoretical and empirical perspectives on entrepreneurship research. We will focus on the main questions that define the field and attempt to critically examine how, using a range of methodologies, researchers have approached these questions. As we review the literature, we will seek to identify promising research areas, which may be of interest to you in the context of your dissertation research. In addition to addressing the content of the received literature, we will examine the process of crafting research papers and getting them published in top tier journals. Towards that end, we will characterize the key elements of high impact papers and review the development process of such studies. Students are expected to come fully prepared to discuss and critique the readings that are assigned to each class meeting (see details below). Each student will serve as the discussion leader for one or more of the class sessions. Discussion leaders are expected to critically review several articles, identify new insights in the research that is being reviewed and evaluate its contribution to the literature, position the articles within the literature on the subject matter, raise discussion questions, and act as the discussion moderator for the class session. Each discussion leader is asked to prepare a one or two page summary of the assigned papers which includes a statement of the main research question(s), the methodology, data set if any, summary of findings, a commentary with your thoughts on the reading, and proposed discussion questions. Prior to each class, the discussion leader will meet the instructor to help plan the class meeting. Towards the end of each class meeting, each student will be asked to articulate a research question that emerged from the session and describe the research design used to investigate the issue.
Activity: Seminar
0.5 Course Units

MGMT 938 Family Business Research Seminar
Family firms differ in a number of ways from non-family firms. These differences may result in differential behavior by and performance of family firms versus non-family firms. Although family-controlled firms make up the vast majority of businesses around the world, academic research in this space is sparse. This seminar seeks to expose students to theoretical and empirical perspectives on family businesses. Throughout the course, we will focus on the ownership, control, and management issues that set family firms apart. We will focus on the main issues faced by family firms, and attempt to critically examine how, using a range of methodologies, researchers have approached these issues. As we review the literature, we will seek to identify promising research areas, which may be of interest to you in the context of your dissertation research. In addition to addressing the content of the received literature, we will examine the process of crafting research papers and getting them published in top tier journals. Towards that end, we will characterize the key elements of high impact papers and review the development process of such studies. Students are expected to come fully prepared to discuss and critique the readings that are assigned to each class (see details below). Each class will center on discussing in depth 4-5 papers from the reading list assigned to that class. Before each class, I will let you know which papers to prepare. Each student will serve as the discussion leader for one of more of the class sessions. Discussion leaders are expected to critically review several articles, identify new insights in the research that is being reviewed and evaluate its contribution to the literature, position the articles within the literature on the subject matter, raise discussion questions, and act as the discussion moderator for the class session. Each discussion leader is asked to prepare a one or two page summary of the assigned papers which includes a statement of the main research question(s), the methodology, data set if any, summary of findings, a commentary with your thoughts on the reading, and proposed discussion questions. Prior to each class, the discussion leader will meet the instructor to help plan the class meeting. Towards the end of each class, each student will be asked to articulate a research question that emerged from this seminar and describe the research design used to investigate the issue.
Activity: Seminar
0.5 Course Units

MGMT 951 Micro Organizational Behavior
The purpose of this course is to examine and understand theory and empirical research in the field of micro-organizational behavior. We will study a blend of classic and contemporary literature and examine theoretical propositions of individual and group behavior in organizations as well as discussing and critically evaluating empirical studies based on these theories. Sample topics include the What is Micro-OB?, the person versus situation debate, motivation, job design, group dynamics, leadership and organizational culture and socialization. Mgmt. 951 is a companion class to Mgmt. 961, and you can take it in either order.
Activity: Lecture
0.5 Course Units
MGMT 952 Seminar in Macro-Organizational Behavior
Organizations are ubiquitous, and so is organization. This half-semester course explores organization theory (OT) from the 1960s through the end of the 20th century. We will examine the proliferation of organizational theories during this time period (such as contingency theory, resource dependence theory, ecological theory, and institutional theory) and understand how each theory attempts to relate structure and action over varying levels of analysis. We will determine one or two additional schools to add once we discuss your exposure in other management classes to other potential topics such as behavioral decision theory, sensemaking and cognition, organizational economics, corporate governance, social networks, and the like.
Activity: Seminar
0.5 Course Units

MGMT 953 Seminar on Research Methods
This is an introductory doctoral seminar on research methods in management. We examine basic issues involved in conducting empirical research for publication in scholarly management journals. We start by discussing the framing of research questions, theory development, the initial choices involved in research design, and basic concerns in empirical testing. We then consider these issues in the context of different modes of empirical research (including experimental, survey, qualitative, archival, and simulation). We discuss readings that address the underlying fundamentals of these modes as well studies that illustrate how management scholars have used them in their work, separately and in combination.
Activity: Lecture
1 Course Unit

MGMT 957 Emotions in Organiz.
This is a one quarter class where we examine and understand basics in emotions theory and its application in organizational behavior. To do so, we will cover a blend of basic psychological theories and organizational behavior literature so that we can appreciate the prevailing theories and findings in various areas of emotions and organizations, and gain a deep understanding of the psychological basis necessary to fully understand organizational behavior research. Specifically, we will examine how affect (consisting of emotions, moods, and affective traits) influences perceptions, cognitions and behavior within organizations. We will critically examine the existing knowledge of emotions in organizational life and identify possible future venues of research. We will begin by examining the nature of emotions in general and then focus on the organizational context, examining specific types of emotions and content areas that have been investigated within organizational behavior research.
Activity: Lecture
0.5 Course Units

MGMT 961 Advanced Topics in Micro-Organizational Behavior
The purpose of this quarter course is to continue to explore key concepts and research programs in the field of micro-organizational behavior that we began to study in MGMT 951. To do so, we will cover a blend of classic and contemporary literature so that we can appreciate the prevailing theories and findings in various areas of micro-organizational behavior. In addition, for each topic we will then try to go beyond the existing literature. We will work to increase our understanding by re-framing the research variables, altering the perspective, bringing in new theory, and comparing levels of analysis. Building on the topics we examined in MGMT 951, we will explore further organizational behavior topics including identity, fit, extra role behaviors, job design, creativity, status, power and influence.
Activity: Seminar
0.5 Course Units

MGMT 963 Mult Firms Glob Econ (B)
Activity: Seminar
0.5 Course Units

MGMT 970 App Methods Mgmt Res
Students taking the course will be introduced to the seminal readings on a given method, have a hands-on discussion regarding their application often using a paper and dataset of the faculty member leading the discussion. The goal of the course is to make participants more informed users and reviewers of a wide variety of methodological approaches to Management research including Ordinary Least Squares, Discrete Choice, Count Models, Panel Data, Dealing with Endogeneity, Survival/failure/event history and event studies, experiments, factor analysis and structural equation modeling, hierarchical linear modeling, networks, comparative qualitative methods, coding of non-quantitative data, unstructured text and big data simulations.
Course usually offered in fall term
Activity: Seminar
1 Course Unit

Management of Economics (MGEC)

MGEC 611 Microeconomics for Managers: Foundations
This course establishes the micro- economic foundations for understanding business decision-making. The course will cover consumer theory and market demand under full information, market equilibrium and government intervention, production theory and cost optimization, producing in perfectly competitive and monopoly markets, vertical relations, and game theory, including simultaneous, sequential, and infinitely repeated games. Finally, we will wrapup game theory with an application to auctions. Students are expected to have mastered these materials before enrolling in the second quarter course: Microeconomics for Managers: Advanced Applications.
One-term course offered either term
Activity: Lecture
0.5 Course Units
MGEC 612 Microeconomics for Managers: Advanced Applications
This course will cover the economic foundations of business strategy and decision-making in market environments with other strategic actors and less than full information, as well as advanced pricing strategies. Topics include oligopoly models of market competition, creation, and protection, sophisticated pricing strategies for consumers with different valuations or consumers who buy multiple units (e.g. price discrimination, bundling, two-part tariffs), strategies for managing risk and making decisions under uncertainty, asymmetric information and its consequences for markets, and finally moral hazard and principle-agent theory with application to incentive contacts.
Taught by: Staff.
One-term course offered either term
Activity: Lecture
0.5 Course Units

MKTG 211 Consumer Behavior
This course is concerned with how and why people behave as consumers. Its goals are to: (1) provide conceptual understanding of consumer behavior, (2) provide experience in the application of buyer behavior concepts to marketing management decisions and social policy decision-making; and (3) to develop analytical capability in using behavioral research.
Taught by: Melamud, Sharif, Riis
One-term course offered either term
Also Offered As: MKTG 711
Prerequisite: MKTG 101
Activity: Lecture
1 Course Unit

MKTG 212 Data and Analysis for Marketing Decisions
Firms have access to detailed data of customers and past marketing actions. Such data may include in-store and online customer transactions, customer surveys as well as prices and advertising. Using real-world applications from various industries, the goal of the course is to familiarize students with several types of managerial problems as well as data sources and techniques, commonly employed in making effective marketing decisions. The course would involve formulating critical managerial problems, developing relevant hypotheses, analyzing data and, most importantly, drawing inferences and telling convincing narratives, with a view of yielding actionable results.
Taught by: Eliashberg, Nave
Course usually offered in fall term
Also Offered As: MKTG 712
Prerequisites: MKTG 101, and STAT 101 or equivalent. CNPS minors may take STAT 111 or STAT 430 instead of STAT 101.
Activity Lecture
1 Course Unit
Notes: Students are highly encouraged to take statistics in the semester immediately preceding this course. (Former course title Marketing Research.)

MKTG 223 Channel Management
The purpose of this course is to provide students with an opportunity to analyze, design, and evaluate various marketing channel structures and decisions. The course takes the perspective of the manufacturer and is organized around the two main tasks of channel management; designing channel structure and coordinating the channel. The course views a marketing channel both as a value delivery system and as an inter-organizational system. Specific topics covered include direct v. indirect channels, functional unbundling and hybrid channel systems, franchising, channel conflict, trust and power in channel relations, some legal issues, efficient consumer response (ECR) initiatives, and the impact of electronic commerce on channel management.
One-term course offered either term
Also Offered As: MKTG 759
Prerequisite: MKTG 101
Activity: Lecture
0.5 Course Units
Notes: 0.5 c.u. One-half term

Market & Social System Engineering (MKSE)

MKSE 150 Mkt/Soc Sys on Internet
One-term course offered either term
Activity: Lecture
1 Course Unit

MKSE 312 Theory of Networks
Networks are ubiquitous in our modern society, playing an increasingly larger role in everyday life. These include: Social Networks such as Facebook or Twitter, infrastructure networks such as the Internet, or energy networks such as the electric grid. Network Science and Engineering is a new discipline that investigates the structure of large complex networks and their behavior and properties, and then designing technologies that control and manipulate their behaviors to bring about greater benefits to society. In this course students will learn some of the basic tools, methods, and algorithms for analysis of networked systems, as well as practical applications of this new science.
One-term course offered either term
Prerequisites: ESE 301 and MATH 312
Activity: Lecture
1 Course Unit

Marketing (MKTG)

MKTG 101 Introduction to Marketing
The objective of this course is to introduce students to the concepts, analyses, and activities that comprise marketing management, and to provide practice in assessing and solving marketing problems. The course is also a foundation for advanced electives in Marketing as well as other business/social disciplines. Topics include marketing strategy, customer behavior, segmentation, market research, product management, pricing, promotion, sales force management and competitive analysis.
Taught by: Niedermeier
One-term course offered either term
Activity: Recitation
1 Course Unit
Notes: For fall and spring semesters, you must be registered for one of the 20 recitation sections (MKTG101201 through MKTG101220) AND a lecture section (MKTG101001 or MKTG101002). Failure to sign up for both a recitation and a lecture will result in you being dropped from the course. PLEASE NOTE: Recitation Section MKTG101220 is reserved only for Joseph Wharton Scholars.
MKTG 225 Principles of Retailing
This course explores the domain of retailing; marketing to the final consumer. Emphasis is placed on marketing aspects of retailing not covered in other courses: retail strategy, merchandising, vendor relations and location.

Course usually offered in spring term
Also Offered As: MKTG 725
Prerequisite: MKTG 101
Activity: Lecture
0.5 Course Units
Notes: 0.5 c.u. One-half term. Check meeting dates. Students must register for this course before the end of the Course Selection period (September for Fall, January for Spring) for sections offered in the SECOND half of the term.

MKTG 227 Digital Marketing and Electronic Commerce
The effect of the Internet and related technologies on business and social institutions is more profound than that of any prior invention, including the printing press and the internal combustion engine. Furthermore, marketing is critical to the success of firms that will shape the consumption-led economies that are fueled by these technologies. MKTG 227 provides a research-based and framework-driven approach to succeeding in this environment, through a rigorous approach to understanding digital marketing and electronic commerce. The course is organized into two sections and utilizes relevant theory, empirical analysis, and practical examples, to develop the key learning points.

Guests from the entrepreneur and investor communities participate as well, as appropriate. Part I presents the behavioral foundations for understanding commerce and emerging business models, and covers the relevant phenomena and theory from economics, marketing, and related fields. Part II focuses on the principles and mechanics of digital marketing tools and tactics, and also briefly covers social commerce and new media.

Taught by: Bell
One-term course offered either term
Also Offered As: MKTG 727
Prerequisite: MKTG 101
Activity: Lecture
0.5 Course Units
Notes: 0.5 c.u. One-half term. Check meeting dates. Students must register for this course before the end of the Course Selection period (September for Fall, January for Spring) for sections offered in the SECOND half of the term. Students may not take both MKTG 227 and the full semester version of this course, MKTG 270 (formerly MKTG 230x) for credit.

MKTG 234 Idea Generation & the Systematic Approach for Creativity
The ability to solve problems creatively and generate change is a recognized standard of success and plays an important role in gaining a competitive advantage in many areas of business management. This course is designed to teach students several creative problem solving methodologies that complement other managerial tools acquired in undergraduate and graduate studies. The course offers students the opportunity to learn how to solve problems, identify opportunities, and generate those elusive ideas that potentially generate enormous benefits to organizations. The objectives of this course are to enhance the students’ (a) creativity, (b) ability to innovate and (c) ability to identify, recruit, develop, manage, retain, and collaborate with creative people.

The course includes:
1. A review of the literature on creativity, creative people, innovation, and design as well as the leadership and management of creative people and innovation.
2. Hands on learning of approaches for generating creative ideas. Students will have the opportunity of implementing the techniques studied in class.
3. Applications of creativity to selected management domains - Approaches to the generation of creative options are not limited to the development of products and services or businesses, but can be applied to all areas of management, business, and life.
4. Integration - Both via individual assignments and a group project in which interdisciplinary teams of students generate a creative product/service/customer.

Taught by: Rom Schrift
Course usually offered in fall term
Activity: Lecture
0.5 Course Units
Notes: Students may not take both MKTG 292 and MKTG 234 for credit.

MKTG 241 Entrepreneurial Marketing
This course focuses on the real life marketing challenges involved in launching an entrepreneurial venture. The primary goal of the course will be to provide a roadmap for students seeking to actively engage as entrepreneurs, investors, or managers in the startup culture. Many of the entrepreneurial marketing principles studied in this course will be equally applicable to mid-size and larger companies seeking new approaches to drive top-line growth. The course will address how start-ups, early growth stage and more mature companies have used entrepreneurial marketing as an essential competitive weapon to grow their businesses by gaining customers, driving revenue, acquiring funding and recruiting A-level employees, advisors and directors. Students will form teams and select an idea/concept for an entrepreneurial venture, and by the conclusion of the course will have developed a fully fleshed out and testable marketing plan. Preferably, the selected venture will be one that one or more members of the team would consider implementing, should their plan prove feasible.

Taught by: Lodish, Lautman
Course usually offered in fall term
Also Offered As: MKTG 741
Prerequisites: MKTG 101; MKTG 212 (can take concurrently); students are discouraged from taking this course and MKTG 221 without the permission of the marketing undergraduate faculty advisor.
Activity: Lecture
0.5 Course Units
Notes: 0.5 c.u. One-half term. Check meeting dates. Students must register for this course before the end of the Course Selection period (September for Fall, January for Spring) for sections offered in the SECOND half of the term.
MKTG 254 Pricing Policy
The pricing decision process including economic, marketing, and behavioral phenomena which constitute the environment for pricing decisions and the information and analytic tools useful to the decision maker.
One-term course offered either term
Also Offered As: MKTG 754
Prerequisites: MKTG 101 and sophomore standing.
Activity: Lecture
0.5 Course Units
Notes: 0.5 c.u. One-half term. Students can not take both MKTG 254 and the full semester version of this course, MKTG 288, for credit. Check meeting dates. Students must register for this course before the end of the Course Selection period (September for fall, January for spring) for sections offered in the SECOND half of the term.

MKTG 260 Law of Marketing and Antitrust
See Legal Studies, LGST 205
Also Offered As: LGST 205, LGST 805, MKTG 760
Prerequisite: MKTG 101
Activity: Lecture
1 Course Unit
Notes: (Former MKTG 236)

MKTG 262 New Product Development
In this hands-on experiential course, students will partner with a local start-up to apply design thinking steps taught throughout the course. Students will learn how to uncover deep consumer needs, effectively ideate, and create rapid prototypes to test their ideas with real customers. This class is well suited for those interested in careers in innovation or management consulting, marketing, product management, technology, or entrepreneurship. No prior experience or requirements are needed for this course.
Course not offered every year
Prerequisite: MKTG 101 recommended but not required
Activity: Lecture
1 Course Unit
Notes: NOTE: Students may not take both MKTG 262 and MKTG 221 for credit

MKTG 265 Principles of Advertising
This course focuses on advertising via all media - print, digital, video, TV, Internet, etc. Emphasis is placed on understanding the communication development process and consumer behavior (psychology), the measurement and evaluation of advertising effects, and developing appropriate media plans.
One-term course offered either term
Prerequisites: MKTG 101.
Activity: Lecture
1 Course Unit
Notes: Students should not take both MKTG 265 (full semester version) and MKTG 224 (mini course version), since credit will not be given for both courses.

MKTG 266 Marketing for Social Impact
Private and public sector firms increasingly use marketing strategies to engage their customers and stakeholders around social impact. To do so, managers need to understand how best to engage and influence customers to behave in ways that have positive social effects. This course focuses on the strategies for changing the behavior of a target segment of consumers on key issues in the public interest (e.g., health behaviors, energy efficiency, poverty reduction, fundraising for social causes). How managers partner with organizations (e.g., non-profits, government) to achieve social impact will also be explored.
Taught by: Deborah Small
Course usually offered in fall term
Prerequisite: MKTG 101 or instructor permission
Activity: Lecture
1 Course Unit
Notes: Students may not take both MKTG 266 and MKTG 233 for credit.

MKTG 270 Digital Marketing, Social Media and E-Commerce
MKTG 270 explores the digital marketing environment from both a consumer and business perspective. The course provides an overview of various online business models and delves into digital advertising and social media marketing techniques and technologies. A mixture of case studies, guest speakers and assignments, including one that uses real advertising data, translates theory into practice. It is recommended that students enrolling in the course be comfortable using Excel and are knowledgeable in applying regression analysis techniques. Students who would prefer a less technical course may wish to take MKTG 227, Digital Marketing and Electronic Commerce, a half cu course offered by the department.
Taught by: Bell
One-term course offered either term
Also Offered As: MKTG 770
Prerequisite: MKTG 101
Activity: Lecture
1 Course Unit
Notes: Students may not take both MKTG 270 and the half semester version of this course, MKTG 227 for credit. This course replaces experimental course MKTG 230x.
MKTG 271 Models for Marketing Strategy
In today’s business environment, marketing executives are involved in complex decision-making and they become responsible for return on their marketing investments. The first objective of this course is to help participants become better executives. By exposing students to various analytical and computer-based tools, developed for solving marketing problems, it will help to prepare them for careers in industries such as consumer packaged goods, hi-tech, financial services, media and entertainment, pharmaceutical, consulting, and venture capital. The course’s main focus is on various existing models, such as models that predict the consumer’s dynamic adoption of an innovative product. However, at some point in their career, students may find themselves facing business problems for which a model can assist in making decisions, but no existing model is available. Hence, the second objective of the course is to provide participants with critical skills necessary to evaluate new models to which they may be exposed by attending presentations or reading the literature. The models to be discussed in the class have been implemented and proven useful in a wide range of industries (e.g., business-to-consumers and business-to-business).
Taught by: Robertson
Course usually offered in fall term
Also Offered As: MKTG 771
Prerequisite: MKTG 101, STAT 101 and some tolerance for expressing critical ideas in simple math
Activity: Lecture
1 Course Unit

MKTG 277 Marketing Strategy
This course views marketing as both a general management responsibility and an orientation of an organization that helps one to create, capture and sustain customer value. The focus is on the business unit and its network of channels, customer relationships, and alliances. Specifically, the course attempts to help develop knowledge and skills in the application of advanced marketing frameworks, concepts, and methods for making strategic choices at the business level.
Taught by: Eliashberg
Course usually offered in fall term
Also Offered As: MKTG 771
Prerequisite: MKTG 101
Activity: Lecture
1 Course Unit
Notes: Lectures, discussions, cases

MKTG 278 Strategic Brand Management
Which brands make you happy? Apple? Amazon? Starbucks? Everlane? Soulcycle? Sweetgreen? What draws you into these brands? How do companies create compelling brand experiences? How could you cultivate a well-loved brand? This course explores such questions with the goal of identifying the ingredients for building an inspired brand. The course is created for students interested in building a brand and/or immersing themselves in the enhancement of an existing brand, and it is comprised of lectures, cases, guest speakers, discussions, in and out of class exercises, and a final project. Broadly, the course will be divided into four parts: 1) Understanding Brand, 2) Crafting Brand, 3) Measuring Brand, and 4) Managing Brand. The course will provide students with an appreciation of the role of branding and (taking a consumer-centric approach) will augment students’ ability to think creatively and critically about the strategies and tactics involved in building, leveraging, defending, and sustaining inspired brands.
Taught by: Williams
Course usually offered in spring term
Also Offered As: MKTG 778
Prerequisite: MKTG 101
Activity: Lecture
1 Course Unit

MKTG 288 Pricing Strategies
This course is designed to equip students with the concepts, techniques, and latest thinking on pricing issues, with an emphasis on ways in which to help a firm improve its pricing. The orientation of the course is about practice of pricing, not theory. We will focus on how firms can improve profitability through pricing, look at how firms set their prices and how to improve current practices to increase profitability. The first part of the course focuses on how to analyze costs, customers, and competitors in order to formulate proactive pricing strategies. The second part focuses on price promotions, price bundling, price discrimination, versioning, nonlinear pricing, pricing through a distribution channel, dynamic pricing, etc.
Taught by: Zhang
Course usually offered in spring term
Prerequisite: MKTG 101
Activity: Lecture
1 Course Unit
Notes: Students may not take both MKTG 288 and MKTG 254 for credit.

MKTG 306 Special Topics: Retail Merchandising
This course introduces the role of merchandising at various retailers with an emphasis on apparel and soft-line businesses. Selected topics will include product development, line planning, sourcing, product lifecycle, forecasting, buying, planning and vendor relations. Special emphasis will be placed on current trends in retail merchandising through current articles and industry guest speakers. The objective of this course is to familiarize students with merchandising theory and strategies considered to be current best practices in retailing.
Course usually offered in fall term
Also Offered As: MKTG 806
Prerequisite: MKTG 101 or MKTG 225
Activity: Lecture
0.5 Course Units
Notes: 0.5 c.u., One-half term. Check meeting dates. Students must register for this course before the end of the Course Selection period (September for Fall, January for Spring) for sections offered in the SECOND half of the term.
MKTG 350 Special Topics - Consumer Neuroscience

Basic neuroscience made steady progress throughout the 20th century with only small areas of application outside of medicine. Over the past 30 years, however, breakthroughs in measurement and computation have accelerated basic research and created major applications for business and technology. Currently, applications to marketing research and product development are experiencing explosive growth that has been met with both excitement and skepticism. This mini-course provides an overview of these developments. The course follows a straightforward theory/application format for each major area of cognitive neuroscience. On Tuesdays, the basics of neuroscience are covered along with a few illustrative applications. A key take-away from this part of the course is to gain the elementary scientific knowledge that is necessary to separate "neuro-reality" from "neuro-hype." On Thursdays, we cover application areas in greater detail. There are two general types of applications. First, there are applications of neuroscience in marketing research. Topics will range from well-known and widely used applications, such as eye-tracking measures in the lab and the field, to emerging methods and measures, such as mobile EEG, face reading algorithms, and fMRI predictors of market response. Application areas include, packaging and shelf display, copy testing for television and print advertisements, video games, product usability studies, and simulators. Second, there are applications of neuroscience in the development of new products. Product development applications include wearable physiological devices and apps, sensory branding for foods and fragrances, pharmaceuticals and medical devices (especially prosthetic devices), and neuroscience-based "edutainment" designed to enhance cognitive functions. Special attention will also be paid to changes in brain anatomy and function over the lifespan. Key markets are children (mainly for enhancement products), seniors (mainly for remediation/restoration products), and working adults (both enhancement and remediation/restoration products). This course is self-contained and has no prerequisites. That said, students with some background in business, industrial design, psychology, or neuroscience are likely to find the material covered in this course complementary to the knowledge they already have.

Taught by: Wes Hutchinson
Course usually offered in spring term
Also Offered As: MKTG 850
Prerequisites: None.
Activity: Lecture
0.5 Course Units
Notes: 0.5 c.u. One-half term. Check meeting dates. Students must register for this course before the end of the Course Selection period (September for fall, January for spring) for sections offered in the SECOND half of the term.

MKTG 351 Special Topics: Introduction to Brain Science for Business

Brain science offers the potential to unlock the future of business, by providing new insights that can enhance decision-making, improve precision in design and marketing team chemistry and cultivate leadership, fine-tune selection and human performance, drive creativity and innovation, create social value, and optimize digital interactions. New developments in biometrics, implantable and wearable devices, genomics, proteomics, metabolomics, nutrition, and human microbiome, offer the opportunity for enhanced precision and impact in marketing, finance, management, analytics, and education. This course will provide an overview of contemporary brain science and its applications to business. Students first will be introduced to the basic anatomy and physiology of the brain and become familiar with important techniques for measuring and manipulating brain function. The course will then survey major findings in neuroscience with applications to business, including selective attention and advertising; valuation and marketing; decision making; learning, innovation and creativity; and social influence, team-building, and leadership. The course will end with a discussion of ethics, brain-machine interactions, and artificial intelligence. Applications to business, education, sports, law and policy will be discussed throughout.

Course usually offered in spring term
Also Offered As: MKTG 851
Activity: Lecture
0.5 Course Units
Notes: 0.5 c.u. One-half term. Check meeting dates. Students must register for this course before the end of the Course Selection period (September for fall, January for spring) for sections offered in the SECOND half of the term.

MKTG 399 Independent Study

One-term course offered either term
Also Offered As: MKTG 899
Prerequisites: MKTG 212 and written permission of instructor and the department undergraduate advisor
Activity: Independent Study
1 Course Unit
Notes: Content arranged by project supervisor, 1.0 c.u

MKTG 476 Applied Probability Models for Marketing

This course will expose students to the theoretical and empirical "building blocks" that will allow them to construct, estimate, and interpret powerful models of consumer behavior. Over the years, researchers and practitioners have used these models for a wide variety of applications, such as new product sales, forecasting, analyses of media usage, and targeted marketing programs. Other disciplines have seen equally broad utilization of these techniques. The course will be entirely lecture-based with a strong emphasis on real-time problem solving. Most sessions will feature sophisticated numerical investigations using Microsoft Excel. Much of the material is highly technical.

Taught by: Fader
Course usually offered in spring term
Also Offered As: MKTG 776, STAT 476, STAT 776
Prerequisites: A high comfort level with basic integral calculus and recent exposure to a formal course in probability and statistics such as STAT 430 is strongly recommended.
Activity: Lecture
1 Course Unit
**MKTG 611 Marketing Management**
This course addresses how to design and implement the best combination of marketing efforts to carry out a firm's strategy in its target markets. Specifically, this course seeks to develop the student’s (1) understanding of how the firm can benefit by creating and delivering value to its customers, and stakeholders, and (2) skills in applying the analytical concepts and tools of marketing to such decisions as segmentation and targeting, branding, pricing, distribution, and promotion. The course uses lectures and case discussions, case write-ups, student presentations, and a comprehensive final examination to achieve these objectives.

Taught by: Kahn, Berger, Meyer, Riis
Course usually offered in fall term
Activity: Lecture
0.5 Course Units
Notes: One half term. 0.5 cu

**MKTG 612 Dynamic Marketing Strategy**
Building upon Marketing 611, the goal of this course is to develop skills in formulating and implementing marketing strategies for brands and businesses. The course will focus on issues such as the selection of which businesses and segments to compete in, how to allocate resources across businesses, segments, and elements of the marketing mix, as well as other significant strategic issues facing today's managers in a dynamic competitive environment. A central theme of the course is that the answer to these strategic problems varies over time depending on the stage of the product life cycle at which marketing decisions are being made. As such, the PLC serves as the central organizing vehicle for the course. We will explore such issues as how to design optimal strategies for the launch of new products and services that arise during the introductory phase, how to maximize the acceleration of revenue during the growth phase, how to sustain and extend profitability during the mature phase, and how to manage a business during the inevitable decline phase.

Taught by: Van den Bulte, Bradlow
One-term course offered either term
Prerequisite: MKTG 611
Activity: Lecture
0.5 Course Units
Notes: One half term. 0.5 cu

**MKTG 613 Strategic Marketing Simulation**
Building upon Marketing 611, Marketing 613 is an intensive immersion course designed to develop skills in formulating and implementing marketing strategies for brands and businesses. The central activity will be participation in a realistic integrative product management simulation named SABRE. In SABRE, students will form management teams that oversee all critical aspects of modern product management: the design and marketing of new products, advertising budgeting and design, sales force sizing and allocation, and production planning. As in the real world, teams will compete for profitability, and the success that each team has in achieving this goal will be a major driver of the class assessment. The SABRE simulation is used to convey the two foci of learning in the course: the changing nature of strategic problems and their optimal solutions as industries progress through the product life cycle, and exposure to the latest analytic tools for solving these problems. Specifically, SABRE management teams will receive training in both how to make optimal use of marketing research information to reduce uncertainty in product design and positioning, as well as decision support models to guide resource allocation.

Taught by: Reibstein
Course usually offered in spring term
Prerequisite: MKTG 611
Activity: Lecture
0.5 Course Units
Notes: 0.5 cu

**MKTG 711 Consumer Behavior**
Marketing begins and ends with the customer, from determining customers' needs and wants to providing customer satisfaction and maintaining customer relationships. This course examines the basic concepts and principles in customer behavior with the goal of understanding how these ideas can be used in marketing decision making. The class will consist of a mix of lectures, discussions, cases, assignments, project work and exams. Topics covered include customer psychological processes (e.g., motivation, perception, attitudes, decision-making) and their impact on marketing (e.g., segmentation, branding, and customer satisfaction). The goal is to provide you with a set of approaches and concepts to consider when faced with a decision involving understanding customer responses to marketing actions.

Taught by: Reed
One-term course offered either term
Also Offered As: MKTG 211
Prerequisite: Completion of MKTG 611
Activity: Lecture
1 Course Unit
Notes: Format: Lectures and discussion, case analyses, presentations.
MKTG 712 Data and Analysis for Marketing Decisions
Firms have access to detailed data of customers and past marketing actions. Such data may include in-store and online customer transactions, customer surveys as well as prices and advertising. Using real-world applications from various industries, the goal of the course is to familiarize students with several types of managerial problems as well as data sources and techniques, commonly employed in making effective marketing decisions. The course would involve formulating critical managerial problems, developing relevant hypotheses, analyzing data and, most importantly, drawing inferences and telling convincing narratives, with a view of yielding actionable results.
Taught by: Iyengar, Eliashberg, Nave
One-term course offered either term
Also Offered As: MKTG 212
Prerequisite: MKTG 611; STAT 613 strongly recommended
Activity: Lecture
1 Course Unit
Notes: Format: Lecture, discussion, and cases.

MKTG 724 Advertising Management
The purpose of this course is to provide students with an opportunity to learn and apply the major frameworks, theories, current research findings, principles and practices of effective advertising management as part of an Integrated Marketing Communications (IMC) program. By the end of this course, students should not only be familiar with a large body of advertising knowledge, but should also be able to apply this information to create and evaluate effective advertising strategies and tactics. The emphasis will be on: 1) understanding the psychology of customer motivation and persuasion; 2) crafting effective and creative messages; 3) making efficient selections and use of media; and 4) understanding metrics, all within the broader Integrated Marketing Communications perspective.
One-term course offered either term
Also Offered As: MKTG 224
Prerequisite: Completion of MKTG 611, and MKTG 612, 613 or 622. (May be taken concurrently with MKTG 612, 613 or 622.)
Activity: Lecture
0.5 Course Units
Notes: Format: Case discussions, in-class exercises, lectures, group projects, guest lectures by marketing professionals.

MKTG 725 Principles of Retailing
This course provides an interdisciplinary overview of the retailing industry. Primary focus will be on the customer facing activities of retailers, including assortment planning, private-label development and the management of in-store operations, and the back-door activities (forecasting and supply chain management) that support customer interaction. In addition, current issues facing retailers, such as customer relationship management, industry consolidation and supplier relations, will be explored. The course will also survey topics in finance, operations, information technology and real estate as they relate to retail.
Course usually offered in spring term
Also Offered As: MKTG 225
Prerequisite: MKTG 611; and MKTG 612, 613 or 622; or permission of instructor
Activity: Lecture
0.5 Course Units
Notes: Format: Lecture and discussion, case analyses, and guest speakers.

MKTG 727 Digital Marketing and Electronic Commerce
The effect of the Internet and related technologies on business and social institutions is more profound than that of any prior invention, including the printing press and the internal combustion engine. Furthermore, marketing plays a key role in shaping the modern consumption-led economies fueled by these technologies. MKTG 727 provides a research-based and framework-driven approach to understanding digital marketing and electronic commerce. The course is organized around three sections and utilizes relevant theory, empirical analysis, and practical examples to develop the key learning points. Part I presents will establish the behavioral foundations for understanding electronic commerce and covers relevant phenomena and theory from economics, marketing, and related fields. Part II examines ecommerce business models and institutions including Internet retail, subscription commerce, curated commerce and so on. Part III focuses on how digital marketing fosters ecommerce business growth. In particular, we survey, critique, and evaluate common digital marketing methods and tactics.
Taught by: Bell
One-term course offered either term
Also Offered As: MKTG 227
Prerequisite: Completion of MKTG 611; and MKTG 612, 613 or 622
Activity: Lecture
0.5 Course Units
Notes: 0.5 c.u. One-half term (Former MKTG 784) Students may not take both MKTG 727 and the full semester version of this course, MKTG 730x or MKTG 770 for credit.

MKTG 734 Idea Generation and the Systematic Approach for Creativity
The ability to solve problems creatively and generate change is a recognized standard of success and plays an important role in gaining a competitive advantage in many areas of business management. This course is designed to teach students several creative problem solving methodologies that complement other managerial tools acquired in undergraduate and graduate studies. The course offers students the opportunity to learn how to solve problems, identify opportunities, and generate those elusive ideas that potentially generate enormous benefits to organizations. The objectives of this course are to enhance the students’ (a) creativity, (b) ability to innovate and (c) ability to identify, recruit, develop, manage, retain, and collaborate with creative people. The course includes: 1. A review of the literature on creativity, creative people, innovation, and design as well as the leadership and management of creative people and innovation. 2. Hands on learning of approaches for generating creative ideas. Students will have the opportunity of implementing the techniques studied in class. 3. Applications of creativity to selected management domains - Approaches to the generation of creative options are not limited to the development of products and services or businesses, but can be applied to all areas of management, business, and life. The purpose of these sessions is to explore the applications of creative approaches to marketing, advertising, organizational design, negotiations, and other management challenges. 4. Integration - Both via individual assignments and a group project in which interdisciplinary teams of students generate a creative product/service/customer
Taught by: Rom Schrift
Course usually offered in fall term
Prerequisite: None
Activity: Lecture
0.5 Course Units
Notes: Students may not take both MKTG 792 and MKTG 734 for credit.
MKTG 741 Entrepreneurial Marketing
This course focuses on the real life marketing challenges involved in launching an entrepreneurial venture. The primary goal of the course will be to provide a roadmap for students seeking to actively engage as entrepreneurs, investors or managers in the startup culture. Many of the entrepreneurial marketing principles studied in this course will be equally applicable to mid-size and larger companies seeking new approaches to drive top-line growth. The course will address how start-ups, early growth stage and more mature companies have used entrepreneurial marketing as an essential competitive weapon to grow their businesses by gaining customers, driving revenue, acquiring funding and recruiting A-level employees, advisors and directors. Students will form teams and select an idea/concept for an entrepreneurial venture, and by the conclusion of the course will have developed a fully fleshed out and testable marketing plan. Preferably, the selected venture will be one that one or more members of the team would consider implementing, should their plan prove feasible.
Taught by: Lodish, Lautman
Course usually offered in fall term
Also Offered As: MKTG 241
Prerequisites: Completion of MKTG 611; and MKTG 612, 613 or 622; and MKTG 712; (May take MKTG 612, 613 or 622, and MKTG 712 concurrently); Students are discouraged from taking this course and MKTG 721 except with permission of an MBA adviser.
Activity: Lecture
0.5 Course Units
Notes: Format: Guest speakers, lecture, class discussions, team project

MKTG 754 Pricing Policy
The course provides a systematic presentation of the factors to be considered when setting price, and shows how pricing alternatives are developed. Analytical methods are developed and new approaches are explored for solving pricing decisions.
Taught by: Raju, Zhang
One-term course offered either term
Also Offered As: MKTG 254
Prerequisites: Completion of MKTG 611; and MKTG 612, 613 or 622. (May be taken concurrently with MKTG 612, 613 or 622.) OIDD 612 and STAT 613 are recommended.
Activity: Lecture
1 Course Unit
Notes: Students may not take both MKTG 770 and the half semester version of this course, MKTG 727 for credit. This course replaces experimental course MKTG 730x.

MKTG 770 Digital Marketing, Social Media and E-Commerce
MKTG 770 explores the digital marketing environment from both a consumer and business perspective. The course provides an overview of various online business models and delves into digital advertising and social media marketing techniques and technologies. A mixture of case studies, guest speakers and assignments, including one that uses real advertising data, translates theory into practice. It is recommended that students enrolling in the course be comfortable using Excel and are knowledgeable in applying regression analysis techniques. Students who would prefer a less technical course may wish to take MKTG 727, Digital Marketing and Electronic Commerce, a half course offered by the department.
Taught by: Berman, Bell
One-term course offered either term
Also Offered As: MKTG 270
Prerequisites: MKTG 611, and one of the following: MKTG 612 or MKTG 613
Activity: Lecture
1 Course Unit
Notes: Students may not take both MKTG 770 and the half semester version of this course, MKTG 727 for credit. This course replaces experimental course MKTG 730x.
**MKTG 771 Models for Marketing Strategy**

In today’s business environment, marketing executives are involved in complex decision-making and they become responsible for return on their marketing investments. The first objective of this course is to help participants become better executives. By exposing students to various analytical and computer-based tools, developed for solving marketing problems, it will help to prepare them for careers in industries such as consumer packaged goods, hi-tech, financial services, media and entertainment, pharmaceutical, consulting, and venture capital.

The course’s main focus is on various existing models, such as models that predict the consumer’s dynamic adoption of an innovative product. However, at some point in their career, students may find themselves facing business problems for which a model can assist in making decisions, but no existing model is available. Hence, the second objective of the course is to provide participants with critical skills necessary to evaluate new models to which they may be exposed by attending presentations or reading the literature. The models to be discussed in the class have been implemented and proven useful in a wide range of industries (e.g., business-to-consumers and business-to-business).

The course is not only about models, however. It also covers modeling needs. Some industries such as the media and entertainment or the pharmaceutical industries present unique problems and modeling needs. The third objective of the course is to expose participants to the nature and essence of such idiosyncratic problems as well as modeling needs in such industries. Overall, the course will make participants understand better critical marketing problems by analyzing them rigorously and will enhance their skills in either designing or evaluating models-based strategies.

Taught by: Eliashberg  
Course usually offered in fall term  
Also Offered As: MKTG 271  
Prerequisites: Completion of: MKTG 611; and MKTG 612, 613 or 622; basic calculus; exposure to basic statistical analysis, and some tolerance for expressing critical ideas in simple math.  
Activity: Lecture  
1 Course Unit  
Notes: Format: Evaluating marketing models; practicing with computer-based models and software; discussing case studies that describe modeling applications; group presentations of model-based marketing analysis and strategy.

**MKTG 775 Managing Customer Value**

As the concept of CRM becomes common parlance for every marketing executive, it is useful to take a step back to better understand the various different behaviors that underlie the development of successful CRM systems. These “behaviors” include customer-level decisions, firm actions, and the delicate but complex interplay between the two. Accordingly this course is comprised of four main modules. We start with the discussion of customer profitability - focusing on the concepts of “customer lifetime value” and “customer equity”. We will examine how to measure long-run customer profitability in both business-to-consumer and business-to-business environments, and the uses of these measures as major components assessing overall firm valuation. Second, we move to the value that the firm provides to its customers - better understanding the true nature of customer satisfaction and its non-trivial relationship with firm profitability. Third, we examine each of the three main components of the firm’s management of its customer base: customer acquisition, development, and retention - and the complex resource allocation task that must be balanced across them. Finally, we conclude with a discussion of various tactical and organizational aspects of customer relationship management.

Taught by: Fader  
Course usually offered in spring term  
Prerequisites: None.  
Activity: Lecture  
1 Course Unit  
Notes: Format: Lecture and discussion

**MKTG 776 Applied Probability Models in Marketing**

This course will expose students to the theoretical and empirical “building blocks” that will allow them to develop and implement powerful models of customer behavior. Over the years, researchers and practitioners have used these methods for a wide variety of applications, such as new product sales forecasting, analyses of media usage, customer valuation, and targeted marketing programs. These same techniques are also very useful for other types of business (and non-business) problems. The course will be entirely lecture-based with a strong emphasis on real-time problem solving. Most sessions will feature sophisticated numerical investigations using Microsoft Excel. Much of the material is highly technical.

Taught by: Fader  
Course usually offered in spring term  
Also Offered As: MKTG 476, STAT 476, STAT 776  
Prerequisites: Students must have a high comfort level with basic integral calculus, and recent exposure to a formal course in probability and statistics is strongly recommended.  
Activity: Lecture  
1 Course Unit  
Notes: Format: Lecture, real-time problem solving
MKTG 777 Marketing Strategy
This course views marketing as both a general management responsibility and an orientation of an organization that helps one to create, capture and sustain customer value. The focus is on the business unit and its network of channels, customer relationships, and alliances. Specifically, the course attempts to help develop knowledge and skills in the application of advanced marketing frameworks, concepts, and methods for making strategic choices at the business level. Taught by: Robertson, Yildirim
Course usually offered in fall term
Also Offered As: MKTG 277
Prerequisites: Completion of MKTG 611, and MKTG 612 or 613 or 622
Activity: Lecture
1 Course Unit
Notes: Format varies by instructor. Typically: case, lecture, group projects and class discussion. See syllabus.

MKTG 778 Strategic Brand Management
Which brands make you happy? Apple? Amazon? Starbucks? Everlane? Soulcycle? Sweetgreen? What draws you into these brands? How do companies create compelling brand experiences? How could you cultivate a well-loved brand? This course explores such questions with the goal of identifying the ingredients for building an inspired brand. The course is created for students interested in building a brand and/or immersing themselves in the enhancement of an existing brand, and it is comprised of lectures, cases, guest speakers, discussions, in and out of class exercises, and a final project. Broadly, the course will be divided into four parts: 1) Understanding Brand, 2) Crafting Brand, 3) Measuring Brand, and 4) Managing Brand. The course will provide students with an appreciation of the role of branding and (taking a consumer-centric approach) will augment students’ ability to think creatively and critically about the strategies and tactics involved in building, leveraging, defending, and sustaining inspired brands. Taught by: Williams
Course usually offered in spring term
Also Offered As: MKTG 278
Prerequisites: MKTG 611; and MKTG 612, 613 or 622
Activity: Lecture
1 Course Unit
Notes: Format: Lectures, cases, discussions, exercises, and a group project.

MKTG 806 Special Topics: Retail Merchandising
This course introduces the role of merchandising at various retailers with an emphasis on apparel and soft-line businesses. Selected topics will include product development, line planning, sourcing, product lifecycle, forecasting, buying, planning and vendor relations. Special emphasis will be placed on current trends in retail merchandising through current articles and industry guest speakers. The objective of this course is to familiarize students with merchandising theory and strategies considered to be current best practices in retailing. Course usually offered in fall term
Also Offered As: MKTG 306
Prerequisite: MKTG 611 or MKTG 725
Activity: Lecture
0.5 Course Units
Notes: 0.5 cu half credit course. Format: Lecture, discussion.

MKTG 890 Advanced Study Project (ASP)
The principal objectives of this course are to provide opportunities for undertaking an in-depth study of a marketing problem and to develop the students’ skills in evaluating research and designing marketing strategies for a variety of management situations. Selected projects can touch on any aspect of marketing as long as this entails the elements of problem structuring, data collection, data analysis, and report preparation. The course entails a considerable amount of independent work. (Strict library-type research is not appropriate) Class sessions are used to monitor progress on the project and provide suggestions for the research design and data analysis. The last portion of the course often includes an oral presentation by each group to the rest of the class and project sponsors. Along with marketing, the projects integrate other elements of management such as finance, production, research and development, and human resources.
One-term course offered either term
Also Offered As: OIDD 890
Prerequisites: For GCP Advanced Study Projects: Acceptance to this course is by application only. Students must apply and be interviewed in September for spring participation. Visit www.whartongcp.org.
Activity Seminar
1.5 Course Unit
Notes: For GCP Advanced Study Projects: Acceptance to this course is by application only. Students must apply and be interviewed in September for spring participation. Visit www.whartongcp.org. Individual group meetings with the instructor.

MKTG 895 Advanced Study Project - Wharton Domestic Consulting Practicum
The Wharton Domestic Consulting Practicum (DCP) creates a forum in which students of business can apply the concepts, methods and paradigms learned in the classroom with the resources of a professional network to develop strategic, innovative, and operational plans for organizations worldwide. By providing students with resources and guidance (as opposed to direction), the DCP endeavors to create an academic, social and ethically-minded atmosphere which cultivates experiential and dynamic learning, and which produces state-of-the-art results for clients. Students’ learning correlates with their commitment levels and the efforts put into the projects and team effort. Many, if not all, dimensions of the experience are screened against the “reality experience” one would encounter in consulting (and other professional) environments, with an appropriate safety net tailored to each team to enhance success and the Wharton brand.
Course usually offered in spring term
Prerequisites: Acceptance to this course is by application only. Students must apply and be interviewed in September for spring participation. Visit www.whartongcp.org.
Corequisites: Students will not be permitted to enroll in this course if they are delaying a core.
Activity Seminar
1 Course Unit
Notes: Course is open to all first and second year full time and executive MBA students. Individual group meetings with the instructor.
MKTG 899 Independent Study
A student contemplating an independent study project must first find a faculty member who agrees to supervise and approve the student's written proposal as an independent study (MKTG 899). If a student wishes the proposed work to be used to meet the ASP requirement, he/she should then submit the approved proposal to the MBA adviser who will determine if it is an appropriate substitute. Such substitutions will only be approved prior to the beginning of the semester.
One-term course offered either term
Also Offered As: MKTG 399
Prerequisites: MKTG 611; and MKTG 612, 613 or 622; and the written permission of instructor and the department MBA faculty advisor
Activity: Independent Study
1 Course Unit

MKTG 940 Measurement and Data Analysis in Marketing - Part A
In this course we consider models for binary, count, and continuous data including contingency table models, logistic and probit regression, ANOVA, ANCOVA, conjoint analysis, and OLS. In addition we cover multidimensional techniques such as MDS, cluster analysis, principal components analysis, factor analysis, and discriminant analysis.
We utilize the statistics package SPlus 2000, and also BUGS for implementing many of the techniques described in a Bayesian manner. Course usually offered in spring term
Activity: Seminar
0.5 Course Units
Notes: PhD Course. (Formerly part of MKTG 966) 0.5 cu

MKTG 941 Measurement and Data Analysis in Marketing - Part B
In this course we consider models for binary, count, and continuous data including contingency table models, logistic and probit regression, ANOVA, ANCOVA, conjoint analysis, and OLS. In addition we cover multidimensional techniques such as MDS, cluster analysis, principal components analysis, factor analysis, and discriminant analysis.
We utilize the statistics package SPlus 2000, and also BUGS for implementing many of the techniques described in a Bayesian manner. Course usually offered in spring term
Activity: Seminar
0.5 Course Units
Notes: PhD Course. (Formerly part of MKTG 966) 0.5 cu

MKTG 942 Research Methods in Marketing - Part A
This course provides an introduction to the fundamental methodological issues that arise in experimental and quasi-experimental research. Illustrative examples are drawn from the behavioral sciences with a focus on the behavior of consumers and managers. Topics that are covered include: the development of research ideas; data collection and reliable measurement procedures; threats to validity; control procedures and experimental designs; and data analysis. Emphasis is placed on attaining a working knowledge of the use of regression methods for non-experimental and quasi-experimental data and analysis of variance methods for experimental data. The primary deliverable for this course is a meta-analysis of a research problem of the students choosing that investigates the effects of research methods on empirical results. Course usually offered in fall term
Activity: Seminar
0.5 Course Units
Notes: PhD Course. (Formerly part of MKTG 967) 0.5 cu

MKTG 943 Research Methods in Marketing - Part B
This course provides an introduction to the fundamental methodological issues that arise in experimental and quasi-experimental research. Illustrative examples are drawn from the behavioral sciences with a focus on the behavior of consumers and managers. Topics that are covered include: the development of research ideas; data collection and reliable measurement procedures; threats to validity; control procedures and experimental designs; and data analysis. Emphasis is placed on attaining a working knowledge of the use of regression methods for non-experimental and quasi-experimental data and analysis of variance methods for experimental data. The primary deliverable for this course is a meta-analysis of a research problem of the students choosing that investigates the effects of research methods on empirical results. Course usually offered in fall term
Activity: Seminar
0.5 Course Units
Notes: PhD Course. (Formerly part of MKTG 967) 0.5 cu

MKTG 950 Judgment and Decision Making Perspectives on Consumer Behavior - Part A
The purpose of this course is to provide a solid foundation for critical thinking and research on the judgment, decision-making and choice aspects of consumer behavior. There is a focus on how people process information and then make judgments and decisions and how the processes of judgment and decision making might be improved. Topics of discussion include rationality, judgment under uncertainty, judgment heuristics and biases, risk taking, dealing with conflicting values, framing effects, prospect theory, inter-temporal choice, preference formation, and the psychology of utility. The focus will be on the individual decision-maker, although the topics will also have some applicability to group and organizational decision-making and behavioral research methodologies.
Course usually offered in fall term
Activity: Seminar
0.5 Course Units
Notes: PhD Course. (Formerly part of MKTG 960) 0.5 cu

MKTG 951 Judgment and Decision Making Perspectives on Consumer Behavior - Part B
The purpose of this course is to build on MKTG 950, "Judgment and Decision Making Perspectives on Consumer Behavior - Part A" with a more specialized focus that will vary from year to year. This course is intended for those interested in deepening their study of Judgment and Decision Making beyond the basics.
Course usually offered in fall term
Activity: Seminar
0.5 Course Units
Notes: PhD Course. (Formerly part of MKTG 960) 0.5 cu
MKTG 952 Information Processing Perspectives on Consumer Behavior - Part A
The purpose of this seminar is to provide graduate students with a solid foundation for critical thinking and research in psychology and marketing on information processing related topics. Topics of discussion include consumer knowledge (learning, memory and categorization), attitude theory, persuasion, affect and social influence. The course draws from the literature in marketing, psychology and economics. The course will enable students to conceptualize, operationalize, and develop research ideas. Therefore, the focus is on understanding theoretical and methodological approaches to various aspects of consumer behavior, as well as advancing this knowledge by developing testable hypotheses and theoretical perspectives that build on the current knowledge base.
Course usually offered in spring term
Activity: Seminar
0.5 Course Units
Notes: PhD Course. (Formerly part of MKTG 963) 0.5 cu

MKTG 953 Information Processing Perspectives on Consumer Behavior - Part B
The purpose of this seminar is to provide graduate students with a solid foundation for critical thinking and research in psychology and marketing on information processing related topics. Topics of discussion include consumer knowledge (learning, memory and categorization), attitude theory, persuasion, affect and social influence. The course draws from the literature in marketing, psychology and economics. The course will enable students to conceptualize, operationalize, and develop research ideas. Therefore, the focus is on understanding theoretical and methodological approaches to various aspects of consumer behavior, as well as advancing this knowledge by developing testable hypotheses and theoretical perspectives that build on the current knowledge base.
Course usually offered in spring term
Activity: Seminar
0.5 Course Units
Notes: PhD Course. (Formerly part of MKTG 963) 0.5 cu

MKTG 954 Economic/OR Models of Marketing - Part A
This doctoral seminar reviews analytical models relevant to improving various aspects of marketing decisions such as new product launch, product line design, pricing strategy, advertising decisions, sales force organization and compensation, distribution channel design and promotion decisions. The primary focus will be on analytical models. The seminar will introduce the students to various types of analytical models used in research in marketing, including game theory models for competitive analysis, agency theory models for improving organization design and incentives within organizations, and optimization methods to improve decision making and resource allocation. The course will enable students to become familiar with applications of these techniques in the marketing literature and prepare the students to apply these and other analytical approaches to research problems that are of interest to the students.
Course usually offered in spring term
Activity: Seminar
0.5 Course Units
Notes: PhD Course. (Formerly part of MKTG 964) 0.5 cu

MKTG 955 Economic/OR Models of Marketing - Part B
This is a continuation of MKTG 954. This doctoral seminar reviews analytical models relevant to improving various aspects of marketing decisions such as new product launch, product line design, pricing strategy, advertising decisions, sales force organization and compensation, distribution channel design and promotion decisions. The primary focus will be on analytical models. The seminar will introduce the students to various types of analytical models used in research in marketing, including game theory models for competitive analysis, agency theory models for improving organization design and incentives within organizations, and optimization methods to improve decision making and resource allocation. The course will enable students to become familiar with applications of these techniques in the marketing literature and prepare the students to apply these and other analytical approaches to research problems that are of interest to the students.
Course usually offered in spring term
Activity: Seminar
0.5 Course Units
Notes: PhD Course. (Formerly part of MKTG 964) 0.5 cu

MKTG 956 Empirical Models in Marketing - Part A
This course is designed to generate awareness and appreciation of the way several substantive topics in marketing have been studied empirically using quantitative models. This seminar reviews empirical models of marketing phenomena including consumer choice, adoption of new products, sales response to marketing mix elements, and competitive interaction. Applies methods and concepts developed in econometrics and statistics but focuses on substantive issues of model structure and interpretation, rather than on estimation techniques. Ultimately, the goals are a) to prepare students to read and understand the literature and b) to stimulate new research interests. By the end of the course, students should be familiar with the key issues and approaches in empirical marketing modeling.
Course usually offered in spring term
Activity: Seminar
0.5 Course Units
Notes: PhD Course. (Formerly part of MKTG 964) 0.5 cu

MKTG 957 Empirical Models in Marketing - Part B
This course is designed to generate awareness and appreciation of the way several substantive topics in marketing have been studied empirically using quantitative models. This seminar reviews empirical models of marketing phenomena including consumer choice, adoption of new products, sales response to marketing mix elements, and competitive interaction. Applies methods and concepts developed in econometrics and statistics but focuses on substantive issues of model structure and interpretation, rather than on estimation techniques. Ultimately, the goals are a) to prepare students to read and understand the literature and b) to stimulate new research interests. By the end of the course, students should be familiar with the key issues and approaches in empirical marketing modeling.
Course usually offered in spring term
Activity: Seminar
0.5 Course Units
Notes: PhD Course. (Formerly part of MKTG 964) 0.5 cu
MKTG 971 Advanced Topics in Marketing - Part A
Taught collectively by the faculty members from the Marketing Department, this course investigates advanced topics in marketing. It is organized in a way that allows students to 1) gain depth in important areas of research identified by faculty; 2) gain exposure to various faculty in marketing and their research values and styles; and 3) develop and advance their own research interests.
Course usually offered in fall term
Activity: Seminar
0.5 Course Units
Notes: 0.5 cu. Course meets entire semester.

MKTG 972 Advanced Topics in Marketing - Part B
Taught collectively by the faculty members from the Marketing Department, this course investigates advanced topics in marketing. It is organized in a way that allows students to 1) gain depth in important areas of research identified by faculty; 2) gain exposure to various faculty in marketing and their research values and styles; and 3) develop and advance their own research interests.
Course usually offered in spring term
Activity: Seminar
0.5 Course Units
Notes: 0.5 cu. Course meets entire semester.

MKTG 973 Research Seminar in Marketing - Part A
This course is taught collectively by the faculty members from the Marketing Department. It is designed to expose Doctoral students to the cutting-edge research in marketing models in order to help them to define and advance their research interests. This course will offer: in-depth discussions on some important topics in marketing by experts in respective areas; tools, and methodologies required for conducting research in those areas; broad exposure to our faculty members and their proven research styles.
Course usually offered in fall term
Activity: Seminar
0.5 Course Units
Notes: 0.5 cu. Course meets entire semester.

MKTG 974 Research Seminar in Marketing - Part B
This course is taught collectively by the faculty members from the Marketing Department. It is designed to expose Doctoral students to the cutting-edge research in marketing models in order to help them to define and advance their research interests. This course will offer: in-depth discussions on some important topics in marketing by experts in respective areas; tools, and methodologies required for conducting research in those areas; broad exposure to our faculty members and their proven research styles.
Course usually offered in spring term
Activity: Seminar
0.5 Course Units
Notes: 0.5 cu. Course meets entire semester.

MKTG 995 Dissertation
One-term course offered either term
Activity: Dissertation
1 Course Unit

MKTG 999 Supervised Independent Study
Requires written permission of instructor and the department graduate adviser.
One-term course offered either term
Activity: Independent Study
1 Course Unit

Master of Science in Social Policy (MSSP)

MSSP 514 Comparative Politics of the Welfare State
This class explores the origins, development, and possible futures of social policy regimes in the industrialized countries, in the context of broader political and historical trends. Topics include pensions, health care, and poverty alleviation; “families” of welfare states; the relationship between labor markets and social policy; feminist and Marxist critiques of welfare states and welfare state studies. Open to graduate students and qualified undergraduates with permission of the instructor.
Course not offered every year
Also Offered As: PSCI 414
Activity: Seminar
1 Course Unit

MSSP 628 Policy: Analysis of Issues, Strategy and Process
Policy analysis requires an understanding of social problems/social issues and the processes by which policy is developed and implemented. Critical skills in many policy frameworks include: problem definition and analysis, review of relevant research, identification of possible actions, implementation and evaluation, and fiscal analysis. Competency in written and oral communication is also essential. To develop these and related skills, this course utilizes as a base a dynamic social problem analysis framework that addresses issues of equity, equality and adequacy. It also examines multiple theoretical and analytical perspectives. Through the review of contemporary and historical social policy debates and provisions, selected case examples and policy briefs, this course provides students with an understanding of the policy roles of the legislative and executive branches of government, including goal setting, policy rulemaking and enactment, allocation of resources, financing, regulation, and implementation. The policy process at state and local levels of government will also be addressed. The primary focus is on U.S. policy although global policies will be discussed when relevant.
One-term course offered either term
Prerequisite: Enrolled in MSSP program or permission of instructor
Activity: Lecture
1 Course Unit

MSSP 629 Research and Evaluation Design
Research and Evaluation Design introduces social research methods in the context of social policy and program evaluation. The course provides a conceptual and practical understanding in the design of experimental, quasi-experimental, and non-experimental research and in the application of quantitative and qualitative methods. Students learn about the application of the research process and skills in all phases of assessing a social policy and developing a social program, including needs assessment, implementation analysis, and evaluation of policy or program effectiveness. Students learn to be critical and informed consumers of research and to apply guidelines of research ethics in social policy settings.
Taught by: Summerville
Course usually offered in spring term
Prerequisite: Enrolled in MSSP program or permission of instructor
Activity: Lecture
1 Course Unit
MSSP 630 Quantitative Reasoning/Social Statistics
The primary goals of this course are (1) to provide students with a solid understanding of the logic of social science research as well as (2) to provide students with an introduction to a broad range of statistical methods commonly used in social science research. The first portion of the semester concentrates on defining research problems, research design (including sampling, measurement, and causal inference), and assessing research quality. The latter portion of the semester focuses upon data analysis including descriptive statistics, measures of association for categorical and continuous variables, introduction to t-tests, ANOVA and regression, and the language of data analysis. Students will learn how to choose and apply statistical tools to data sources, how to interpret quantitative studies, and will gain experience using SPSS - a statistical software package.
Course usually offered in fall term
Prerequisite: Enrolled in MSSP program or permission of instructor
Activity: Lecture
1 Course Unit

MSSP 631 Law and Social Policy
This course introduces students to the basics of the American legal system, focusing on the interplay between litigation and social policy. Students will learn how law, and particularly case law, is made, how to read case law and evaluate precedent, legal reasoning and argument. This course will utilize various teaching methods including introduction to the "Socratic" lecturing method which is frequently utilized in the study of law. Students will also study the structure of court systems at both state and federal levels as well as the litigation process and the role of law and courts in shaping and addressing social policy issues. Students will also learn the basics of several areas of substantive law, with an eye toward consideration of how that law has been, and can be, used to effect social change.
Course usually offered in spring term
Prerequisite: Must be registered in Masters in Social Policy program or permission of instructor
Activity: Lecture
1 Course Unit

MSSP 632 Capstone Seminar
The focus of the Capstone Seminar is three-fold: 1) to enhance student integration of the theory and practice of social policy analysis; 2) to enhance the student’s competencies in the written and oral communication processes and procedures necessary for the policy world; and 3) to ensure basic knowledge about federal budget processes, stakeholder roles, and inter-organizational collaboration.
Course usually offered in spring term
Prerequisites: Enrolled in MSSP program.
Activity: Lecture
0.5 Course Units

MSSP 634 MSSP/DA Capstone I
Activity: Seminar
0.5 Course Units

MSSP 635 MSSP/DA Capstone II
Capstone II consists of an intensive, multi-week policy internship that is selected through a consultative process involving the student, MSSP advisors, internship coordinator/advisor, and mentors/supervisors at potential sites. The internship provides an opportunity for the student to expand horizons beyond the academic. It serves as a medium to integrate classroom learning with experiences in policy making activity.
Prerequisite: Enrolled in Social Policy/Data Analytics program
Activity: Seminar
0.5 Course Units

MSSP 638 Economics for Social Policy
This course provides students with theory and tools from the field of economics that are useful for the field of social policy, such as: 1) critical macroeconomic and microeconomic concepts for social policy formation and analysis; 2) information about the Congressional budget process and federal budget, U.S. and global monetary policy, economic measurement indices, and tax policy in relation to social policy values of equity, equality and adequacy; 3) how to apply cost-benefit analysis and/or cost-effectiveness analysis to policy proposals; and 4) the role of nonprofit organizations in the provision of social services and programs that are mandated by federal legislation.
Course usually offered in fall term
Activity: Lecture
1 Course Unit

MSSP 670 Education, Society, and Social Policy
This course is concerned with interrogating the dualism of schools and society that has been an on-going discourse in philosophy, research, and policy. In education policy, in particular, the question of the educative experiences that go on beyond schooling have been slow to be taken up and often relegated to public and social policy. And due to the silos of policymaking and implementation there has been very little dialogue or collaborative design between education and social policy, leaving major gaps in the experience and process of education and human development. This course will begin by looking at how educational philosophy and theory has taken up this dualism beginning with Nietzsche, Dewey, Durkheim, and Marx, through Ivan Illich, Larry Cremin, Jean Lave, Edmund Gordon, and Herve Varenne. Then, we will survey various social and educational research that examine the various spaces outside of schooling that matter for human learning and development including the Coleman Report, and work on poverty, education, and human development. The third part of the course will explore both actual and proposed policy models to address a much broader understanding of education such as Head Start, the Harlem Children’s Zone, 21st Century Community Learning Centers, The Broader Bolder Approach, and other supplementary and comprehensive educational services and
Course not offered every year
Activity: Lecture
1 Course Unit
MSSP 710 Democratizing Data: Analytics for Social Change
With the advent of digital technologies and the increasing power of computational analytics, the proliferation and ubiquity of data production have increased at exponential rates enabling new possibilities for social analysis. This course will examine the emergence of democratizing data – the movement to make government and other data more widely or publicly available and its potential enabling for democratic possibilities. The types of data being made available, through various analytic systems, and the ways in which their accessibility and inaccessibility is contributing to reconfigured power relations, will be described. The paradigmatic tensions and shifts that have emerged in the debates on "Big Data," such as deductive versus inductive reasoning and the challenges posed to statistical sampling theory, will be interrogated. The appropriation of machine learning and predictive analytic algorithms for social analysis will be critically explored. Issues related to the ethical and legal use of administrative data, particularly data related to patient, client, student, and taxpayer information will be considered, as well as from internet-based sources including social media. Potential solutions to data security challenges will be additionally considered. Methods for web-scraping of data, analysis of web traffic data, and the use of social networking data in the modeling of social phenomena and public opinion will be examined. Students will learn how to make results accessible to non-technical audiences via data visualization tools, such as web-based data dashboards and web-based maps. These topics will be discussed for the analysis of health, education, and social policy as well as their implications for questions pertaining to race, gender, class, sexuality, dis/abilities, age and youth culture. This course will develop students' knowledge of computational and data analytics and its applications for social policy analysis.
Course usually offered in fall term
Activity: Lecture
1 Course Unit

MSSP 741 Gender & Social Policy
Gender and Social Policy develops an advanced understanding of social policies through a focus on social issues and conditions through the lens of gender, economic and critical theory. The specialized focus on gender and social policy provides students with the opportunity to develop more specialized knowledge about how market dynamics and government policies respond to the needs and risks faced by women. Specific emphasis is placed on utilizing theoretical frameworks to evaluate the intersection between social policy, history and social science in relationship to gender issues. Students are also expected to conduct a policy analysis that includes an evaluation of how current and former social movements surrounding gender issues shaped their policy of interest.
Taught by: Baker
Course usually offered in spring term
Also Offered As: SWRK 741
Activity: Lecture
1 Course Unit

MSSP 750 Women Leaders and Emerging Democracies
In this course we will explore ways to provide women with practical, "real world" skills that will enable them to achieve meaningful political and advocacy participation. The course is designed to give the theoretical background and tools to put together a meaningful international training such as those sponsored by Women's Campaign International. The course will also focus on political and community organizing, communications, fundraising, advocacy and media experience, which will aid women politically, economically, and civically in the life of their communities. Students will not only gain experience from working with Women's Campaign International's trainers, but will also learn how to develop training strategies for specific countries - addressing the particular challenges within countries that women face as they determine their political and economic involvement in emerging democracies. Guest lecturers will also share best case practices used in political races in the United States.
Taught by: Margolies
Course not offered every year
Activity: Lecture
1 Course Unit

MSSP 780 Policy and "Difference" in Postmodernity
Social constructions of "difference" permeate the institutions, spaces, and assumptions of our society. These social constructions include but are not limited to the racialized, gendered, sexed, classed, and dis/abled constructions of the body. By leaning on postmodern thinkers such as Iris Marion Young, Pierre Bourdieu, Judith Butler, Jacques Derrida, Ernesto Laclau, and Michel Foucault, this seminar course will begin by engaging the questions of what is "difference" and how is "difference" discursively constructed and reproduced in society. Using a postmodern lens, the remainder of the course will engage various social science texts that deal with the varieties of "difference" (i.e. race, gender, class, sexuality) and the explicit and/or implicit policy implications of these works. Thus, we will critically engage policies such as welfare, affirmative action, economic policies of taxation, and same-gender marriage, among others. The underlying questions throughout the course will be to what extend does social policy enable the possibilities of freedom, justice, and democracy for the "Other", the deviant, the abject, the marginalized, those of assumed "difference"? And, to what extent does policy constrain those possibilities at the same time? This course does assume familiarity with social theory and is an introduction to postmodern thought on the law, the political, and policy.
Taught by: Dixon-Roman
Also Offered As: SWRK 780
Activity: Seminar
1 Course Unit

MSSP 780 Policy and "Difference" in Postmodernity
Social constructions of "difference" permeate the institutions, spaces, and assumptions of our society. These social constructions include but are not limited to the racialized, gendered, sexed, classed, and dis/abled constructions of the body. By leaning on postmodern thinkers such as Iris Marion Young, Pierre Bourdieu, Judith Butler, Jacques Derrida, Ernesto Laclau, and Michel Foucault, this seminar course will begin by engaging the questions of what is "difference" and how is "difference" discursively constructed and reproduced in society. Using a postmodern lens, the remainder of the course will engage various social science texts that deal with the varieties of "difference" (i.e. race, gender, class, sexuality) and the explicit and/or implicit policy implications of these works. Thus, we will critically engage policies such as welfare, affirmative action, economic policies of taxation, and same-gender marriage, among others. The underlying questions throughout the course will be to what extend does social policy enable the possibilities of freedom, justice, and democracy for the "Other", the deviant, the abject, the marginalized, those of assumed "difference"? And, to what extent does policy constrain those possibilities at the same time? This course does assume familiarity with social theory and is an introduction to postmodern thought on the law, the political, and policy.
Taught by: Dixon-Roman
Also Offered As: SWRK 780
Activity: Seminar
1 Course Unit
**MSSP 897 Applied Linear Modeling**

This course deals with the underlying assumptions and applications of the general linear model with social science, education, and social policy related questions/data. The first half of the course begins by covering simple linear regression and the assumptions of the general linear model, assumption diagnostics, consequences of violation, and how to correct for violated assumptions. This will also include methods of incomplete case analysis (i.e. missing data analysis). Then various aspects of regression analysis with multiple independent variables will be covered including categorical explanatory variables (e.g. to estimate group differences), interaction effects, mediating effects (e.g. to estimate the indirect effect of social processes), and non-linear effects. The course will then cover some of the applications of the general(ized) linear model including logistic regression, some elements of path modeling (structural equation modeling), multilevel analysis (hierarchical linear modeling), and longitudinal modeling (growth modeling). The course will be taught using SAS, but students are welcome to use any statistical package of comfort. Pre-requisite: Introductory Graduate Statistics.

Taught by: Dixon-Roman

Course usually offered in spring term

Prerequisite: Introductory Graduate Statistics

Activity: Lecture

1 Course Unit

**MRT 620 Translational Therapeutics**

This course will provide an in-depth view of the process by which scientific discoveries are commercialized. This course covers discovery in the laboratory, technology transfer, regulatory, financial, and managerial issues involved in moving a technology from the lab into the market place. The course contents fall into three broad categories: (1) examples of scientific discoveries that are candidates for commercialization, (2) fundamental elements of technology transfer, such as intellectual property protection and licensing, and (3) aspects of commercialization, such as regulatory approval, financing, and startup formation. In using this structure, the course provides parallel coverage of both the science and the commercialization process, in such a way that the elements of one contribute to the student’s experience in learning the other.

Taught by: Nalaka Gooneratne, MD and Tomas Isakowitz, PhD

Also Offered As: BE 608

Prerequisites: Undergraduates and graduate students in other departments are welcome. Please contact acgreene@upenn.edu to request permission to register.

Activity: Lecture

1 Course Unit

**Master of Urban Spatial Analytics (MUSA)**

**MUSA 500 Spatial Statistics and Data Analysis**

This hands-on course will provide an introduction to statistical methods and will serve as a prequel to ESE502. Topics covered will include exploratory univariate analysis, correlation and Chi-square analysis, t-tests and ANOVA. Non-parametric alternatives to the standard tests will be discussed. OLS regression, including assumptions and diagnostics, will be covered in detail. Heavy emphasis will be placed on the application of each method covered. The course will conclude with an introduction to spatial statistical methods and a brief overview of linear algebra and matrix notation for OLS and spatial regression. Students will learn to use JMP-IN, ArcGIS and GeoDa for data analysis.

Taught by: Eugene Brusilovskiy

Course usually offered in fall term

Also Offered As: CPLN 671

Activity: Lecture

1 Course Unit

**MUSA 501 Introduction to Applied Statistics**

This hands-on course will provide an introduction to statistical methods and will serve as a prequel to ESE502. Topics covered will include exploratory univariate analysis, correlation and Chi-square analysis, t-tests and ANOVA. Non-parametric alternatives to the standard tests will be discussed. OLS regression, including assumptions and diagnostics, will be covered in detail. Heavy emphasis will be placed on the application of each method covered. The course will conclude with an introduction to spatial statistical methods and a brief overview of linear algebra and matrix notation for OLS and spatial regression. Students will learn to use JMP-IN, ArcGIS and GeoDa for data analysis.

Taught by: Brusilovskiy

Course usually offered in spring term

Activity: Lecture

1 Course Unit

**MUSA 502 Web Based Gis**

Course usually offered in spring term

Activity: Lecture

1 Course Unit
MUSA 503 Modeling Geographical Objects
This course offers a broad and practical introduction to the acquisition, storage, retrieval, maintenance, use, and presentation of digital cartographic data with vector-oriented (i.e. drawing based) geographic information systems (GIS) for a variety of environmental science, planning, and management applications. Previous experience in GIS is not required.
Taught by: Tomlin or Hillier
Course usually offered in fall term
Also Offered As: CPLN 503
Activity: Lecture
1 Course Unit

MUSA 504 Business and Crime Geographics
In this hands-on course, students will learn how to use ESRI Business Analyst software and data to undertake real estate and social service market studies, business location studies, and consumer expenditure profiles. New this year, the course will also explore techniques and software for tracking and forecasting crime; and deploying police resources.
Taught by: Amos
Course usually offered in spring term
Prerequisites: Prior experience with ArcGIS.
Activity: Seminar
1 Course Unit

MUSA 505 Web-based Mapping
This hands-on course will teach students how to develop and implement web-and internet-based mapping tools and applications using ESRI's ArcGIS Server and ArcGIS Online products as well as the GoogleMaps Applications Programming Interface (API). Students will learn how to use web-based tools to build spatial databases, analyze and display spatial data at multiple scales, mix web-based vector and raster data with image data, conduct spatial analysis and develop urban and environmental planning applications.
Taught by: Landis and Dailey
Course usually offered in spring term
Prerequisite: CPLN 670 / LARP 743
Activity: Laboratory
1 Course Unit

MUSA 506 Business and Crime Geographics
Course usually offered in spring term
Activity: Lecture
1 Course Unit

MUSA 507 Spatial Analysis for Urban and Environmental Planning
This course builds on prior knowledge of GIS and basic statistics to help students to develop GIS and spatial analysis applications for use in urban and environmental planning and management. Each weekly session will focus on a particular analytical approach (e.g., buffering, geo-processing, map algebra, network analysis) as applied to a particular urban or environmental planning tasks (e.g., identification of development opportunities, prioritizing conservation lands, urban growth modeling, housing price modeling). The format of the class includes weekly lectures/in-class demos; and weekly homework assignments. The course will make extensive use of ArcGIS and associate Extensions, especially Spatial Analyst, Network Analyst, and Business Analyst. One-year student versions of ArcGIS and ArcGIS extensions will be available free of charge at the City Planning Office. ArcGIS runs best on Windows machines; those with Macs will need to install a Windows emulator.
Taught by: Steif
Course usually offered in fall term
Also Offered As: CPLN 590
Prerequisite: MUSA 501 or CPLN 503 or equivalent
Activity: Lecture
1 Course Unit

MUSA 610 Javascript Programming for Planning Applications
This course will introduce city planning, MUSA and design graduate students to Java and Javascript. Students will learn the logic and syntax of the Java programming language for use in simple web applications (Weeks 1 to 7); as well as how to program database and map-oriented web and desktop applications using Javascript (Weeks 8 to 14). The "hands-on" uses of Java and Javascript in urban planning applications will be emphasized. Students will hone their programming and applications development skills through a series of bi-weekly assignments.
Taught by: Faculty
Course usually offered in spring term
Also Offered As: CPLN 690
Activity: Laboratory
1 Course Unit

MUSA 800 MUSA Capstone Project
One-term course offered either term
Also Offered As: CPLN 680
Activity: Seminar
1 Course Unit

MSE 099 Undergraduate Research and/or Independent Study
An opportunity for the student to become closely associated with a professor (1) in a research effort to develop research skills and technique and/or (2) to develop a program of independent in-depth study in a subject area in which the professor and student have a common interest. The challenge of the task undertaken must be consistent with the student's academic level. To register for this course, the student and professor jointly submit a detailed proposal to the undergraduate curriculum chairman no later than the end of the first week of the term.
Note: a maximum of 2 c.u. of MSE 099 may be applied toward the B.A.S. or B.S.E. degree requirements.
One-term course offered either term
Activity: Independent Study
1 Course Unit
Notes: Open to all students
MSE 215 Introduction to Functional Materials: From Macro to Nanoscale
The purpose of this course is: 1) to introduce key concepts underlying the design, properties and processing of functional materials and their applications, and 2) to apply these concepts in the rapidly growing field of nanomaterials and nanotechnology. Fundamental chemical and physical principles underlying electronic, dielectric, optical and magnetic properties will be developed in the context of metals, semiconductors, insulators, crystals, glasses, polymers and ceramics. Miniaturization and the nanotechnology revolution confronts materials science with challenges and opportunities. Examples in which nanoscale materials exhibit qualitatively different properties compared to bulk will be emphasized.
Course usually offered in spring term
Prerequisite: MSE 221
Activity: Lecture
1 Course Unit

MSE 220 Introduction to Materials Science and Engineering
The course is an introduction to the most important concepts in materials science and engineering with a goal of building the foundations for all other courses related to materials and how to think about materials in other areas of engineering and the physical sciences. It covers atomic bonding, crystal structure and symmetry, glasses, defects, diffusion, elasticity, plasticity, fracture, phase diagrams, phase transformations, and an introduction into thermal, electrical, magnetic and optical properties and materials processing. Material classes will include metals, ceramics, polymers, semiconductors, and composites.
Course usually offered in fall term
Also Offered As: MEAM 220
Prerequisite: PHYS 140 or MEAM 110
Corequisites: PHYS 141 and MATH 240
Activity: Lecture
1 Course Unit

MSE 221 Quantum Physics of Materials
This course develops the background in basic physics required to understand the behavior of electrons in atoms, molecules and solids. Beginning with experiments and ideas that led to the foundation and postulates of Quantum Mechanics, the behavior of an electron in simple potential wells is treated. The electron in a harmonic oscillator well and the Coulomb potential of a hydrogen atom are treated next. Pauli's exclusion principle and generalization to multi-particle systems are introduced. The Fermi energy, density of states and free electron band structure will be introduced. Many state-of-the-art materials analysis techniques will also be demonstrated throughout the course.
One-term course offered either term
Prerequisites: PHYS 140, 141 concurrent and MATH 240
Activity: Lecture
1 Course Unit
Notes: Meets Natural Science Requirement

MSE 250 Nano-scale Materials Lab
In this class you will learn laboratory methods used to synthesize materials, to examine the structure of materials, to measure electrical, mechanical and thermal properties, and to investigate the relationships between processing, structure and properties. Emphasis is placed on laboratory skills, technical understanding, and technical communications (figures, writing). The laboratory exercises involve: 1) learning how to use state of the art equipment for processing and studying the properties and internal structure of engineering materials, 2) qualitative and quantitative interpretation of data and observations, and 3) the development of analytical skills necessary to form general and fundamental conclusions from observations and data. This course focuses on how materials' structure and chemistry can be controlled to tailor properties and how properties of nanoscale materials can differ significantly from their bulk counterparts.
Course usually offered in spring term
Prerequisite: MSE 220
Activity: Lecture
1 Course Unit

MSE 260 Energetics of Macro and Nano-scale Materials
Basic principles of chemical thermodynamics as applied to macro and nano-sized materials. This course will cover the fundamentals of classical thermodynamics as applied to the calculation and prediction of phase stability, chemical reactivity and synthesis of materials systems. The size-dependent properties of nano-sized systems will be explored through the incorporation of the thermodynamic properties of surfaces. The prediction of the phase stability of two and three component systems will be illustrated through the calculation and interpretation of phase diagrams for metallic, semiconductor, inorganic, polymeric and surfactant systems.
Course usually offered in spring term
Prerequisite: CHEM 102
Activity: Lecture
1 Course Unit

MSE 330 Self-Assembly of Soft Materials
Soft matter is found in diverse applications including sports (helmets & cloths); food (chocolate, egg); consumer products (e.g., lotions and shampoo); and devices (displays, electronics). Whereas solids and liquids are typically hard and crystalline or soft and fluid, respectively, soft matter can exhibit both solid and liquid like behavior. In this class, we investigate the thermodynamic and dynamic principles common to soft matter as well as soft (weak) forces, self-assembly and phase behavior. Classes of matter include colloidal particles, polymers, liquid crystalline molecules, amphiphilic molecules, biomacromolecules/membranes, and food. About four active learning activities will be included.
Course usually offered in fall term
Also Offered As: BE 330
Prerequisites: CHEM 102 or equivalent; MSE 220 or BE 220 or introductory physical chemistry course.
Activity: Lecture
1 Course Unit
MSE 360 Structure at the Nanoscale
To understand the atomic arrangements of crystalline matter, this class focuses on crystallography, symmetry, and diffraction techniques. The first half focuses on learning how to describe the structure of crystalline matter through the basics of crystallography and symmetry by introducing two-dimensional symmetry operations, point, and plane groups; this knowledge is then extended into three-dimensions to arrive at an understanding of space lattices and space groups. The second half is concerned with applying this information to understand structures through various diffraction and microscopy techniques.
Course usually offered in fall term
Activity: Lecture
1 Course Unit

MSE 393 Materials Selection
Throughout mankind’s history, materials have played a critical role in civilization and technology. The selection of materials has been based on availability and functionality. The rapid advances of materials technologies in the last 150 years, however, have made nearly all classes and forms of materials available, at a cost. These costs include the dollars and cents costs that typically accompany the use of stronger, lighter materials, but environmental costs are also important and significant. Therefore, in theory at least, materials selection can now proceed on a rational basis as an optimization process involving performance and costs - both financial and environmental. In this course, we will focus on structural applications where mechanical design is central. By the end of the course, the students can expect to acquire a level of engineering familiarity with a broad range of materials, and be prepared to undertake responsible material design projects in the future.
Course usually offered in spring term
Prerequisites: MSE 220, Junior standing or approval of the instructor
Activity: Lecture
1 Course Unit

MSE 405 Mechanical Behavior of Macro/Nanoscale Materials
The application of continuum and microstructural concepts to elasticity and plasticity and the mechanisms of plastic flow and fracture in metals, polymers and ceramics. Topics covered include elasticity, viscoelasticity, plasticity, crystal defects, strengthening, crystallographic effects, twinning, creep and fatigue. Emphasis will be on mathematical and physical understanding rather than problem solving.
Course usually offered in fall term
Also Offered As: MEAM 405, MEAM 505, MSE 505
Prerequisites: MSE 220 and/or MEAM 210 or the equivalent background, MATH 240 or equivalent
Activity: Lecture
1 Course Unit

MSE 430 Polymers and Biomaterials
Polymer is one of the most widely used materials in our daily life, from the rubber tires to clothes, from photoresists in chip manufacturing to flexible electronics and smart sensors, from Scotch tapes to artificial tissues. This course teaches entry-level knowledge in polymer synthesis, characterization, thermodynamics, and structure-property relationship. Emphasis will be on understanding both chemical and physical aspects of polymers, polymer chain size and molecular interactions that drive the microscopic and macroscopic structures and the resulting physical properties. We will discuss how to apply polymer designs to advance nanotechnology, electronics, energy and biotechnology. Case studies include thermodynamics of block copolymer thin films and their applications in nanolithography, shape memory polymers, hydrogels, and elastomeric deformation and applications.
Course usually offered in fall term
Also Offered As: CBE 430, CBE 510, MSE 580
Prerequisites: MSE 260 or equivalent course in Thermodynamics or Physical Chemistry (such as CBE 231, CHEM 221, MEAM 203)
Activity: Lecture
1 Course Unit

MSE 440 Phase Transformations
The state of matter is dependent upon temperature, thermal history, and other variables. In this course the science of structural transitions is treated, with the purpose in mind of utilizing them for producing materials with superior properties. The subjects covered include the methods of structural analysis, solidification, solid state transformation, and order-disorder transition.
Course usually offered in spring term
Prerequisites: MSE 220, MSE 260, or equivalent or permission of the instructor
Activity: Lecture
1 Course Unit

MSE 455 Electrochemical Engineering of Materials
After introducing electrochemical concepts (redox reactions, electrolytic versus galvanic cells, standard oxidation potentials), this course will cover the broad impact of electrochemical phenomena on materials. Topics that will be discussed include: (1) Materials extraction from their ores to finished products by electrowinning, (2) Chemical refining (Mond process) and electrorefining of materials, (3) Materials degradation by destructive electrochemical corrosion, (4) Three-dimensional nanostructured materials by selective electrochemical corrosion, (5) Enhancing the electrochemical performance of materials via nanostructuring - e.g. lithium-ion battery electrodes; (6) Enhancing the electrochemical performance of materials via surface chemistry - e.g. oxygen evolution electrocatalysts; (7) Light-enhanced electrochemical performance of materials - e.g. solar water splitting photoelectrocatalysts. Students will be engaged in interactive classroom activities.
Course usually offered in spring term
Also Offered As: MSE 555
Activity: Lecture
1 Course Unit
MSE 460 Computational Materials Science
This course provides an introduction to modeling and simulation in materials science, covering continuum methods (e.g. finite element methods) and atomistic and molecular simulation (e.g. molecular dynamics). These tools play an increasingly important role in modern engineering. You will get hands-on training in both the fundamentals and applications of these methods to key engineering problems. The lectures will provide an exposure to areas of application, based on the scientific exploitation of the power of computation. We will use software packages (Comsol and LAMMPS) and thus extensive programming skills are not required. Matlab background needed for the course will be covered in a self-contained module.
One-term course offered either term
Prerequisites: Junior or Senior Standing. Ability to write simple computer codes would be an advantage.
Activity: Lecture
1 Course Unit

MSE 465 Fabrication and Characterization of Micro and Nanostructured Devices
This course surveys various processes that are used to produce materials structured at the micron and nanometer scales for electronic, optical and biological applications. Basic principles of chemistry, physics, thermodynamics and surface/interfacial science are applied to solid state, liquid, and colloidal approaches to making materials. A wide range of nano- and microfabrication techniques, including photolithography, soft lithography, nanoimprint lithography, 3D printing and self-assembly, are covered. The course is heavily lab based, with 25% of class time and 30% of the homework devoted to hands on experiences. Lab assignments are a series of structured individual/group projects. Evaluation is based on 3-4 lab reports, 4 problem sets with journal paper reading assignment, and a final project design.
One-term course offered either term
Also Offered As: MSE 565
Activity: Lecture
1 Course Unit

MSE 495 Senior Design
The senior design course is a two-semester capstone program that gives students the opportunity to design and execute an original experimental or theoretical project in materials science, engineering, or product/device development. Students will be challenged to use the skills, knowledge, and understanding developed during their first three years and continually developed through their fourth, in the research and design environment.
Course usually offered in fall term
Activity: Lecture
1 Course Unit

MSE 496 Senior Design
The senior design course is a two-semester capstone program that gives students the opportunity to design and execute an original experimental or theoretical project in materials science, engineering, or product/device development. Students will be challenged to use the skills, knowledge, and understanding developed during their first three years and continually developed through their fourth, in the research and design environment.
Course usually offered in spring term
Activity: Lecture
1 Course Unit

MSE 500 Experimental Methods in Materials Science
This laboratory course introduces students to a variety of experimental methods used in materials science and engineering. Hands-on training will be provided for atomic force microscopy, X-ray diffraction and scattering, mechanical testing with image capture, Rutherford backscattering, and dynamic light scattering. Students will use numerous software packages for data collection and analysis, as well as being introduced to LabVIEW as a method for customizing experiments. In addition, students will see demonstrations of scanning electron microscopy, transmission electron microscopy, and electron diffraction and analyze data from these methods. The format for the course will include a weekly lecture (1.5 hours), a weekly lab session (4 hours) and six assignments.
Course usually offered in fall term
Prerequisites: Permission of the Undergraduate Curriculum Chair and Instructor
Activity: Lecture
1 Course Unit

MSE 505 Mechanical Properties of Macro/Nanoscale Materials
The application of continuum and microstructural concepts to elasticity and plasticity and the mechanisms of plastic flow and fracture in metals, polymers and ceramics. Topics covered include elasticity, viscoelasticity, plasticity, crystal defects, strengthening, crystallographic effects, twinning, creep and fatigue. Emphasis will be on mathematical and physical understanding rather than problem solving.
Course usually offered in fall term
Also Offered As: MEAM 405, MSE 405
Activity: Lecture
1 Course Unit

MSE 507 Fundamentals of Materials
This course will provide a graduate level introduction to the science and engineering of materials. It is designed specifically to meet the needs of students who will be doing research that involves materials but who do not have an extensive background in the field. The focus is on fundamental aspects of materials science and will emphasize phenomena and how to describe them.
One-term course offered either term
Also Offered As: MEAM 507
Activity: Lecture
1 Course Unit

MSE 515 Mathematics for Materials Science
Course usually offered in fall term
Activity: Lecture
1 Course Unit
MSE 520 Structure of Materials
Prerequisites: Permission of the Undergraduate Curriculum Chair and Instructor
Activity: Lecture
1 Course Unit

MSE 525 Nanoscale Science and Engineering
Overview of existing device and manufacturing technologies in microelectronics, optoelectronics, magnetic storage, Microsystems, and biotechnology. Overview of near- and long-term challenges facing those fields. Near- and long-term prospects of nanoscience and related technologies for the evolutionary sustention of current approaches, and for the development of revolutionary designs and applications. Course usually offered in fall term
Also Offered As: ESE 525
Prerequisites: ESE 218 or PHYS 240 or MSE 220 or equivalent, or by permission
Activity: Lecture
1 Course Unit

MSE 530 Thermodynamics and Phase Equilibria
Fundamental elements of engineering thermodynamics, statistical thermodynamics, chemical thermodynamics and defect thermodynamics. Thermodynamic functions, stability, phase transitions, mixtures (gases, condensed matter, polymer solution), defects and interfaces. Phase diagrams and predominance diagrams. Applications to energy problems (engines, efficiency, power, electrochemical cells) and properties (Curie's law, rubber elasticity, specific heat, phonon/photon spectra, constitutive equations, equation of states). Course usually offered in fall term
Prerequisites: Permission of the Undergraduate Curriculum Chair and Instructor
Activity: Lecture
1 Course Unit

MSE 536 Electronic Properties of Materials
This course will introduce the physical principles underlying broad spectrum of electronic properties in the solid state. Starting with the band structure of solids, the course will give an overview of electronic, dielectric, magnetic, thermal and optical properties of materials. The treatment will use quantum mechanical and statistical mechanical concepts familiar to students at the undergraduate level. Commonly used theories and models will be introduced and their predictions will be compared with observations. Students who have taken MSE 221/ MSE 260 and/or MSE 570/MSE 575 will benefit from this advanced introduction to material properties. One-term course offered either term
Activity: Lecture
1 Course Unit

MSE 537 Nanotribology
Engineering is progressing to ever smaller scales, enabling new technologies, materials, devices, and applications. This course will provide an introduction to nano-scale tribology and the critical role it plays in the developing areas of nanoscience and nanotechnology. We will discuss how contact, adhesion, friction, lubrication, and wear at interfaces originate, using an integrated approach that combines concepts of mechanics, materials science, chemistry, and physics. We will cover a range of concepts and applications, drawing connections to both established and new approaches. We will discuss the limits of continuum mechanics and present newly developed theories and experiments tailored to describe micro- and nano-scale phenomena. We will emphasize specific applications throughout the course. Reading of scientific literature, critical peer discussion, individual and team problem assignments, and a peer-reviewed literature research project will be assigned as part of the course. Taught by: Faculty One-term course offered either term Also Offered As: MEAM 537
Prerequisites: Freshman physics; MEAM 354 or equivalent, or consent of instructor.
Activity: Lecture
1 Course Unit

MSE 540 Phase Transformations
The phase of a material determines macroscopic properties such as strength, diffusion, and permeability. Whereas thermodynamics provides an idealistic understanding of phase behavior, the real phase (composition) and morphology of a solid material depends on the rate of transformation from one state to another. Namely, kinetics is the study of the rates at which systems approach the ideal state predicted by thermodynamics. Thus, transport/diffusion underlies our understanding of phase transformations. Technology applications will include, polymer nanocomposites as kinetically arrested materials, rapid solidification to create new materials, purification methods for integrated circuits, and drug delivery. Course usually offered in spring term
Prerequisites: Permission of the Undergraduate Curriculum Chair and Instructor
Activity: Lecture
1 Course Unit
MSE 545 Materials for Energy and Environmental Sustainability
This course will cover the fundamental materials science issues central
to the design of sustainable energy technology. The goal of this course
is to expose students to the emerging advances in materials science and
materials chemistry that underpin technologies for energy conversion
(fuel cells, thermoelectrics, photovoltaics, wind energy etc.), storage
(biofuels, artificial photosynthesis, batteries etc) and distribution (smart
grids and hydrogen and methane economy concepts etc.) and to place
these in a real world context. This class will emphasize concepts in
“green materials and green engineering practices” that are emerging with
a global focus on “Sustainable Technology.” “Sustainability is defined
as meeting the needs of the present without compromising the ability
of future generations to meet their needs.” Engineering materials and
processes at all scales; molecular/nanometer, micro, and the macro-
scale are critical to developing the tools society required to meet
the growing needs for energy and sustainable materials for the built
environment. This course is appropriate for graduate students and
advanced undergraduates in Penn’s Material Science Programs. Core
MSE curriculum components in thermodynamics, structure, electronic
& ionic transport, mechanics, polymers and optical materials will be
expected, and exposure to the preparation in basic Chemistry and
Physics will be advantageous in this highly interdisciplinary course.
Course usually offered in fall term
Activity: Lecture
1 Course Unit

MSE 550 Elasticity and Micromechanics of Materials
This course is targeted to engineering students working in the areas on
micro/nanomechanics of materials. The course will start with a quick
review of the equations of linear elasticity and proceed to solutions of
specific problems such as the Hertz contact problem, Eshelby’s problem,
etc. Failure mechanisms such as fracture and the fundamentals of
dislocations/plasticity will also be discussed.
Taught by: Vitek
Course usually offered in fall term
Also Offered As: MEAM 519
Prerequisites: Permission of the Undergraduate Curriculum Chair and
Instructor
Activity: Lecture
1 Course Unit

MSE 555 Electrochemical Engineering of Materials
After introducing electrochemical concepts (redox reactions, electrolytic
versus galvanic cells, standard oxidation potentials), this course will
cover the broad impact of electrochemical phenomena on materials.
Topics that will be discussed include: (1) Materials extraction from
their ores to finished products by electrowinning, (2) Chemical
refining (Mond process) and electrorefining of materials, (3) Materials
degradation by destructive electrochemical corrosion, (4) Three-
dimensional nanostructured materials by selective electrochemical
corrosion, (5) Enhancing the electrochemical performance of
materials via nanostructuring - e.g. lithium-ion battery electrodes; (6)
Enhancing the electrochemical performance of materials via surface
chemistry - e.g. oxygen evolution electrocatalysts; (7) Light-enhanced
electrochemical performance of materials - e.g. solar water splitting
photoelectocatalysts. Students will be engaged in interactive classroom
activities.
Course usually offered in spring term
Also Offered As: MSE 455
Activity: Lecture
1 Course Unit

MSE 561 Atomic Modeling in Materials Science
This course covers two major aspects of atomic level computer modeling
in materials. 1. Methods: Molecular statics, Molecular dynamics, Monte
Carlo, Kinetic Monte Carlo as well as methods of analysis of the results
such as radial distribution function, thermodynamics deduced from the
molecular dynamics, fluctuations, correlations and autocorrelations.
2. Semi-empirical descriptions of atomic interactions: pair potentials,
embedded atom method, covalent bonding, ionic bonding. Basics of
the density functional theory. Mechanics, condensed matter physics,
thermodynamics and statistical mechanics needed in interpretations are
briefly explained.
Course usually offered in spring term
Also Offered As: MEAM 553
Prerequisites: Ability to write a basic code in a computer language such
as fortran, C, C++
Activity: Lecture
1 Course Unit

MSE 565 Fabrication and Characterization of Nanostructured Devices
This course surveys various processes that are used to produce materials
structured at the micron and nanometer scales for electronic, optical
and biological applications. Basic principles of chemistry, physics,
thermodynamics and surface/interfacial science are applied to solid
state, liquid, and colloidal approaches to making materials. A wide range
of nano- and microfabrication techniques, including photolithography,
soft lithography, nanoimprint lithography, 3D printing and self-assembly,
are covered. The course is heavily lab based, with 25% of class time and
30% of the homework devoted to hands on experiences. Lab assignments
are a series of structured individual/group projects. Evaluation is based
on 3-4 lab reports, 4 problem sets with journal paper reading assignment,
and a final project design.
One-term course offered either term
Also Offered As: MSE 465
Prerequisite: MSE 360 or permission of the instructor
Activity: Lecture
1 Course Unit

MSE 570 Physics of Materials I
Failures of classical physics and the historical basis for quantum theory.
Postulates of wave mechanics; uncertainty principle, wave packets and
wave-particle duality. Schrodinger equation and operators; eigenvalue
problems in 1 and 3 dimensions (barriers, wells, hydrogen, atom).
Perturbation theory; scattering of particles and light. Use of computer-
aided self-study will be made.
Course usually offered in fall term
Also Offered As: ESE 514
Prerequisites: Undergraduate physics and math through modern physics
and differential equations
Activity: Lecture
1 Course Unit
MSE 571 Physics of Materials II
This course is a sequel to MSE 570 which provides an introduction to Quantum Mechanics for graduate students with an engineering background. MSE 571 will emphasize applications of quantum mechanics to many-body problems. Time-independent and time-dependent perturbation techniques, scattering techniques, electron transport, electron-photon interactions, electron-phonon interactions and photonic crystals are some of the topics that will be discussed.
Course not offered every year
Also Offered As: ESE 515
Prerequisite: MSE 570 or equivalent
Activity: Lecture
1 Course Unit

MSE 575 Statistical Mechanics
Statistical Mechanics is a unique branch of physics that permeates our understanding of matter at all length scales, from nanometers to stellar dimensions, and ranging in temperatures from pico-Kelvin (or lower) to billions of degrees Kelvin. This course will provide an overview of select topics in equilibrium and non-equilibrium statistical mechanics. The course will introduce the basic postulates of classical and quantum equilibrium statistical mechanics, explain the methodology of calculating observable properties, and discuss several applications in diverse fields. The second part of the course will introduce the methodology of non-equilibrium processes and discussing important theorems and results in the linear response regime. Finally, a brief discussion of systems far from equilibrium will be presented. Select applications from condensed matter physics, chemistry, materials science, biology, astrophysics, economics and meteorology will be used to illustrate the fundamental principles.
Course usually offered in spring term
Activity: Lecture
1 Course Unit

MSE 580 Polymers and Biomaterials
Polymer is one of the most widely used materials in our daily life, from the rubber tires to clothes, from photoresists in chip manufacturing to flexible electronics and smart sensors, from Scotch tapes to artificial tissues. This course teaches entry-level knowledge in polymer synthesis, characterization, thermodynamics, and structure-property relationship. Emphasis will be on understanding both chemical and physical aspects of polymers, polymer chain size and molecular interactions that drive the microscopic and macroscopic structures and the resulting physical properties. We will discuss how to apply polymer designs to advance nanotechnology, electronics, energy and biotechnology. Case studies include thermodynamics of block copolymer thin films and their applications in nanolithography, shape memory polymers, hydrogels, and elastomeric deformation and applications.
Course usually offered in fall term
Also Offered As: MSE 430
Prerequisite: MSE 260 or equivalent course in thermodynamics or physical chemistry (such as CBE 231, MEAM 203)
Activity: Lecture
1 Course Unit

MSE 581 Advanced Polymer Physics
Advanced polymer physics includes the topics of polymer chain statistics, thermodynamics, rubber elasticity, polymer morphology, fracture, and chain relaxation. Rigorous derivations of select theories will be presented along with experimental results for comparison. Special topics, such as liquid crystalline polymers, blends and copolymers, will be presented throughout the course. Special topics, such as liquid crystallinity, nanostructures, and biopolymer diffusion, will be investigated by teams of students using the current literature as a resource.
Course not offered every year
Prerequisite: MSE 430 or equivalent
Activity: Lecture
1 Course Unit

MSE 590 Surface and Thin Film Analysis Techniques
The objective of this course is to study the fundamental physics of the interaction of ions, electrons, photons, and neutrons with matter. A second objective is to use the products of these interactions to characterize the atomic (or molecular) structure, composition, and defects of a semiconductor, ceramic, polymer, composite, or metal. Ion beam techniques will include Rutherford backscattering and forward recoil spectrometry, and secondary ion mass spectrometry. Electron probe techniques will include x-ray photoelectron spectroscopy. Neutron techniques will include neutron reflectivity. The strengths and weaknesses of each technique will be discussed. Examples will be drawn from metallurgy, electronic materials, polymer science, ceramic science, archaeology, and biology.
Course not offered every year
Activity: Lecture
1 Course Unit

MSE 597 Master's Thesis Research
One-term course offered either term
Activity: Masters Thesis
1 Course Unit

MSE 599 Master's Indep Study
One-term course offered either term
Activity: Independent Study
1 Course Unit

MSE 610 Transmission Electron Microscopy and Crystalline Imperfections
Theory and application of transmission electron microscopy methods to problems in materials science and engineering, condensed matter physics, soft matter, polymeric materials, inorganic chemistry and chemical engineering. The principles of microscope operation, electron scattering, image formation and spectroscopy will be described, with an emphasis on both theory and experiment. With laboratory.
Course not offered every year
Activity: Lecture
1 Course Unit
MSE 637 Mesoscale Modeling and Simulation
This course is targeted at engineering, physical science, computational and mathematics Ph.D. students. It focuses on techniques for the simulation/modeling of materials on a time and/or length scale that is large compared with atomistic/molecular but with structure that is small compared with typical (homogenized) continuum theory. The course explores kinetic models, defect dynamics, and statistical mechanics models and their implementation in computer simulation.
One-term course offered either term
Also Offered As: MEAM 637
Activity: Lecture
1 Course Unit

MSE 650 Mechanics of Soft and Biomaterials
This course is aimed to expose the students to a variety of topics in mechanic materials via discussion of "classic" problems that have had the widest impact long period of time and have been applied to analyze the mechanical behavior a variety of biological and engineering materials. Course not offered every year
Also Offered As: MEAM 650
Activity: Lecture
1 Course Unit

MSE 670 Statistical Mechanics of Solids
This course constitutes an introduction to statistical mechanics with an emphasis on application to crystalline solids. Ensemble theory, time and ensemble averages and particle statistics are developed to give the basis of statistical thermodynamics. The theory of the thermodynamic properties of solids is presented in the harmonic approximation andharmonic properties are treated by the Mie-Gruneisen method. Free electron theory in metals and semiconductors is given in some detail, with the transport properties being based on conditional transition probabilities and the Boltzmann transport equation. The theory of order-disorder alloys is treated by the Bragg-Williams, Kirkwood and quasi-chemical methods.
Course not offered every year
Activity: Lecture
1 Course Unit

MSE 790 Selected Topics in Materials Science and Engineering
Students should check department office for special topics.
One-term course offered either term
Activity: Lecture
1 Course Unit

MSE 905 Teaching Practicum.
One-term course offered either term
Activity: Lecture
1 Course Unit

Mathematics (MATH)

MATH 104 Calculus, Part I
Brief review of High School calculus, applications of integrals, transcendental functions, methods of integration, infinite series, Taylor's theorem, and first order ordinary differential equations. Use of symbolic manipulation and graphics software in calculus.
One-term course offered either term
Prerequisites: None. Engineering students are encouraged to register for the 006 lecture and group 6 recitations.
Activity: Recitation
1 Course Unit
Notes: This is a Formal Reasoning course.

MATH 110 Calculus for Wharton Students
Differential calculus, integral calculus, series, differential equations and elements of multivariable calculus, with an emphasis on applications.
One-term course offered either term
Activity: Lecture
1 Course Unit

MATH 114 Calculus, Part II
Functions of several variables, vector-valued functions, partial derivatives and applications, multiple integrals, conic sections, polar coordinates, vectors and vector calculus, first order ordinary differential equations. Applications to physical sciences. Use of symbolic manipulation and graphics software in calculus.
One-term course offered either term
Prerequisite: Math 104
Activity: Recitation
1 Course Unit
Notes: This is a Formal Reasoning course.

MATH 115 Calculus, Part II with Probability and Matrices
Functions of several variables, partial derivatives, multiple integrals, differential equations; introduction to linear algebra and matrices with applications to linear programming and Markov processes. Elements of probability and statistics. Applications to social and biological sciences. Use of symbolic manipulation and graphics software in calculus.
One-term course offered either term
Prerequisite: Math 104
Activity: Recitation
1 Course Unit
Notes: This is a Formal Reasoning course.

MATH 116 Honors Calculus
Students who are interested in math or science might also want to consider a more challenging Honors version of Calculus II and III, Math 116 and Math 260 (the analogues of Math 114 and Math 240, respectively). These courses will cover essentially the same material as 114 and 240, but more in depth and involve discussion of the underlying theory as well as computations.
One-term course offered either term
Activity: Recitation
1 Course Unit
Notes: This is a Formal Reasoning course.
MATH 123 Community Math Teaching Project
This course allows Penn students to teach a series of hands-on activities to students in math classes at University City High School. The semester starts with an introduction to successful approaches for teaching math in urban high schools. The rest of the semester will be devoted to a series of weekly hands-on activities designed to teach fundamental aspects of geometry. The first class meeting of each week, Penn faculty teach Penn students the relevant mathematical background and techniques for a hands-on activity. During the second session of each week, Penn students will teach the hands-on activity to a small group of UCHS students. The Penn students will also have an opportunity to develop their own activity and to implement it with the UCHS students.

Course not offered every year
Activity: Lecture
1 Course Unit

MATH 170 Ideas in Mathematics
Topics from among the following: logic, sets, calculus, probability, history and philosophy of mathematics, game theory, geometry, and their relevance to contemporary science and society.
For BA Students: Natural Science and Math Sector
One-term course offered either term
Activity: Lecture
1 Course Unit
Notes: May also be counted toward the General Requirement in Natural Science Mathematics

MATH 180 Analytical Methods in Economics, Law, and Medicine
Elementary applications of decision analysis, game theory, probability and statistics to issues in accounting, contracting, finance, law, and medicine, amongst others.
Course not offered every year
Activity: Lecture
1 Course Unit

MATH 202 Proving Things: Analysis
This course focuses on the creative side of mathematics, with an emphasis on discovery, reasoning, proofs and effective communication, while at the same time studying real and complex numbers, sequences, series, continuity, differentiability and integrability. Small class sizes permit an informal, discussion-type atmosphere, and often the entire class works together on a given problem. Homework is intended to be thought-provoking, rather than skill-sharpening.
One-term course offered either term
Corequisites: Math 104, 114 or 240
Activity: Seminar
1 Course Unit

MATH 203 Proving things: Algebra
This course takes an emphasis on discovery, reasoning, proofs and effective communication, while at the same time studying arithmetic, algebra, linear algebra, groups, rings and fields. Small class sizes permit an informal, discussion-type atmosphere, and often the entire class works together on a given problem. Homework is intended to be thought-provoking, rather than skill-sharpening.
One-term course offered either term
Corequisites: Math 104, 114 or 240
Activity: Lecture
1 Course Unit

MATH 210 Mathematics in the Age of Information
This course counts as a regular elective for both the Mathematics Major and Minor. This is a course about mathematical reasoning and the media. Embedded in many stories one finds in the media are mathematical questions as well as implicit mathematical models for how the world behaves. We will discuss ways to recognize such questions and models, and how to think about them from a mathematical perspective. A key part of the course will be about what constitutes a mathematical proof, and what passes for proof in various media contexts. The course will cover a variety of topics in logic, probability and statistics as well as how these subjects can be used and abused.
One-term course offered either term
Prerequisites: Math 114, Math 115 or equivalent
Activity: Lecture
1 Course Unit

MATH 220 Proof in Math, Phil, Law
Proofs are vital to many parts of life. They arise typically in formal logic, mathematics, the testing of medication, and convincing a jury. How do you prove that the earth is essentially a sphere (in particular, not flat)? In reality, proofs arise anywhere one attempts to convince others. However, the nature of what constitutes a proof varies wildly depending on the situation -- and on whom you are attempting to convince. Convincing your math teacher or a judge is entirely different from convincing your mother or a jury. The course will present diverse views of Proof. On occasion there may be guest lecturers.
Also Offered As: PHIL 220
Activity: Seminar
1 Course Unit

MATH 240 Calculus, Part III
Linear algebra: vectors, matrices, systems of linear equations, vector spaces, subspaces, spans, bases, and dimension, eigenvalues, and eigenvectors, matrix exponentials. Ordinary differential equations: higher-order homogeneous and inhomogeneous ODEs and linear systems of ODEs, phase plane analysis, non-linear systems.
One-term course offered either term
Prerequisite: Calculus II
Activity: Recitation
1 Course Unit

MATH 241 Calculus, Part IV
Partial differential equations and their solutions, including solutions of the wave, heat and Laplace equations, and Sturm-Liouville problems. Introduction to Fourier series and Fourier transforms. Computation of solutions, modeling using PDE’s, geometric intuition, and qualitative understanding of the evolution of systems according to the type of partial differential operator.
One-term course offered either term
Prerequisite: MATH 240
Activity: Recitation
1 Course Unit

MATH 260 Honors Calculus, Part II
This is an honors version of Math 240 which explores the same topics but with greater mathematical rigor.
Course not offered every year
Prerequisite: Calculus II
Activity: Recitation
1 Course Unit
MATH 312 Linear Algebra
Linear transformations, Gauss Jordan elimination, eigenvalues and eigenvectors, theory and applications. Mathematics majors are advised that MATH 312 cannot be taken to satisfy the major requirements. Course not offered every year
Also Offered As: MATH 412
Prerequisite: MATH 240
Activity: Lecture
1 Course Unit
Notes: Students who have already received credit for either Math 370, 371, 502 or 503 cannot receive further credit for Math 312 or Math 313/513. Students can receive credit for at most one of Math 312 and Math 313/513.

MATH 313 Computational Linear Algebra
Many important problems in a wide range of disciplines within computer science and throughout science are solved using techniques from linear algebra. This course will introduce students to some of the most widely used algorithms and illustrate how they are actually used. Some specific topics: the solution of systems of linear equations by Gaussian elimination, dimension of a linear space, inner product, cross product, change of basis, affine and rigid motions, eigenvalues and eigenvectors, diagonalization of both symmetric and non-symmetric matrices, quadratic polynomials, and least squares optimization. Also Offered As: MATH 513
Prerequisites: Math 240, and some programming experience.
Activity: Lecture
1 Course Unit
Notes: Students who have already received credit for either Math 370, 371, 502 or 503 cannot receive further credit for Math 312 or Math 313. Students can receive credit for at most one of Math 312 and Math 313.

MATH 314 Advanced Linear Algebra
Topics will include: Vector spaces, Basis and dimension, quotients; Linear maps and matrices; Determinants, Dual spaces and maps; Invariant subspaces, Cononical forms; Scalar products: Euclidean, unitary and symplectic spaces; Orthogonal and Unitary operators; Tensor products and polynlinear maps; Symmetric and skew-symmetric tensors and exterior algebra. Taught by: Staff.
Also Offered As: AMCS 514, MATH 514
Prerequisites: Math 114 or 115.
Activity: Lecture
1 Course Unit
Notes: Math 314/514 covers Linear Algebra at the advanced level with a theoretical approach. Students can receive credit for at most one of Math 312 and Math 314.

MATH 320 Computer Methods in Mathematical Science I
Students will use symbolic manipulation software and write programs to solve problems in numerical quadrature, equation-solving, linear algebra and differential equations. Theoretical and computational aspects of the methods will be discussed along with error analysis and a critical comparison of methods. Course usually offered in fall term
Prerequisites: MATH 240 or concurrent and ability to program a computer, or permission of instructor
Activity: Lecture
1 Course Unit

MATH 321 Computer Methods in Mathematical Sciences II
Continuation of MATH 320.
Course not offered every year
Prerequisite: MATH 320
Activity: Lecture
1 Course Unit

MATH 340 Discrete Mathematics I
Topics will be drawn from some subjects useful in the analysis of information and computation: logic, set theory, theory of computation, number theory, probability, and basic cryptography. Also Offered As: LGIC 220
Prerequisites: Math 340/Logic 210 or permission of the instructor.
Activity: Lecture
1 Course Unit

MATH 350 Number Theory
Congruences, Diophantine equations, continued fractions, nonlinear congruences, and quadratic residues.
Course not offered every year
Activity: Lecture
1 Course Unit

MATH 360 Advanced Calculus
Syllabus for MATH 360-361: a study of the foundations of the differential and integral calculus, including the real numbers and elementary topology, continuous and differentiable functions, uniform convergence of series of functions, and inverse and implicit function theorems. MATH 508-509 is a masters level version of this course. One-term course offered either term
Prerequisite: MATH 240
Activity: Lecture
1 Course Unit

MATH 361 Advanced Calculus
Continuation of MATH 360. One-term course offered either term
Prerequisite: MATH 360
Activity: Lecture
1 Course Unit

MATH 370 Algebra
Syllabus for MATH 370-371: an introduction to the basic concepts of modern algebra. Linear algebra, eigenvalues and eigenvectors of matrices, groups, rings and fields. MATH 502-503 is a masters level version of this course. One-term course offered either term
Prerequisite: MATH 240
Activity: Lecture
1 Course Unit
Notes: Students who have already received credit for either Math 370, 371, 502 or 503 cannot receive further credit for Math 312 or Math 313/513. Students can receive credit for at most one of Math 312 and Math 313/513.
MATH 371 Algebra
Continuation of MATH 370.
One-term course offered either term
Prerequisite: MATH 370
Activity: Lecture
1 Course Unit
Notes: Students who have already received credit for either Math 370, 371, 502 or 503 cannot receive further credit for Math 312 or Math 313/513. Students can receive credit for at most one of Math 312 and Math 313/513.

MATH 410 Complex Analysis
Complex numbers, DeMoivre's theorem, complex valued functions of a complex variable, the derivative, analytic functions, the Cauchy-Riemann equations, complex integration, Cauchy's integral theorem, residues, computation of definite integrals by residues, and elementary conformal mapping.
One-term course offered either term
Also Offered As: AMCS 510, MATH 299
Prerequisite: MATH 240 or permission of instructor
Activity: Lecture
1 Course Unit

MATH 420 Ordinary Differential Equations
After a rapid review of the basic techniques for solving equations, the course will discuss one or more of the following topics: stability of linear and nonlinear systems, boundary value problems and orthogonal functions, numerical methods, Laplace transform methods.
One-term course offered either term
Also Offered As: AMCS 520
Prerequisite: MATH 240 or permission of instructor
Activity: Lecture
1 Course Unit

MATH 425 Partial Differential Equations
Method of separation of variables will be applied to solve the wave, heat, and Laplace equations. In addition, one or more of the following topics will be covered: qualitative properties of solutions of various equations (characteristics, maximum principles, uniqueness theorems), Laplace and Fourier transform methods, and approximation techniques.
Course usually offered in fall term
Also Offered As: AMCS 525
Prerequisites: MATH 240 or permission of instructor. Knowledge of PHYS 150-151 will be helpful.
Activity: Lecture
1 Course Unit

MATH 430 Introduction to Probability
Random variables, events, special distributions, expectations, independence, law of large numbers, introduction to the central limit theorem, and applications.
Course not offered every year
Also Offered As: AMCS 530
Prerequisite: MATH 240
Activity: Lecture
1 Course Unit

MATH 432 Game Theory.
A mathematical approach to game theory, with an emphasis on examples of actual games. Topics will include mathematical models of games, combinatorial games, two person (zero sum and general sum) games, non-cooperating games and equilibria.
One-term course offered either term
Also Offered As: AMCS 532
Prerequisites: Math 240.
Activity: Lecture
1 Course Unit

MATH 460 Topology
Point set topology; metric spaces and topological spaces, compactness, connectedness, continuity, extension theorems, separation axioms, quotient spaces, topologies on function spaces, Tychonoff theorem. Fundamental groups and covering spaces, and related topics.
Course not offered every year
Also Offered As: MATH 500
Prerequisite: MATH 240/241
Activity: Lecture
1 Course Unit

MATH 465 Differential Geometry
Differential geometry of curves in the plane and in 3-space; gauge theories; Surfaces in 3-space; The geometry of the Gauss map;ons. The language of Intrinsic geometry of surfaces; Geodesics; Moving frames; of vector bundles, The Gauss-Bonnet Theorem; Assorted additional topics.
Course not offered every year
Also Offered As: MATH 501
Prerequisites: MATH 361 or Permission of the instructor.
Activity: Lecture
1 Course Unit
MATH 480 Topics in Modern Math
Mathematics 480 will open with a review of the basics of real analysis (brief or extended background requires). The review will include: introduction of the real numbers through Dedekind cuts, continuity of real-valued functions on the real line; Cantor nested-interval principle, basic results for continuous functions, Maximum and Intermediate Value theorems, Heine-Borel Theorem, Uniform Continuity on closed intervals; metric spaces, convergence of sequences, Cauchy sequences, completeness, more general uniform continuity and intermediate value theorems; general topology, separation, compactness, product spaces, Tychonoff's Theorem. Special topics in analysis: Weierstrass Polynomial Approximation Theorem, Bernstein polynomials and simultaneous approximations and derivatives, topics from divergent series, summation methods; r measure theory, the Lebesgue integral, Lp spaces, Holder, Minkowski, and and Cauchy-Schwarz inequalities; basics of Functional Analysis, normed spaces, Banach spaces and Hilbert space, with examples (Lp spaces, continuous-functions spaces), Banach spaces and spectral theory, groups and Fourier transforms, Tauberian theorems; approximation theory, again, through the prism of functional analysis; extension of the polynomial approximation theorem (Stone-Weierstrass theorem), Muntz approximation theorem (by polynomials with preassigned powers), compact operators, the Spectral theorem, Stone's theorem (representations of the additive group of real numbers); Peter-Weyl theory (representations of compact groups). A selection from these topics as time and class preparation allow.
Course not offered every year
Prerequisites: A year of analysis at the 300 level or above (for example, Mathematics 360-361,508-509); a semester of linear algebra at the 300 level or above (for example, Mathematics 370).
Activity: Lecture
1 Course Unit

MATH 499 Supervised Study
Study under the direction of a faculty member. Intended for a limited number of mathematics majors.
One-term course offered either term
Prerequisite: Permission of major adviser
Activity: Independent Study
1 Course Unit
Notes: Hours and credit to be arranged

MATH 500 Geometry-Topology, Differential Geometry
Point set topology: metric spaces and topological spaces, compactness, connectedness, continuity, extension theorems, separation axioms, quotient spaces, topologies on function spaces, Tychonoff theorem. Fundamental groups and covering spaces, and related topics.
Course not offered every year
Also Offered As: MATH 465
Prerequisites: Math 240/241.
Activity: Lecture
1 Course Unit

MATH 501 Geometry-Topology, Differential Geometry
The course moves from a study of extrinsic geometry (curves and surfaces in n-space) to the intrinsic geometry of manifolds. After a review of vector calculus and a section on tensor algebra, we study manifolds and their intrinsic geometry, including metrics, connections, geodesics, and the Riemann curvature tensor. Topics include Eulerian curvature and Euler's theorems, the Gauss map and first/second fundamental forms, the Theorema Egregium, minimal surfaces in n-space; other topics as time permits.
Course not offered every year
Also Offered As: MATH 465
Prerequisites: Math 240, Math 312 (or 370), and Math 361 (or 508); or Math 500; or with the permission of the instructor.
Activity: Lecture
1 Course Unit

MATH 502 Abstract Algebra
An introduction to groups, rings, fields and other abstract algebraic systems, elementary Galois Theory, and linear algebra – a more theoretical course than Math 370.
Course usually offered in fall term
Prerequisite: Math 240
Activity: Lecture
1 Course Unit
Notes: Students who have already received credit for either Math 370, 371, 502 or 503 cannot receive further credit for Math 312 or Math 313/513. Students can receive credit for at most one of Math 312 and Math 313/513.

MATH 503 Abstract Algebra
Continuation of Math 502.
Course usually offered in spring term
Prerequisites: Math 502 or with the permission of the instructor.
Activity: Lecture
1 Course Unit
Notes: Students who have already received credit for either Math 370, 371, 502 or 503 cannot receive further credit for Math 312 or Math 313/513. Students can receive credit for at most one of Math 312 and Math 313/513.

MATH 504 Graduate Proseminar in Mathematics
This course focuses on problems from Algebra (especially linear algebra and multilinear algebra) and Analysis (especially multivariable calculus through vector fields, multiple integrals and Stokes theorem). The material is presented through student solving of problems. In addition there will be a selection of advanced topics which will be accessible via this material.
Course usually offered in fall term
Activity: Lecture
1 Course Unit

MATH 505 Graduate Proseminar in Mathematics
This course focuses on problems from Algebra (especially linear algebra and multilinear algebra) and Analysis (especially multivariable calculus through vector fields, multiple integrals and Stokes theorem). The material is presented through student solving of problems. In addition there will be a selection of advanced topics which will be accessible via this material.
Course usually offered in spring term
Activity: Lecture
1 Course Unit
MATH 508 Advanced Analysis
Construction of real numbers, the topology of the real line and the foundations of single variable calculus. Notions of convergence for sequences of functions. Basic approximation theorems for continuous functions and rigorous treatment of elementary transcendental functions. The course is intended to teach students how to read and construct rigorous formal proofs. A more theoretical course than Math 360. Course usually offered in fall term
Prerequisites: Math 240/241. Math 200/201 also recommended.
Activity: Lecture
1 Course Unit

MATH 509 Advanced Analysis
Continuation of Math 508. The Arzela-Ascoli theorem. Introduction to the topology of metric spaces with an emphasis on higher dimensional Euclidean spaces. The contraction mapping principle. Inverse and implicit function theorems. Rigorous treatment of higher dimensional differential calculus. Introduction to Fourier analysis and asymptotic methods. Course usually offered in spring term
Prerequisites: Math 508 or with the permission of the instructor. Linear algebra is also helpful.
Activity: Lecture
1 Course Unit

MATH 512 Advanced Linear Algebra
Topics will include: Vector spaces, Basis and dimension, quotients; Linear maps and matrices; Determinants, Dual spaces and maps; Invariant subspaces, Cononical forms; Scalar products: Euclidean, unitary and symplectic spaces; Orthogonal and unitary operators; Tensor products and polynlinear maps; Symmetric and skew-symmetric tensors and exterior algebra.
Prerequisites: Math 114 or 115.
Activity: Lecture
1 Course Unit
Notes: Math 512 covers Linear Algebra at the advanced level with a theoretical approach. Students can receive credit for at most one of Math 312 and Math 512.

MATH 513 Computational Linear Algebra
A number of important and interesting problems in a wide range of disciplines within computer science are solved by recourse to techniques from linear algebra. The goal of this course will be to introduce students to some of the most important and widely used algorithms in matrix computation and to illustrate how they are actually used in various settings. Motivating applications will include: the solution of systems of linear equations, applications matrix computations to modeling geometric transformations in graphics, applications of the Discrete Fourier Transform and related techniques in digital signal processing, the solution of linear least squares optimization problems and the analysis of systems of linear differential equations. The course will cover the theoretical underpinnings of these problems and the numerical algorithms that are used to perform important matrixcomputations such as Gaussian Elimination, LU Decomposition and Singular Value Decomposition.
Also Offered As: MATH 313
Activity: Lecture
1 Course Unit

MATH 514 Advanced Linear Algebra
Taught by: ADVANCED LINEAR ALGEBRA
Also Offered As: AMCS 514, MATH 314
Activity: Lecture
1 Course Unit

MATH 520 Selections from Algebra
Informal introduction to such subjects as homological algebra, number theory, and algebraic geometry.
Course not offered every year
Also Offered As: MATH 702
Corequisite: Math 502 or permission of the instructor
Activity: Lecture
1 Course Unit

MATH 521 Selections from Algebra
Informal introduction to such subjects as homological algebra, number theory, and algebraic geometry.
Course not offered every year
Corequisite: Math 502 or permission of the instructor
Activity: Lecture
1 Course Unit

MATH 524 Topics in Modern Applied Algebra
Topics such as automata, finite state languages, Boolean algebra, computers and logical design will be discussed.
Course not offered every year
Prerequisite: Math 371 or Math 503
Activity: Lecture
1 Course Unit

MATH 525 Topics in Modern Applied Algebra
Topics such as automata, finite state languages, Boolean algebra, computers and logical design will be discussed.
Course not offered every year
Prerequisite: Math 371 or Math 503
Activity: Lecture
1 Course Unit

MATH 530 Mathematics of Finance
This course presents the basic mathematical tools to model financial markets and to make calculations about financial products, especially financial derivatives. Mathematical topics covered: stochastic processes, partial differential equations and their relationship. No background in finance is assumed.
Course not offered every year
Prerequisites: Math 240, Stat 430
Activity: Lecture
1 Course Unit

MATH 540 Selections from Classical and Functional Analysis
Informal introduction to such subjects as compact operators and Fredholm theory, Banach algebras, harmonic analysis, differential equations, nonlinear functional analysis, and Riemann surfaces.
Course not offered every year
Also Offered As: MATH 730
Corequisite: Math 508 or permission of the instructor
Activity: Lecture
1 Course Unit
MATH 546 Probability Theory
The required background is (1) enough math background to understand proof techniques in real analysis (closed sets, uniform convergence, fourier series, etc.) and (2) some exposure to probability theory at an intuitive level (a course at the level of Ross's probability text or some exposure to probability in a statistics class). After a summary of the necessary results from measure theory, we will learn the probabilist's lexicon (random variables, independence, etc.). We will then develop the necessary techniques (Borel Cantelli lemmas, estimates on sums of independent random variables and truncation techniques) to prove the classical laws of large numbers. Next come Fourier techniques and the Central Limit Theorem, followed by combinatorial techniques and the study of random walks.
Course usually offered in fall term
Also Offered As: STAT 930
Activity: Lecture
1 Course Unit

MATH 547 Stochastic Processes
Course not offered every year
Also Offered As: STAT 931
Prerequisites: Math 546/Stat 530 or the equivalent.
Activity: Lecture
1 Course Unit

MATH 548 Topics in Analysis
Topics may vary but typically will include an introduction to topological linear spaces and Banach spaces, and to Hilbert space and the spectral theorem. More advanced topics may include Banach algebras, Fourier analysis, differential equations and nonlinear functional analysis.
Course not offered every year
Prerequisites: Math 360/361 and Math 370; or Math 508/509 and Math 502
Activity: Lecture
1 Course Unit

MATH 549 Topics in Analysis
Continuation of Math 548.
Course not offered every year
Prerequisites: Math 548 or with the permission of the instructor.
Activity: Lecture
1 Course Unit

MATH 550 Selections from Geometry and Topology
Informal introduction to such subjects as homology and homotopy theory, classical differential geometry, dynamical systems, and knot theory.
Course not offered every year
Also Offered As: MATH 760
Corequisite: Math 500 or permission of the instructor
Activity: Lecture
1 Course Unit

MATH 551 Selections from Geometry and Topology
Informal introduction to such subjects as homology and homotopy theory, classical differential geometry, dynamical systems, and knot theory.
Course not offered every year
Corequisite: Math 500 or permission of the instructor
Activity: Lecture
1 Course Unit

MATH 552 Introduction to Logic and Computability
Course not offered every year
Also Offered As: LGIC 310, PHIL 410
Prerequisite: Math 371 or Math 503
Activity: Lecture
1 Course Unit

MATH 553 Topics in Logic
Continuation of Math 552.
Course not offered every year
Also Offered As: CIS 518, LGIC 320, MATH 671, PHIL 412
Prerequisites: Math 570 or with the permission of the instructor.
Activity: Seminar
1 Course Unit

MATH 554 Combinatorial Analysis and Graph Theory
Generating functions, enumeration methods, Polya's theorem, combinatorial designs, discrete probability, extremal graphs, graph algorithms and spectral graph theory, combinatorial and computational geometry.
Course not offered every year
Also Offered As: CIS 518, LGIC 320, MATH 671, PHIL 412
Activity: Lecture
1 Course Unit

MATH 555 Combinatorial Analysis and Graph Theory
Continuation of Math 554.
Course not offered every year
Prerequisites: Math 554 or with the permission of the instructor.
Activity: Lecture
1 Course Unit

MATH 556 Applied Mathematics and Computation
This course offers first-hand experience of coupling mathematics with computing and applications. Topics include: Random walks, randomized algorithms, information theory, coding theory, cryptography, combinatorial optimization, linear programming, permutation networks and parallel computing. Lectures will be supplemented by informal talks by guest speakers from industry about examples and their experience of using mathematics in the real world.
Course not offered every year
Also Offered As: LGIC 310, PHIL 410
Prerequisites: Math 240-241, Math 312, Math 360. Knowledge of Math 412 and Math 508 is recommended.
Activity: Lecture
1 Course Unit
MATH 583 Applied Mathematics and Computation
Continuation of Math 582.
Course not offered every year
Prerequisites: Math 582 or with the permission of the instructor.
Activity: Lecture
1 Course Unit

MATH 584 The Mathematics of Medical Imaging and Measurement
In the last 25 years there has been a revolution in image reconstruction techniques in fields from astrophysics to electron microscopy and most notably in medical imaging. In each of these fields one would like to have a precise picture of a 2 or 3 dimensional object which cannot be obtained directly. The data which is accessible is typically some collection of averages. The problem of image reconstruction is to build an object out of the averaged data and then estimate how close the reconstruction is to the actual object. In this course we introduce the mathematical techniques used to model measurements and reconstruct images. As a simple representative case we study transmission X-ray tomography (CT). In this context we cover the basic principles of mathematical analysis, the Fourier transform, interpolation and approximation of functions, sampling theory, digital filtering and noise analysis.
Taught by: Staff.
Course not offered every year
Also Offered As: BE 584
Prerequisites: Math 314, Math 508 and 509 or with permission of the instructor.
Activity: Lecture
1 Course Unit

MATH 585 The Mathematics of Medical Imaging and Measurement
Continuation of Math 584.
Course not offered every year
Prerequisites: Math 584 or with the permission of the instructor.
Activity: Lecture
1 Course Unit

MATH 586 Topics in Mathematical Biology.
This course will cover various mathematical models and tools that are used to study modern biological problems. The specific emphasis will vary from year to year, but typically will include an introduction to stochastic processes and computational methods that arise in evolutionary biology and population genetics. No prior knowledge of biology is needed to take this course, but a strong background in probability and familiarity with algorithms and combinatorics will be assumed.
Also Offered As: BIOL 586
Prerequisites: Math 430 or equivalent is required. Math 241 and 340 are recommended.
Activity: Lecture
1 Course Unit

MATH 594 Advanced Methods in Applied Mathematics
Introduction to mathematics used in physics and engineering, with the goal of developing facility in classical techniques. Vector spaces, linear algebra, computation of eigenvalues and eigenvectors, boundary value problems, spectral theory of second order equations, asymptotic expansions, partial differential equations, differential operators and Green's functions, orthogonal functions, generating functions, generating functions, contour integration, Fourier and Laplace transforms and an introduction to representation theory of SU(2) and SO(3). The course will draw on examples in continuum mechanics, electrostatics and transport problems.
Course not offered every year
Also Offered As: PHYS 500
Prerequisites: Math 241 or Permission of Instructor. Physics 151 would be helpful for undergraduates.
Activity: Lecture
1 Course Unit

MATH 599 Independent Study
One-term course offered either term
Activity: Independent Study
1 Course Unit

MATH 600 Topology and Geometric Analysis
Course usually offered in fall term
Prerequisites: Math 500/501 or with the permission of the instructor.
Activity: Lecture
1 Course Unit

MATH 601 Topology and Geometric Analysis
Covering spaces and fundamental groups, van Kampen's theorem and classification of surfaces. Basics of homology and cohomology, singular and cellular; isomorphism with de Rham cohomology. Brouwer fixed point theorem, CW complexes, cup and cap products, Poincare duality, Kunneth and universal coefficient theorems, Alexander duality, Lefschetz fixed point theorem.
Course usually offered in spring term
Prerequisites: Math 600 or with the permission of the instructor.
Activity: Lecture
1 Course Unit
MATH 602 Algebra
Course usually offered in fall term
Prerequisite: Math 370/371 or Math 502/503
Activity: Lecture
1 Course Unit

MATH 603 Algebra
Continuation of Math 602.
Course usually offered in spring term
Prerequisites: Math 602 or with the permission of the instructor.
Activity: Lecture
1 Course Unit

MATH 604 First Year Seminar in Mathematics
This is a seminar for first year Mathematics graduate student, supervised by faculty. Students give talks on topics from all areas of mathematics at a level appropriate for first year graduate students. Attendance and preparation will be expected by all participants, and learning how to present mathematics effectively is an important part of the seminar.
Course usually offered in fall term
Prerequisites: Open to first year Mathematics graduate students. Others need permission of the instructor.
Activity: Seminar
1 Course Unit

MATH 605 First Year Seminar in Mathematics
Continuation of Math 604.
Taught by: Staff.
Course usually offered in spring term
Prerequisites: Open to first year Mathematics graduate students. Others need permission of the instructor.
Activity: Lecture
1 Course Unit

MATH 608 Analysis
Complex analysis: analyticity, Cauchy theory, meromorphic functions, isolated singularities, analytic continuation, Runge's theorem, d-bar equation, Mittag-Leffler theorem, harmonic and sub-harmonic functions, Riemann mapping theorem, Fourier transform from the analytic perspective. Introduction to real analysis: Weierstrass approximation, Lebesgue measure in Euclidean spaces, Borel measures and convergence theorems, C0 and the Riesz-Markov theorem, Lp-spaces, Fubini Theorem.
One-term course offered either term
Also Offered As: AMCS 608
Prerequisite: Math 508-509
Activity: Lecture
1 Course Unit

MATH 609 Analysis
One-term course offered either term
Also Offered As: AMCS 609
Prerequisites: Math 608 or permission of the instructor.
Activity: Lecture
1 Course Unit

MATH 612 Selections from Algebra
Informal introduction to such subjects as homological algebra, number theory, and algebraic geometry.
Course not offered every year
Corequisites: MATH 600 and 602
Activity: Lecture
1 Course Unit

MATH 618 Algebraic Topology, Part I
Course usually offered in fall term
Prerequisite: Math 600/601 or with the permission of the instructor
Activity: Lecture
1 Course Unit

MATH 619 Algebraic Topology, Part I
Rational homotopy theory, cobordism, K-theory, Morse theory and the h-cobordism theorem. Surgery theory.
Course usually offered in spring term
Prerequisites: Math 618 or with the permission of the instructor
Activity: Lecture
1 Course Unit

MATH 620 Algebraic Number Theory
Dedekind domains, local fields, basic ramification theory, product formula, Dirichlet unit theorem, finiteness of class numbers, Hensel's Lemma, quadratic and cyclotomic fields, quadratic reciprocity, abelian extensions, zeta and L-functions, functional equations, introduction to local and global class field theory. Other topics may include: Diophantine equations, continued fractions, approximation of irrational numbers by rationals, Poisson summation, Hasse principle for binary quadratic forms, modular functions and forms, theta functions.
Course not offered every year
Prerequisite: Math 602/603
Activity: Lecture
1 Course Unit
MATH 622 Complex Algebraic Geometry
Algebraic geometry over the complex numbers, using ideas from topology, complex variable theory, and differential geometry. Topics include: Complex algebraic varieties, cohomology theories, line bundles, vanishing theorems, Riemann surfaces, Abel's theorem, linear systems, complex tori and abelian varieties, Jacobian varieties, currents, algebraic surfaces, adjunction formula, rational surfaces, residues.
Course not offered every year
Prerequisites: Math 602/603 and Math 609
Activity: Lecture
1 Course Unit

MATH 623 Complex Algebraic Geometry
Continuation of Math 622.
Course not offered every year
Prerequisites: Math 622 or with the permission of the instructor.
Activity: Lecture
1 Course Unit

MATH 624 Algebraic Geometry
Algebraic geometry over algebraically closed fields, using ideas from commutative algebra. Topics include: Affine and projective algebraic varieties, morphisms and rational maps, singularities and blowing up, rings of functions, algebraic curves, Riemann Roch theorem, elliptic curves, Jacobian varieties, sheaves, schemes, divisors, line bundles, cohomology of varieties, classification of surfaces.
Course not offered every year
Prerequisite: Math 602/603
Activity: Lecture
1 Course Unit

MATH 625 Algebraic Geometry
Continuation of Math 624.
Course not offered every year
Prerequisites: Math 624 or with the permission of the instructor.
Activity: Lecture
1 Course Unit

MATH 626 Commutative Algebra
Topics in commutative algebra taken from the literature. Material will vary from year to year depending upon the instructor’s interests.
Course not offered every year
Prerequisite: Math 602/603
Activity: Lecture
1 Course Unit

MATH 627 Commutative Algebra
Topics in commutative algebra taken from the literature. Material will vary from year to year depending upon the instructor’s interests.
Course not offered every year
Prerequisite: Math 602/603
Activity: Lecture
1 Course Unit

MATH 628 Homological Algebra
Complexes and exact sequences, homology, categories, derived functors (especially Ext and Tor). Homology and cohomology arising from complexes in algebra and geometry, e.g. simplicial and singular theories, Cech cohomology, de Rham cohomology, group cohomology, Hochschild cohomology. Projective resolutions, cohomological dimension, derived categories, spectral sequences. Other topics may include: Lie algebra cohomology, Galois and etale cohomology, cyclic cohomology, l-adic cohomology. Algebraic deformation theory, quantum groups, Brauer groups, descent theory.
Course not offered every year
Prerequisite: Math 602/603
Activity: Lecture
1 Course Unit

MATH 629 Homological Algebra
Continuation of Math 628.
Course not offered every year
Prerequisites: Math 628 or with the permission of the instructor.
Activity: Lecture
1 Course Unit

MATH 630 Differential Topology
Fundamentals of smooth manifolds, Sard’s theorem, Whitney’s embedding theorem, transversality theorem, piecewise linear and topological manifolds, knot theory. The instructor may elect to cover other topics such as Morse Theory, h-cobordism theorem, characteristic classes, cobordism theories.
Course not offered every year
Prerequisite: Math 600/601
Activity: Lecture
1 Course Unit

MATH 631 Differential Topology
Continuation of Math 630.
Course not offered every year
Prerequisites: Math 630 or with the permission of the instructor.
Activity: Lecture
1 Course Unit

MATH 632 Topological Groups
Course not offered every year
Prerequisites: Math 600/601 and Math 602/603
Activity: Lecture
1 Course Unit

MATH 633 Topological Groups
Continuation of Math 632.
Course not offered every year
Prerequisites: Math 632 or with the permission of the instructor.
Activity: Lecture
1 Course Unit

MATH 634 Arithmetic Geometry
Activity: Lecture
1 Course Unit
MATH 638 Algebraic Topology, Part II
Theory of fibre bundles and classifying spaces, fibrations, spectral sequences, obstruction theory, Postnikov towers, transversality, cobordism, index theorems, embedding and immersion theories, homotopy spheres and possibly an introduction to surgery theory and the general classification of manifolds.
One-term course offered either term
Prerequisite: Math 618/619
Activity: Lecture
1 Course Unit

MATH 639 Algebraic Topology, Part II
Continuation of Math 638.
One-term course offered either term
Prerequisites: Math 638 or with the permission of the instructor.
Activity: Lecture
1 Course Unit

MATH 640 Ordinary Differential Equations
The general existence and uniqueness theorems for systems of ordinary differential equations and the dependence of solutions on initial conditions and parameters appearing in the equation. The proofs of existence and uniqueness are related to numerical algorithms for finding approximate solutions for systems of ODE's. We consider special properties of constant coefficient and linear systems. We then present the theory of linear equations with analytic coefficients, the theories of singular points, indicial roots and asymptotic solutions. We then turn to boundary value problems for second order equations with an emphasis on the eigenfunction expansions associated with self adjoint boundary conditions and the Sturm comparison theory. The remaining time is devoted to topics; for example: Hamiltonian systems and symplectic geometry, singular boundary value problems, perturbation theory, the Lyapounov-Schmidt theory and the Poincare-Bendixson theorem, the equations of mathematical physics, the calculus of variations, symmetries of ODE's and transformation groups.
Course not offered every year
Prerequisite: Math 508/509
Activity: Lecture
1 Course Unit

MATH 641 Ordinary Differential Equations
Continuation of Math 640.
Course not offered every year
Prerequisites: Math 640 or with the permission of the instructor.
Activity: Lecture
1 Course Unit

MATH 642 Topics in Partial Differential Equations
Problems in differential geometry, as well as those in physics and engineering, inevitable involve partial derivatives. This course will be an introduction to these problems and techniques. We will use P.D.E. as a tool. Some of the applications will be small, some large. The proof of the Hodge Theorem will be a small application. Discussion of the Yamabe problem and ricci flow (used to prove the Poincare Conjecture) will be larger.
Prerequisites: Math 608, 609. This course will not presume courses in Partial Differential Equations or Differential Geometry. Background will be covered in the course.
Activity: Lecture
1 Course Unit

MATH 643 Partial Differential Equations
Subject matter varies from year to year. Some topics are: the classical theory of the wave and Laplace equations, general hyperbolic and elliptic equations, theory of equations with constant coefficients, pseudodifferential operators, and non-linear problems. Sobolev spaces and the theory of distributions will be developed as needed.
Course not offered every year
Prerequisites: Math 600/601, Math 608/609
Activity: Lecture
1 Course Unit

MATH 644 Partial Differential Equations
Subject matter varies from year to year. Some topics are: the classical theory of the wave and Laplace equations, general hyperbolic and elliptic equations, theory of equations with constant coefficients, pseudodifferential operators, and non-linear problems. Sobolev spaces and the theory of distributions will be developed as needed.
Course not offered every year
Prerequisites: Math 600/601, Math 608/609
Activity: Lecture
1 Course Unit

MATH 645 Partial Differential Equations
Subject matter varies from year to year. Some topics are: the classical theory of the wave and Laplace equations, general hyperbolic and elliptic equations, theory of equations with constant coefficients, pseudodifferential operators, and non-linear problems. Sobolev spaces and the theory of distributions will be developed as needed.
Course not offered every year
Prerequisites: Math 600/601, Math 608/609
Activity: Lecture
1 Course Unit

MATH 646 Several Complex Variables
Analytic spaces, Stein spaces, approximation theorems, embedding theorems, coherent analytic sheaves, Theorems A and B of Cartan, applications to the Cousin problems, and the theory of Banach algebras, pseudoconvexity and the Levi problems.
Course not offered every year
Prerequisites: Math 600/601, Math 608/609
Activity: Lecture
1 Course Unit

MATH 647 Several Complex Variables
Continuation of Math 646.
Course not offered every year
Prerequisites: Math 646 or with the permission of the instructor.
Activity: Lecture
1 Course Unit

MATH 650 Lie Algebras
Connections with Lie groups, universal enveloping algebras, Poincare-Birkhoff-Witt Theorem, Lie and Engel's theorems, free Lie algebras, Killing form, semisimple algebras, root systems, Dynkin diagrams, classification of complex simple Lie algebras, representation theory of Lie algebras, cohomology of Lie algebras.
Course not offered every year
Prerequisite: Math 602/603
Activity: Lecture
1 Course Unit

MATH 651 Lie Algebras
Continuation of Math 650.
Course not offered every year
Prerequisites: Math 650 or with the permission of the instructor.
Activity: Lecture
1 Course Unit

MATH 652 Operator Theory
Subject matter may include spectral theory of operators in Hilbert space, C*-algebras, von Neumann algebras.
Course not offered every year
Activity: Lecture
1 Course Unit
MATH 653 Operator Theory
Subject matter may include spectral theory of operators in Hilbert space, C*-algebras, von Neumann algebras.
Course not offered every year
Activity: Lecture
1 Course Unit

MATH 654 Lie Groups
Continuation of Math 654.
Course not offered every year
Activity: Lecture
Prerequisites: Math 600/601, Math 602/603
1 Course Unit

MATH 655 Lie Groups
Connection of Lie groups with Lie algebras, Lie subgroups, exponential map. Algebraic Lie groups, compact and complex Lie groups, solvable and nilpotent groups. Other topics may include relations with symplectic geometry, the orbit method, moment map, symplectic reduction, geometric quantization, Poisson-Lie and quantum groups.
Course not offered every year
Prerequisites: Math 600/601, Math 602/603
Activity: Lecture
1 Course Unit

MATH 656 Representation of Continuous Groups
Possible topics: harmonic analysis on locally compact abelian groups; almost periodic functions; direct integral decomposition theory; Types I, II and III: induced representations, representation theory of semisimple groups.
Course not offered every year
Activity: Lecture
1 Course Unit

MATH 657 Representation of Continuous Groups
Possible topics: harmonic analysis on locally compact abelian groups; almost periodic functions; direct integral decomposition theory; Types I, II and III: induced representations, representation theory of semisimple groups.
Course not offered every year
Activity: Lecture
1 Course Unit

MATH 660 Differential Geometry
Riemannian metrics and connections, geodesics, completeness, Hopf-Rinow theorem, sectional curvature, Ricci curvature, scalar curvature, Jacobi fields, second fundamental form and Gauss equations, manifolds of constant curvature, first and second variation formulas, Bonnet-Myers theorem, comparison theorems, Morse index theorem, Hadamard theorem, Preissmann theorem, and further topics such as sphere theorems, critical points of distance functions, the soul theorem, Gromov-Hausdorff convergence.
Course not offered every year
Prerequisites: Math 600/601, Math 602/603
Activity: Lecture
1 Course Unit

MATH 661 Differential Geometry
Continuation of Math 660.
Course not offered every year
Prerequisites: Math 660 or with the permission of the instructor.
Activity: Lecture
1 Course Unit

MATH 662 Advanced Geometric Methods in Computer Science
Advanced geometric methods used in geometric modeling, computer graphics, computer vision, and robotics.
Course not offered every year
Activity: Lecture
1 Course Unit

MATH 663 Advanced Geometric Methods in Computer Science
Advanced geometric methods used in geometric modeling, computer graphics, computer vision, and robotics.
Course not offered every year
Activity: Lecture
1 Course Unit

MATH 664 Advanced Geometric Methods in Computer Science
Advanced geometric methods used in geometric modeling, computer graphics, computer vision, and robotics.
Course not offered every year
Activity: Lecture
1 Course Unit

MATH 670 Topics in Logic
Discusses advanced topics in logic.
Course not offered every year
Also Offered As: LGIC 320, PHIL 412
Prerequisite: Math 570/571
Activity: Seminar
1 Course Unit

MATH 671 Topics in Logic
Discusses advanced topics in logic.
Course not offered every year
Also Offered As: CIS 518, LGIC 320, MATH 571, PHIL 412
Prerequisite: Math 570/571
Activity: Seminar
1 Course Unit

MATH 672 Topics in Logic
Discusses advanced topics in logic.
Course not offered every year
Also Offered As: LGIC 320, PHIL 412
Prerequisite: Math 570/571
Activity: Seminar
1 Course Unit

MATH 673 Topics in Logic
Discusses advanced topics in logic.
Course not offered every year
Also Offered As: LGIC 320, PHIL 412
Prerequisite: Math 570/571
Activity: Seminar
1 Course Unit

MATH 674 Topics in Logic
Discusses advanced topics in logic.
Course not offered every year
Also Offered As: LGIC 320, PHIL 412
Prerequisite: Math 570/571
Activity: Seminar
1 Course Unit

MATH 675 Topics in Logic
Discusses advanced topics in logic.
Course not offered every year
Also Offered As: LGIC 320, PHIL 412
Prerequisite: Math 570/571
Activity: Seminar
1 Course Unit

MATH 676 Advanced Geometric Methods in Computer Science
Advanced geometric methods used in geometric modeling, computer graphics, computer vision, and robotics.
Course not offered every year
Activity: Lecture
1 Course Unit

MATH 680 Applied Linear Analysis
Application of techniques from linear algebra to real problems in economics, engineering, physics, etc. and the difficulties involved in their implementation. Particular emphasis is placed on solving equations, the eigenvalue problem for symmetric matrices and the metric geometry of spaces of matrices. Applications to problems such as options pricing, image reconstruction, airplane and ship design, oil prospecting, etc. (these topics will vary from year to year). Analysis of the numerical algorithms available to solve such problems, rates of convergence, accuracy and stability.
Course not offered every year
Activity: Lecture
1 Course Unit

MATH 681 Applied Linear Analysis
Continuation of Math 680.
Course not offered every year
Prerequisites: Math 680 or with the permission of the instructor.
Activity: Lecture
1 Course Unit

MATH 682 Applied Linear Analysis
Continuation of Math 680.
Course not offered every year
Prerequisites: Math 680 or with the permission of the instructor.
Activity: Lecture
1 Course Unit

MATH 690 Topics in Mathematical Foundations of Program Semantics
This course discusses advanced topics in mathematical foundations of semantics of programming languages and programming structures. "What is to distinguish a digital dollar when it is as easily reproducible as the spoken word? How do we converse privately when every syllable is bounced off a satellite and smeared over an entire continent? How should a bank know that it really is Bill Gates requesting from his laptop in Fiji a transfer of $100,000,.....,000 to another bank? Fortunately, the mathematics of cryptography can help. Cryptography provides techniques for keeping information secret, for determining that information has not been tampered with, and for determining who authored pieces of information." (From the Foreword by R. Rivest to the "Handbook of Applied Cryptography" by Menezes, van Oorschot, and Vanstone.)
Course not offered every year
Activity: Lecture
1 Course Unit
MATH 691 Topics in Mathematical Foundations of Program Semantics
The course discusses advanced topics in mathematical foundations of semantics of programming languages and programming structures.
Course not offered every year
Activity: Lecture
1 Course Unit

MATH 692 Numerical Analysis
A study of numerical methods for matrix problems, ordinary and partial differential equations, quadrature and the solution of algebraic or transcendental equations. Emphasis will be on the analysis of those methods which are particularly suited to automatic high-speed computation.
Course not offered every year
Prerequisite: Math 320/321
Activity: Lecture
1 Course Unit

MATH 693 Numerical Analysis
Continuation of Math 692.
Course not offered every year
Prerequisites: Math 692 or with the permission of the instructor.
Activity: Lecture
1 Course Unit

MATH 694 Mathematical Foundations of Theoretical Physics
Selected topics in mathematical physics, such as mathematical methods of classical mechanics, electrodynamics, relativity, quantum mechanics and quantum field theory.
Course not offered every year
Also Offered As: PHYS 654
Activity: Lecture
1 Course Unit

MATH 695 Mathematical Foundations of Theoretical Physics
Selected topics in mathematical physics, such as mathematical methods of classical mechanics, electrodynamics, relativity, quantum mechanics and quantum field theory.
Course not offered every year
Also Offered As: PHYS 655
Activity: Lecture
1 Course Unit

MATH 696 Topics in Mathematical Physics and String Theory
This interdisciplinary course discusses advanced topics in mathematical physics. Topics may include elliptic operators, heat kernels, complexes and the Atiyah-Singer index theorem, Feynman graphs and anomalies, computing Abelian and non-Abelian anomalies, and the relation of anomalies to the index theorem.
Course not offered every year
Also Offered As: PHYS 656
Prerequisite: Math 694 or permission of the instructor.
Activity: Lecture
1 Course Unit

MATH 697 Topics in Mathematical Physics and String Theory
Continuation of Math 696. Topics may include the family index theorem, equivariant cohomology and loop spaces, the homological algebra of BRST invariance and the Wess-Zumino consistency condition, the descent equations, and worldsheet anomalies in string theory.
Course not offered every year
Also Offered As: PHYS 657
Prerequisite: Math 696 or permission of the instructor.
Activity: Lecture
1 Course Unit

MATH 702 Topics in Algebra
Topics from the literature. The specific subjects will vary from year to year.
Course not offered every year
Also Offered As: MATH 520
Activity: Lecture
1 Course Unit

MATH 703 Topics in Algebra
Topics from the literature. The specific subjects will vary from year to year.
Course not offered every year
Activity: Lecture
1 Course Unit

MATH 720 Advanced Number Theory
Ramification theory, adeles and ideles, Tate's thesis, group cohomology and Galois cohomology, class field theory in terms of ideles and cohomology, Lubin-Tate formal groups, Artin and Swan conductors, central simple algebras over local and global fields, general Hasse principles. Other topics may include the following: zero-dimensional Arakelov theory, Tate duality, introduction to arithmetic of elliptic curves, local and global epsilon factors in functional equations, p-adic L-functions and Iwasawa theory, modular forms and functions and modular curves.
Course not offered every year
Prerequisite: Math 620/621
Activity: Lecture
1 Course Unit

MATH 721 Advanced Number Theory
Continuation of Math 720.
Course not offered every year
Prerequisites: Math 720 or with the permission of the instructor.
Activity: Lecture
1 Course Unit

MATH 724 Topics in Algebraic Geometry
Topics from the literature. The specific subjects will vary from year to year.
Course not offered every year
Prerequisite: Either Math 622/623 or Math 624/625
Activity: Lecture
1 Course Unit

MATH 725 Topics in Algebraic Geometry
Topics from the literature. The specific subject will vary from year to year.
Course not offered every year
Prerequisite: Either Math 622/623 or Math 624/625
Activity: Lecture
1 Course Unit

MATH 730 Topics in Algebraic and Differential Topology
Topics from the literature. The specific subjects will vary from year to year.
Course not offered every year
Also Offered As: MATH 560
Prerequisite: Math 618/619
Activity: Lecture
1 Course Unit
**MATH 731 Topics in Algebraic and Differential Topology**  
Topics from the literature. The specific subjects will vary from year to year.  
Course not offered every year  
Prerequisite: Math 618/619  
Activity: Lecture  
1 Course Unit

**MATH 748 Topics in Classical Analysis**  
Harmonic analysis in Euclidean space, Riemann surfaces, Discontinuous groups and harmonic analysis in hyperbolic space, Pseudodifferential operators and index theorems, Variational methods in non-linear PDE, Hyperbolic equations and conservation laws, Probability and stochastic processes, Geometric measure theory, Applications of analysis to problems in differential geometry. The specific subjects will vary from year to year.  
Course not offered every year  
Prerequisites: Math 608 and Math 609 and permission from the instructor  
Activity: Lecture  
1 Course Unit

**MATH 749 Topics in Classical Analysis**  
Continuation of Math 748.  
Course not offered every year  
Prerequisites: Math 748 or with the permission of the instructor.  
Activity: Lecture  
1 Course Unit

**MATH 750 Topics in Functional Analysis**  
Topics from the literature. The specific subjects will vary from year to year.  
Course not offered every year  
Activity: Lecture  
1 Course Unit

**MATH 751 Topics in Functional Analysis**  
Topics from the literature. The specific subjects will vary from year to year.  
Course not offered every year  
Activity: Lecture  
1 Course Unit

**MATH 752 Topics in Operator Theory**  
Topics from the literature. The specific subjects will vary from year to year.  
Course not offered every year  
Activity: Lecture  
1 Course Unit

**MATH 753 Topics in Operator Theory**  
Topics from the literature. The specific subjects will vary from year to year.  
Course not offered every year  
Activity: Lecture  
1 Course Unit

**MATH 760 Topics in Differential Geometry**  
Topics from the literature. The specific subjects will vary from year to year.  
Course not offered every year  
Also Offered As: MATH 560  
Prerequisite: Math 660/661  
Activity: Lecture  
1 Course Unit

**MATH 761 Topics in Differential Geometry**  
Topics from the literature. The specific subjects will vary from year to year.  
Course not offered every year  
Prerequisite: Math 660/661  
Activity: Lecture  
1 Course Unit

**MATH 794 Physics for Mathematicians**  
This course is designed to bring mathematicians with no physics background up to speed on the basic theories of physics: mechanics, relativity, quantum mechanics, classical fields, quantum field theory, the standard model, strings, superstrings, and M-theory.  
Course not offered every year  
Prerequisite: Math 694  
Corequisite: Math 695  
Activity: Lecture  
1 Course Unit

**MATH 820 Algebra Seminar**  
Seminar on current and recent literature in algebra.  
Course not offered every year  
Activity: Seminar  
1 Course Unit

**MATH 821 Algebra seminar**  
Seminar on current and recent literature in algebra.  
Course not offered every year  
Activity: Seminar  
1 Course Unit

**MATH 824 Seminar in Algebra, Algebraic Geometry, Number Theory**  
Seminar on current and recent literature in algebra, algebraic geometry, and number theory.  
Course not offered every year  
Activity: Seminar  
1 Course Unit

**MATH 825 Seminar in Algebra, Algebraic Geometry, Number Theory**  
Seminar on current and recent literature in algebra, algebraic geometry, and number theory.  
Course not offered every year  
Activity: Seminar  
1 Course Unit

**MATH 830 Geometry-Topology Seminar**  
Seminar on current and recent literature in geometry-topology  
Course not offered every year  
Activity: Seminar  
1 Course Unit

**MATH 831 Geometry-Topology Seminar**  
Seminar on current and recent literature in geometry-topology  
Course not offered every year  
Activity: Seminar  
1 Course Unit

**MATH 840 Analysis Seminar**  
Seminar on current and recent literature in analysis.  
Course not offered every year  
Activity: Seminar  
1 Course Unit
MATH 841 Analysis Seminar
Seminar on current and recent literature in analysis.
Course not offered every year
Activity: Seminar
1 Course Unit

MATH 844 Seminar in Partial Differential Equations
Seminar on current and recent literature in partial differential equations.
Course not offered every year
Activity: Seminar
1 Course Unit

MATH 845 Seminar in Partial Differential Equations
Seminar on current and recent literature in partial differential equations.
Course not offered every year
Activity: Seminar
1 Course Unit

MATH 850 Seminar in Functional Analysis
Seminar on current and recent literature in functional analysis.
Course not offered every year
Activity: Seminar
1 Course Unit

MATH 851 Seminar in Functional Analysis
Seminar on current and recent literature in functional analysis.
Course not offered every year
Activity: Seminar
1 Course Unit

MATH 852 Seminar in Functional Analysis
Seminar on current and recent literature in functional analysis.
Course not offered every year
Activity: Seminar
1 Course Unit

MATH 870 Logic Seminar
Seminar on current and recent literature in logic.
Course not offered every year
Activity: Seminar
1 Course Unit

MATH 871 Logic Seminar
Seminar on current and recent literature in logic.
Course not offered every year
Activity: Seminar
1 Course Unit

MATH 872 Seminar in Logic and Computation
Seminar on current and recent literature in logic and computation.
Course not offered every year
Activity: Seminar
1 Course Unit

MATH 873 Seminar in Logic and Computation
Seminar on current and recent literature in logic and computation.
Course not offered every year
Activity: Seminar
1 Course Unit

MATH 878 Probability and Algorithm Seminar
Seminar on current and recent literature in probability and algorithm.
Taught by: Staff.
Activity: Seminar
1 Course Unit

MATH 879 Seminar on additive combinatorics.
Taught by: Staff.
Activity: Seminar
1 Course Unit

MATH 880 Combinatorics Seminar
Seminar on current and recent literature in combinatorics.
Course not offered every year
Activity: Seminar
1 Course Unit

MATH 881 Combinatorics Seminar
Seminar on current and recent literature in combinatorics.
Course not offered every year
Activity: Seminar
1 Course Unit

Mechanical Engineering and Applied Mechanics (MEAM)

MEAM 091 Shop Tr: Manual Milling
Fundamental principles of manual milling of metals, including hands-on training in the machine shop.
One-term course offered either term
Activity Lecture
0.25 Course Units

MEAM 092 Shop Tr: Manual Turning
Fundamental principles of manual turning of metals using a lathe, including hands-on training in the machine shop.
One-term course offered either term
Activity Lecture
0.25 Course Units

MEAM 093 Shop Tr: Hybrid Milling
Building upon the basics covered in 091, this intermediate-level course includes detailed operation sequencing, fixture design, and hands-on conversational CNC programming for the ProtoTrak Hybrid Mill.
Activity Lecture
0.25 Course Units

MEAM 094 Shop Tr: CNC Milling/solidcam
Building upon proficiency in 091 and 093, this hands-on course covers the details of full computer-controlled machining using SolidCAM and the Haas MiniMill.
One-term course offered either term
Activity Lecture
0.25 Course Units

MEAM 095 Shop Tr: CNC Turning
Building upon the basics of 092, this course explores advanced computer-controlled turning using SolidCAM and the Haas TL-1.
One-term course offered either term
Activity Lecture
0.25 Course Units
MEAM 099 Independent Study
An opportunity for the student to become closely associated with a professor in (1) a research effort to develop research skills and technique and/or (2) to develop a program of independent in-depth study in a subject area in which the professor and student have a common interest. The challenge of the task undertaken must be consistent with the student's academic level. To register for this course, the student and professor jointly submit a detailed proposal. Subject to the approval of the MEAM Undergraduate Curriculum Chair.
One-term course offered either term
Activity: Independent Study
1 Course Unit
Notes: Open to all students. A maximum of 2 c.u. of MEAM 099 may be applied toward the B.A.S. or B.S.E. degree requirements

MEAM 101 Introduction to Mechanical Design
This hands-on, project-based course covers the fundamentals of the modern mechanical design process, from needfinding and brainstorming to the basics of computerized manufacturing and rapid prototyping. Topics include: product definition (needfinding, observation, sketching, and brainstorming); computer-aided design (part creation, assemblies, and animation using SolidWorks); fundamental engineering design practices (material selection, dimensioning, tolerances, etc.); basic computer simulation and analysis; and rapid prototyping (laser cutter, 3-D fused-deposition modeling, and an introduction to computer- controlled machining).
One-term course offered either term
Activity: Lecture
1 Course Unit
Notes: This course is available to all Engineering majors.

MEAM 110 Introduction to Mechanics
This lecture course and a companion laboratory course (MEAM 147) build upon the concepts of Newtonian (classical) mechanics and their application to engineered systems. This course introduces students to mechanical principles that are the foundation of upper-level engineering courses including MEAM 210 and 211. The three major parts of this course are: I. Vector Mechanics; II. Statics and Structures; and III. Kinematics and Dynamics. Topics include: vector analysis, statics of rigid bodies, introduction to deformable bodies, friction, kinematics of motion, work and energy, and dynamics of particles. Case studies will be introduced, and the role of Newtonian mechanics in emerging applications including bio- and nano- technologies will be discussed.
Course usually offered in fall term
Corequisites: MATH 104 (The Engineering section of this class is strongly recommended) and MEAM 147.
Activity: Lecture
1 Course Unit

MEAM 147 Introduction to Mechanics Lab
This half-credit laboratory class is a companion to the Introduction to Mechanics lecture course (MEAM 110). It investigates the concepts of Newtonian (classical) mechanics through weekly hands-on experiments, emphasizing connections between theoretical principles and practical applications in engineering. In addition to furthering their understanding about the workings of the physical world, students will improve their skills at conducting experiments, obtaining reliable data, presenting numerical results, and extracting meaningful information from such numbers.
Course usually offered in fall term
Corequisite: MEAM 110
Activity: Laboratory
0.5 Course Units

MEAM 201 Machine Design and Manufacturing
Building upon the fundamentals of mechanical design taught in MEAM 101, this hands-on, project-based course provides students with the knowledge and skills necessary to design, analyze, manufacture, and test fully-functional mechanical systems. Topics covered include an introduction to machine elements, analysis of the mechanics of machining, manufacturing technology, precision fabrication (milling, turning, and computer-controlled machining), metrology, tolerances, cutting tool fundamentals and engineering materials. Enrollment is limited.
Course usually offered in spring term
Prerequisite: MEAM 101; MEAM 210 or equivalent as co/pre-requisite (or permission of the instructor)
Activity: Lecture
1 Course Unit

MEAM 203 Thermodynamics I
Thermodynamics studies the fundamental concepts related to energy conversion in such mechanical systems as internal and external combustion engines (including automobile and aircraft engines), compressors, pumps, refrigerators, and turbines. This course is intended for students in mechanical engineering, chemical engineering, materials science, physics and other fields. The topics include properties of pure substances, first-law analysis of closed systems and control volumes, reversibility and irreversibility, entropy, second-law analysis, exergy, power and refrigeration cycles, and their engineering applications.
Course usually offered in spring term
Prerequisites: Math 104 and Math 114
Activity: Lecture
1 Course Unit

MEAM 210 Statics and Strength of Materials
This course is primarily intended for students in mechanical engineering, but may also be of interest to students in materials science and other fields. It continues the treatment of statics of rigid bodies begun in MEAM 110/PHYS 150 and progresses to the treatment of deformable bodies and their response to loads. The concepts of stress, strain, and linearly elastic response are introduced and applied to the behavior of rods, shafts, beams and other mechanical components. The failure and design of mechanical components are discussed.
Course usually offered in fall term
Prerequisite: MEAM 110/MEAM 147 or PHYS 150
Corequisites: MATH 240 and MEAM 247 are strongly recommended
Activity: Lecture
1 Course Unit

MEAM 211 Engineering Mechanics: Dynamics
This course introduces the basic concepts in kinematics and dynamics that are necessary to understand, analyze and design mechanisms and machines. These concepts are also fundamental to the modeling and analysis of human movement, biomechanics, animation of synthetic human models and robotics. The topics covered include: Particle dynamics using energy and momentum methods of analysis; Dynamics of systems of particles; Impact; Systems of variable mass; Kinematics and dynamics of rigid bodies in plane motion; Computer-aided dynamic simulation and animation.
Course usually offered in spring term
Prerequisite: MEAM 210
Corequisites: MATH 240 or ENM 251 and ENGR 105 or equivalent
Activity: Lecture
1 Course Unit
MEAM 220 Introduction to Materials Science and Engineering
The course is an introduction to the most important concepts in materials science and engineering with a goal of building the foundations for all other courses related to materials and how to think about materials in other areas of engineering and the physical sciences. It covers atomic bonding, crystal structure and symmetry, glasses, defects, diffusion, elasticity, plasticity, fracture, phase diagrams, phase transformations, and an introduction into thermal, electrical, magnetic and optical properties and materials processing. Material classes will include metals, ceramics, polymers, semiconductors, and composites.
Course usually offered in fall term
Also Offered As: MSE 220
Prerequisites: Knowledge of basic calculus and chemistry
Activity: Lecture
1 Course Unit

MEAM 245 Introduction to Flight
Course usually offered in fall term
Prerequisite: PHYS 150 or MEAM 110/MEAM 147
Corequisite: MATH 240
Activity: Lecture
1 Course Unit

MEAM 247 Mechanical Engineering Laboratory I
This is the first of a two semester sophomore level laboratory sequence that students complete over the fall and spring semesters. The course teaches the principles of experimentation and measurement as well as analysis and application to design. This fall semester course follows closely with MEAM 210, involving experiments to explore the principles of statics and strength of materials.
Course usually offered in fall term
Prerequisite: Sophomore standing in engineering
Corequisite: MEAM 210 strongly recommended
Activity: Laboratory
0.5 Course Units

MEAM 248 Mechanical Engineering Lab I
This is the second of a two-semester sophomore level laboratory sequence that students complete over the fall and spring semesters. The course teaches the principles of experimentation and measurement as well as analysis and application to design. The spring semester course follows closely with MEAM 203 and MEAM 211, expanding upon the principles of experimentation, measurement, analysis, and design of systems through hands-on laboratories and projects in thermodynamics and dynamics.
Course usually offered in spring term
Prerequisite: Sophomore standing in engineering
Corequisites: MEAM 203 and MEAM 211 are strongly recommended
Activity: Lecture
0.5 Course Units

MEAM 302 Fluid Mechanics
Physical properties; fluid statics; Bernoulli equation; fluid kinematics; conservation laws and finite control-volume analysis; conservation laws and differential analysis; inviscid flow; The Navier-Stokes equation and some exact solutions; similitude, dimensional analysis, and modeling; flow in pipes and channels; boundary layer theory; lift and drag.
Course usually offered in fall term
Prerequisites: MATH 241 or ENM 251 and PHYS 150 or MEAM 110/MEAM 147
Activity: Lecture
1 Course Unit

MEAM 321 Vibrations of Mechanical Systems
This course teaches the fundamental concepts underlying the dynamics of vibrations for single-degree of freedom, multi-degree and infinite-degree of freedom mechanical systems. The course will focus on Newton’s Force Methods, Virtual-Work Methods, and Lagrange’s Variation Methods for analyzing problems in vibrations. Students will learn how to analyze transient, steady state and forced motion of single and multi-degree of freedom linear and non-linear systems. The course teaches analytical solution techniques for linear systems and practical numerical and simulation methods for analysis and design of nonlinear systems.
Course usually offered in spring term
Prerequisites: MATH 241 or ENM 251 and MEAM 211
Activity: Lecture
1 Course Unit

MEAM 333 Heat and Mass Transfer
This course covers fundamentals of heat and mass transfer and applications to practical problems in energy conversion and conservation. Emphasis will be on developing a physical and analytical understanding of conductive, convective, and radiative heat transfer, as well as design of heat exchangers and heat transfer with phase change. Topics covered will include: types of heat transfer processes, their relative importance, and the interactions between them, solutions of steady state and transient state conduction, emission and absorption of radiation by real surfaces and radiative transfer between surfaces, heat transfer by forced and natural convection owing to flow around bodies and through ducts, analytical solutions for some sample cases and applications of correlations for engineering problems. Students will develop an ability to apply governing principles and physical intuition to solve problems.
Course usually offered in spring term
Prerequisites: MEAM 203 and MEAM 302
Activity: Lecture
1 Course Unit

MEAM 347 Mechanical Engineering Design Laboratory
This is a junior level laboratory course. The course teaches the principles of design and measurement systems including basic electromechanical systems. It follows MEAM 302 and MEAM 321 including experiments in fluid mechanics, and vibration in the design of mechanical systems.
Course usually offered in fall term
Prerequisite: Junior standing in engineering
Activity: Laboratory
1 Course Unit
MEAM 348 Mechanical Engineering Design Laboratory
This course is a junior lab which follows MEAM 333 Heat Transfer and MEAM 354 Mechanics of Materials with design projects based on those topics. In the broader context of design/independent skill development, this course also introduces open ended topics, wider design options, and introduces project planning and management. Course usually offered in spring term
Prerequisite: Junior standing in engineering
Activity: Laboratory
1 Course Unit

MEAM 354 Mechanics of Solids
This course builds on the fundamentals of solid mechanics taught in MEAM 210 and addresses more advanced problems in strength of materials. The students will be exposed to a wide array of applications from traditional engineering disciplines as well as emerging areas such as biotechnology and nanotechnology. The methods of analysis developed in this course will form the cornerstone of machine design and also more advanced topics in the mechanics of materials. Course usually offered in fall term
Prerequisites: MEAM 210 or equivalent, BE200 or permission of instructor.
Activity: Lecture
1 Course Unit

MEAM 404 Materials in Mechanical Design
This course covers materials concepts that are essential in mechanical design. The properties, selection, and processing of a wide range of materials (including metals, ceramics, polymers, composites) are examined from both a fundamental and practical perspective. The relationship of material properties to bonding and microstructure of materials are discussed. An emphasis is placed on mechanical properties of materials, including modulus, strength, fracture, fatigue, wear, and creep. Design-based case studies are used to illustrate the selection of materials and processes.
One-term course offered either term
Activity: Lecture
1 Course Unit

MEAM 405 Mechanical Properties of Macro/Nanoscale Materials
The application of continuum and microstructural concepts to consideration of the mechanics and mechanisms of flow and fracture in metals, polymers and ceramics. The course includes a review of tensors and elasticity with special emphasis on the effects of symmetry on tensor properties. Then deformation, fracture and degradation (fatigue and wear) are treated, including mapping strategies for understanding the ranges of material properties. Course usually offered in fall term
Also Offered As: MEAM 505, MSE 405, MSE 505
Activity: Lecture
1 Course Unit

MEAM 410 Design of Mechatronic Systems
In many modern systems, mechanical elements are tightly coupled with electronic components and embedded computers. Mechatronics is the study of how these domains are interconnected, and this hands-on, project-based course provides an integrated introduction to the fundamental components within each of the three domains, including: mechanical elements (prototyping, materials, actuators and sensors, transmissions, and fundamental kinematics), electronics (basic circuits, filters, op amps, discrete logic, and interfacing with mechanical elements), and computing (interfacing with the analog world, microprocessor technology, basic control theory, and programming). Course usually offered in fall term
Also Offered As: MEAM 510
Prerequisites: Junior or Senior standing in MEAM and a first course in Programming
Activity: Lecture
1 Course Unit

MEAM 415 Product Design
This course provides tools and methods for creating new products. The course is intended for students with a strong career interest in new product development, entrepreneurship, and/or technology development. The course follows an overall product design methodology, including the identification of customer needs, generation of product concepts, prototyping, and design-for-manufacturing. Weekly student assignments are focused on the design of a new product and culminate in the creation of a prototype, which is launched at an end-of-semester public Design Fair. The course project is a physical good - but most of the tools and methods apply to services and software products. The course is open to any Penn sophomore, junior, senior or graduate student.
One-term course offered either term
Also Offered As: IPD 515, OIDD 415
Activity: Lecture
1 Course Unit

MEAM 445 Mechanical Engineering Design Projects
This capstone design project course is required of all mechanical engineering students. Student teams will design and test complex mechanical systems that address a societal or consumer need. Projects are devised by the team, sponsored by industry, or formulated by Penn professors. Each project is approved by the instructor and a faculty advisor. Topics treated in the course include project planning, prototyping, patent and library searches, intellectual property, ethics, and technical writing and presentations. The work is spread over MEAM 445 and MEAM 446.
Course usually offered in fall term
Prerequisite: Junior standing
Activity: Lecture
1 Course Unit

MEAM 446 Mechanical Engineering Design Projects
This is the second course in the two course sequence involving the capstone design project. See MEAM 445 for course description.
Course usually offered in spring term
Activity: Lecture
1 Course Unit
MEAM 454 Mechanics of Materials
Also Offered As: MEAM 554
Prerequisites: MEAM 210 and/or MEAM 354, MATH 240, 241 or ENM 251
Activity: Lecture
1 Course Unit

MEAM 455 Continuum Biomechanics
Continuum mechanics with applications to biological systems. Fundamental engineering conservation laws are introduced and illustrated using biological and non-biological examples. Kinematics of deformation, stress, and conservation of mass, momentum, and energy. Constitutive equations for fluids, solids, and intermediate types of media are described and applied to selected biological examples. Class work is complemented by computational laboratory experiences. Course usually offered in fall term
Also Offered As: BE 455, MEAM 544
Activity: Lecture
1 Course Unit

MEAM 502 Energy Engineering
Quantitative introduction to the broad area of energy engineering, from basic principles to applications. The focus is on the science and engineering of power generation. The course includes a review of energy resources and consumption, power cycles, combined cycles, and cogeneration, nuclear energy and wastes, solar thermal and photovoltaic energy, and wind power. Additional energy conversion topics including energy storage and geothermal, thermoelectric, hydroelectric and biomass power will be briefly discussed. Course usually offered in fall term
Prerequisites: Undergraduate engineering thermodynamics (MEAM 203 or equivalent), and heat transfer (MEAM 333 or equivalent)
Activity: Lecture
1 Course Unit

MEAM 503 Direct Energy Conversion: from Macro to Nano
The course focuses on devices that convert thermal, solar, or chemical energy directly to electricity, i.e., without intermediate mechanical machinery such as a turbine or a reciprocating piston engine. A variety of converters with sizes ranging from macro to nano scale will be discussed, with the advantages offered by nanoscale components specifically highlighted. Topics will include thermoelectric energy converters and radioisotope thermoelectric generators (RTGs), thermonic energy converters (TEC), photovoltaic (PV) and thermophotovoltaic (TPV) cells, as well as piezoelectric harvesters. Additional topics may include magnetohydrodynamic (MHD) generators, alkali metal thermal-to-electric converters (AMTEC), and fuel cells. One-term course offered either term
Prerequisites: Basics of thermodynamics (MEAM 203 or equivalent), Basics of heat transfer (MEAM 333 or equivalent)
Activity: Lecture
1 Course Unit

MEAM 504 Tribology
The course will comprehensively cover both theoretical and practical tribology, the science and technology of interacting surfaces in relative motion. The various modes of lubrication, hydrodynamic, elastohydrodynamic, hydrostatic, mixed, solid and dry, will be studied in detail. The contact between solid surfaces will be covered, leading to an understanding of friction and various modes of wear. At each stage, it will be shown how the tribological principles learned can be applied in practice to improve the efficiency and durability of mechanical equipment and thereby enhance sustainability through energy and materials conservation. One-term course offered either term
Prerequisites: Senior standing in Mechanical Engineering or Materials Science or by permission of the instructor.
Activity: Lecture
1 Course Unit

MEAM 505 Mechanical Properties of Macro/Nanoscale Materials
The application of continuum and microstructural concepts to consideration of the mechanics and mechanisms of flow and fracture in metals, polymers and ceramics. The course includes a review of tensors and elasticity with special emphasis on the effects of symmetry on tensor properties. Then deformation, fracture and degradation (fatigue and wear) are treated, including mapping strategies for understanding the ranges of material properties. Course usually offered in fall term
Also Offered As: MEAM 405, MSE 405
Activity: Lecture
1 Course Unit

MEAM 507 Fundamentals of Materials
This course will provide a graduate level introduction to the science and engineering of materials. It is designed specifically to meet the needs of students who will be doing research that involves materials but who do not have an extensive background in the field. The focus is on fundamental aspects of materials science and will emphasize phenomena and how to describe them. The course assumes an undergraduate background in any area of physical/chemical science and undergraduate mathematics appropriate to this. The course will also be accessible to students of applied mathematics. One-term course offered either term
Also Offered As: MSE 507
Activity: Lecture
1 Course Unit

MEAM 508 Matls Manuf For Mech Des
One-term course offered either term
Activity: Lecture
1 Course Unit
MEAM 510 Design of Mechatronic Systems
In many modern systems, mechanical elements are tightly coupled with electronic components and embedded computers. Mechatronics is the study of how these domains are interconnected, and this hands-on, project-based course provides an integrated introduction to the fundamental components within each of the three domains, including: mechanical elements (prototyping, materials, actuators and sensors, transmissions, and fundamental kinematics), electronics (basic circuits, filters, op amps, discrete logic, and interfacing with mechanics), and computing (interfacing with the analog world, microprocessor technology, basic control theory, and programming).
Course usually offered in fall term
Also Offered As: MEAM 410
Prerequisite: Graduate standing in engineering or permission of the instructor
Activity: Lecture
1 Course Unit

MEAM 513 Feedback Control Design and Analysis
Basic methods for analysis and design of feedback control in systems. Applications to practical systems. Methods presented include time response analysis, frequency response analysis, root locus, Nyquist and Bode plots, and the state-space approach.
Course usually offered in spring term
Also Offered As: ESE 505
Prerequisites: MEAM 321 or ESE 210, Juniors and Seniors encouraged to enroll
Activity: Lecture
1 Course Unit

MEAM 514 Design for Manufacturability
This course is aimed at providing current and future product design/development engineers, manufacturing engineers, and product development managers with an applied understanding of Design for Manufacturability (DFM) concepts and methods. The course content includes materials from multiple disciplines including: engineering design, manufacturing, marketing, finance, project management, and quality systems.
Course usually offered in spring term
Also Offered As: IPD 514
Prerequisites: MEAM 101 or equivalent, MEAM 210 or equivalent, senior or graduate standing in the School of Design, Engineering, or Business with completed product development and/or design engineering core coursework or related experience.
Activity: Lecture
1 Course Unit

MEAM 516 Advanced Mechatronic Reactive Spaces.
This course combines performance art and advanced mechatronics concepts that include the design and implementation of large-scale actuation, advanced sensing, actuation and control. This course pairs design school and engineering students to form interdisciplinary teams that together design and build electro-mechanical reactive spaces and scenic/architectural elements in the context of the performing arts. The two disciplinary groups will be treated separately and receive credit for different courses (ARCH746 will be taught concurrently and in some cases co-located) as they will be learning different things. Engineering students gain design sensibilities and advanced mechatronics in the form of networked embedded processing and protocols for large scale actuation and sensing. Design students learn elementary mechatronics and design reactive architectures and work with engineering students to build them. The class will culminate in a some artistic performance (typically with professional artists) such as a Shakespeare play, robotic ballet, a mechatronic opera.
Course usually offered in spring term
Also Offered As: IPD 516
Prerequisite: MEAM 510 (Mechatronics) or equivalent
Activity: Lecture
1 Course Unit

MEAM 519 Elasticity and Micromechanics of Materials
This course is targeted to engineering students working in the areas on micro/nanomechanics of materials. The course will start with a quick review of the equations of linear elasticity and proceed to solutions of specific problems such as the Hertz contact problem, Eshelby’s problem etc. Failure mechanisms such as fracture and the fundamentals of dislocations/plasticity will also be discussed.
One-term course offered either term
Also Offered As: MSE 550
Activity: Lecture
1 Course Unit

MEAM 520 Introduction to Robotics
The rapidly evolving field of robotics includes systems designed to replace, assist, or even entertain humans in a wide variety of tasks. Recent examples include human-friendly robot arms for manufacturing, interactive robotic pets, medical and surgical assistive robots, and semi-autonomous search-and-rescue vehicles. This course presents the fundamental kinematic, dynamic, and computational principles underlying most modern robotic systems. The main topics of the course include: rotation matrices, homogeneous transformations, manipulator forward kinematics, manipulator inverse kinematics, jacobians, path and trajectory planning, sensing and actuation, feedback control, haptic interfaces, and teleoperation. The material is reinforced with hands-on lab exercises involving a robotic arm and a haptic interface.
Course usually offered in fall term
Prerequisites: MEAM 211 and MATH 240 or equivalent
Activity: Lecture
1 Course Unit
MEAM 521 Introduction to Parallel Computing
From numerical weather prediction and earthquake simulations, to quantum mechanics, and to genome sequencing and molecular dynamics, high-performance computing (HPC) is a fundamental tool for science. The basic principles on how to design, implement, and evaluate HPC techniques will be covered. Topics include parallel non-numerical and numerical algorithms, computing platforms, and message passing interface. Science applications will sample techniques applied to partial differential equations, many-body problems, and statistical physics. Practical problem-solving and hands-on examples will be a basic part of the course.
Course not offered every year
Prerequisites: Programming. Familiarity with Linux or Unix will help.
Activity: Lecture
1 Course Unit

MEAM 522 Fundamentals of Sensor Technology
Explores the principles of sensor science, develops the relationship between intensive and extensive variables, and presents the linear laws between these variables. Students will review the flux-force relations describing kinetic phenomena against the context of means for transducing temperature, stress, strain, magnetic processes and chemical concentration into electrical signals. The need for multivariate signal processing will be introduced and selected applied topics considered.
Course not offered every year
Activity: Lecture
1 Course Unit

MEAM 527 Finite Element Analysis
The objective of this course is to equip students with the background needed to carry out finite elements-based simulations of various engineering problems. The first part of the course will outline the theory of finite elements. The second part of the course will address the solution of classical equations of mathematical physics such as Laplace, Poisson, Helmholtz, the wave and the Heat equations. The third part of the course will consist of case studies taken from various areas of engineering and the sciences on topics that require or can benefit from finite element modeling. The students will gain hand-on experience with the multi-physics, finite element package FemLab.
Course usually offered in fall term
Also Offered As: ENM 427
Prerequisites: MATH 241 or ENM 251 and PHYS 151
Activity: Lecture
1 Course Unit

MEAM 528 Advanced Kinematics
Differential geometry, Lie groups and rigid body kinematics, Lie algebra, quaternions and dual number algebra, geometry of curves and ruled surfaces, trajectory generation and motion planning, applications to robotics and spatial mechanisms.
Course not offered every year
Prerequisites: Multivariate calculus, introductory abstract algebra, mathematical maturity
Activity: Lecture
1 Course Unit

MEAM 529 Introduction to MEMS and NEMS
Introduction to RM MEMS technologies; need for RF MEMS components in wireless communications. Review of micromachining techniques and MEMS fabrication approaches. Actuation methods in MEMS, TRF MEMS design and modeling. Examples of RF MEMS components from industry and academia. Case studies: micro-switches, tunable capacitors, inductors, resonators, filters, oscillators and micromachined antennas.
Overview of RF NEMS.
Course usually offered in fall term
Also Offered As: ESE 529
Activity: Lecture
1 Course Unit

MEAM 530 Continuum Mechanics
This course serves as a basic introduction to the Mechanics of continuous media, and it will prepare the student for more advanced courses in solid and fluid mechanics. The topics to be covered include: Tensor algebra and calculus, Lagrangian and Eulerian kinematics, Cauchy and Fiolka-Kirchhoff stresses, General principles: conservation of mass, conservation of linear and angular momentum, energy and the first law of thermodynamics, entropy and the second law of thermodynamics; constitutive theory, ideal fluids, Newtonian and non-Newtonian fluids, finite elasticity, linear elasticity, materials with microstructure.
Course usually offered in fall term
Prerequisites: Multivariable Calculus, Linear Algebra, Partial Differential Equations
Activity: Lecture
1 Course Unit

MEAM 535 Advanced Dynamics
Course usually offered in fall term
Prerequisites: MEAM 211 and some Linear Algebra. Senior or Master’s Standing in Engineering or permission of the instructor.
Activity: Lecture
1 Course Unit
MEAM 536 Viscous Fluid Flow and Modern Applications
This is an intermediate course that builds on the basic principles of Fluid Mechanics. The course provides a more in depth and unified framework to understand fluid flow at different time and length scales, in particular viscous flows. Topics include review of basic concepts, conservation laws (momentum, mass, and heat), fluid kinematics, tensor analysis, Stokes’ approximations, non-Newtonian fluid mechanics, and turbulence. The course will explore important modern topics such as microfluidics, swimming of micro-organisms, wind turbines, rheology, biofluid mechanics, and boundary layers.
Course not offered every year
Activity: Lecture
1 Course Unit
Notes: This course is intended for juniors, seniors and graduate students from the Schools of Engineering and/or Arts and Sciences that have a general interest in fluid dynamics and its modern applications. Students should have an understanding of basic concepts in fluid mechanics and a good grasp on differential equations.

MEAM 537 Nanotribology
Engineering is progressing to ever smaller scales, enabling new technologies, materials, devices, and applications. This course will provide an introduction to nano-scale tribology and the critical role it plays in the developing areas of nanoscience and nanotechnology. We will discuss how contact, adhesion, friction, lubrication, and wear at interfaces originate, using an integrated approach that combines concepts of mechanics, materials science, chemistry, and physics. We will cover a range of concepts and applications, drawing connections to both established and new approaches. We will discuss the limits of continuum mechanics and present newly developed theories and experiments tailored to describe micro- and nano-scale phenomena. We will emphasize specific applications throughout the course. Reading of scientific literature, critical peer discussion, individual and team problem assignments, and a peer-reviewed literature research project will be assigned as part of the course.
Course usually offered in spring term
Also Offered As: MSE 537
Prerequisites: Freshman physics; MEAM 354 or equivalent, or consent of instructor.
Activity: Lecture
1 Course Unit

MEAM 540 Optimal Design of Mechanical Systems
Mathematical modeling of mechanical design problems for optimization. Highlights and overview of optimization methods: unconstrained optimization, unidirectional search techniques, gradient, conjugate direction, and Newton methods. Constrained optimization. KKT optimality conditions, penalty formulations, augmented Lagrangians, and others. SLP and SQP and other approximate techniques for solving practical design problems. Monotonicity analysis and modeling of optimal design problems. Optimization of structural elements including shape and topology synthesis. Variational formulation of distributed and discrete parameter structures. Design criteria for stiffness and strength. Design sensitivity analysis. The course will include computer programs to implement the algorithms discussed and solve realistic design problems. A term project is required.
Course not offered every year
Prerequisites: MATH 240, 312 or equivalent; MEAM 210, 453 or equivalent, or permission of the instructor; familiarity with a computer language; undergraduates require permission
Activity: Lecture
1 Course Unit

MEAM 543 Performance and Design of Unmanned Aerial Vehicles (UAVs)
This course covers the application of classical aircraft performance and design concepts to fixed-wing and rotary-wing Unmanned Aerial Vehicles (UAVs). A survey of the latest developments in UAV technology will be used to motivate the development of quantitative mission requirements, such as payload, range, endurance, field length, and detectability. The implications of these requirements on vehicle configuration and sizing and will be revealed through application of the fundamentals of aerodynamics and propulsion systems. The course will also cover basic flight dynamics and control, including typical inner-loop feedback applications.
One-term course offered either term
Prerequisites: MEAM 210, 211, MATH 240 or equivalents
Activity: Lecture
1 Course Unit

MEAM 544 Continuum Biomechanics
Biological and non-biological systems are both subject to several basic physical balance laws of broad engineering importance. Fundamental conservation laws are introduced and illustrated using examples from both animate as well as inanimate systems. Topics include kinematics of deformation, the concept of stress, conservation of mass, momentum, and energy. Mechanical constitutive equations for fluids, solids and intermediate types of media are described and complemented by hands-on experimental and computational laboratory experiences. Practical problem solving using numerical methods will be introduced.
Course usually offered in fall term
Also Offered As: MEAM 455
Prerequisites: Statics, linear algebra, and differential equations.
Activity: Lecture
1 Course Unit

MEAM 545 Aerodynamics
Review of fluid kinematics and conservation laws; vorticity theorems; two-dimensional potential flow; airfoil theory; finite wings; oblique shocks; supersonic wing theory; laminar and turbulent boundary layers.
Course usually offered in spring term
Prerequisite: MEAM 302
Activity: Lecture
1 Course Unit

MEAM 550 Design of Microelectromechanical Systems
A course that covers the design and fabrication of micro- and nano-electromechanical systems. Topics in the course include micro- and nano-fabrication techniques, mechanics of flexures, thin film mechanics, sensing and actuation approaches (e.g., electrostatic, piezoelectric, and piezoresistive), as well as materials and reliability issues. The fundamentals of these topics will be augmented with device-based case studies.
Course not offered every year
Prerequisites: MEAM 354 or equivalent is recommended. 
Activity: Lecture
1 Course Unit
MEAM 553 Atomic Modeling in Materials Science
This course covers two major aspects of atomic level computer modeling in materials. 1. Methods: Molecular statics, Molecular dynamics, Monte Carlo, Kinetic Monte Carlo as well as methods of analysis of the results such as radial distribution function, thermodynamics deduced from the molecular dynamics, fluctuations, correlations and autocorrelations. 2. Semi-empirical descriptions of atomic interactions: pair potentials, embedded atom method, covalent bonding, ionic bonding. Basics of the density functional theory. Mechanics, condensed matter physics, thermodynamics and statistical mechanics needed in interpretations are briefly explained.
Course usually offered in spring term
Also Offered As: MSE 561
Prerequisites: Ability to write a basic code in a computer language such as fortran, C, C++
Activity: Lecture
1 Course Unit

MEAM 554 Mechanics of Materials
Course not offered every year
Also Offered As: MEAM 454
Prerequisites: MEAM 210, MEAM 354, MATH 240, 241
Activity: Lecture
1 Course Unit
Notes: This course is cross-listed with an advanced level undergraduate course. It may be taken by M.S.E. students for credit. M.S.E. students will be required to do some extra work, they will be graded on a different scale than undergraduate students, and they will be required to demonstrate a higher level of maturity in their class assignments.

MEAM 555 Nanoscale Systems Biology
Nano-science and engineering approaches to systems in biology are of growing importance. They extend from novel methods, especially microscopies that invite innovation to mathematical and/or computational modeling which incorporates the physics and chemistry of small scale biology. Proteins and DNA, for example, are highly specialized polymers that interact, catalyze, stretch and bend, move, and/or store information. Membranes are also used extensively by cells to isolate, adhere, deform, and regulate reactions. In this course, students will become familiar with cell & molecular biology and nanobiotechnology through an emphasis on nano-methods, membranes, molecular machines, and ‘polymers’ - from the quantitative perspectives of thermodynamics, statistical physics, and mechanics. We specifically elaborate ideas of energetics, fluctuations and noise, force, kinetics, diffusion, etc. on the nano- thru micro- scale, drawing from very recent examples in the literature. Laboratory experiments will provide hands-on exposure to microscopies in a biological context (eg. fluorescence down to nano-scale, AFM), physical methods (eg. micromanipulation, tracking virus-scale particles or quantum dots), and numerical problems in applied biophysics, chemistry, and engineering. A key goal of the course is to familiarize students with the concepts and technology (plus their limitations) as being employed in current research problems in nanoscale systems biology, extending to nanobiotechnology.
One-term course offered either term
Also Offered As: BE 555, CBE 555
Prerequisites: Background in Biology, Physics, Chemistry or Engineering with coursework in Thermodynamics or permission of the instructor.
Activity: Lecture
1 Course Unit

MEAM 561 Thermodynamics: Foundations, Energy, Materials
To introduce students to advanced classical equilibrium thermodynamics based on Callen’s postulatory approach, to exergy (Second-Law) analysis, and to fundamentals of nonequilibrium thermodynamics. Applications to be treated include the thermodynamic foundations of energy processes and systems including advanced power generation and aerospace propulsion cycles, batteries and fuel cells, combustion, diffusion, transport in membranes, materials properties and elasticity, superconductivity, biological processes.
Course not offered every year
Prerequisites: Undergraduate thermodynamics.
Activity: Lecture
1 Course Unit

MEAM 564 The Principles and Practice of Microfabrication Technology
A laboratory course on fabricating microelectronic and micromechanical devices using photolithographic processing and related fabrication technologies. Lectures discuss: clean room procedures, microelectronic and microstructural materials, photolithography, diffusion, oxidation, materials deposition, etching and plasma processes. Basic laboratory processes are covered in the first two thirds of the course with students completing structures appropriate to their major in the final third.
Students registering for ESE 574 will be expected to do extra work (including term paper and additional project).
Course usually offered in fall term
Also Offered As: ESE 460, ESE 574
Prerequisites: Any of the following courses: ESE 218, MEAM 333, CBE 351, PHYS 250 or permission of the instructor
Activity: Lecture
1 Course Unit
MEAM 570 Transport Processes I
The course provides a unified introduction to momentum, energy (heat), and mass transport processes. The basic mechanisms and the constitutive laws for the various transport processes will be delineated, and the conservation equations will be derived and applied to internal and external flows featuring a few examples from mechanical, chemical, and biological systems. Reactive flows will also be considered. Course usually offered in fall term
Activity: Lecture
1 Course Unit

MEAM 571 Advanced Topics in Transport Phenomena
The course deals with advanced topics in transport phenomena and is suitable for graduate students in mechanical, chemical and bioengineering who plan to pursue research in areas related to transport phenomena or work in an industrial setting that deals with transport issues. Topics include: Transport processes with drops, Bubbles and particles; Phase change Phenomena: -condensation, evaporation, and combustion; Radiation heat transfer: non-participating media, participating media, equation of radiative transfer, optically thin and thick limits; Introduction to Hydrodynamic and Thermal Instability; Microscale energy transport; Nano-particle motion in fluids and transport. Course not offered every year
Prerequisites: Either MEAM 570, MEAM 642, CBE 640 or equivalent, or Written permission of the Instructor.
Activity: Lecture
1 Course Unit

MEAM 572 Micro/Nanoscale Energy Transport
As materials and devices shrink to the micro- and nanoscale, they transmit heat, light and electronic energy much differently than at the macroscopic length scales. This course provides a foundation for studying the transport of thermal, optical, and electronic energy from a microscopic perspective. Concepts from solid state physics and statistical mechanics will be introduced to analyze the influence of small characteristic dimensions on the propagatin of crystal vibratins, electrons, photons, and molecules. Applications to modern microdevices and therometry techniques will be discussed. Topics to be covered include natural and fabricated microstructures, transport and scattering of phonons and electrons in solids, photon-phonon and photon-electron interactions, radiative recombinations, elementary kinetic theory, and the Boltzmann transport equation.
Course not offered every year
Prerequisites: Undergraduate thermodynamics and heat transfer (or equivalent), or permission of the instructor. Undergraduates may enroll with permission of the instructor
Activity: Lecture
1 Course Unit

MEAM 575 Micro and Nano Fluidics
The course focuses on topics relevant for micro-fluidics, lab on chip technology, point of care diagnostics, nano-technology, biosensing, and interfacial phenomena. Although we will discuss briefly the fabrication of micro and nano fluidic devices, the course will mostly focus on physical phenomena from the continuum point of view. The mathematical complexity will be kept to a minimum. The course will be reasonably self-contained, and any necessary background material will be provided, consistent with the students’ background and level of preparation. Specifically, we will examine fluid and nanoparticle transport under the action of pressure, electric, magnetic, and capillary forces; the structure and role of superhydrophobic surfaces; how the solid/liquid interface acquires electric charge; ion transport in electrolytes (Poisson-Nernst-Planck equations); colloid stability; electroosmosis, electrophoresis, and particle polarization; electrowetting and digital microfluidics; particle and cell sorting; immunoassays; and enzymatic amplification of nucleic acids.
Course not offered every year
Activity: Lecture
1 Course Unit

MEAM 580 Electrochemistry for Energy, Nanofabrication and Sensing
Principles and mathematical models of electrochemical processes in energy conversion and storage, water desalination, nanofabrication, electroplating, and sensing for engineering and science graduate students and advanced undergraduates, lacking prior background in electrochemistry. The course covers equivalent circuits, electrode kinetics, electrokinetic and transport phenomena, and electrostatics. The course will introduce and use the finite element program COMSOLTM. We will discuss, among other things, applications to stationary and flow batteries, supercapacitors, integrated electric circuit fabrication, electrokinetics, and biosensing. In contrast to CBE 545 Electrochemical Energy Conversion that focuses on solid state electrochemistry, this course emphasizes liquid-based electrochemistry.
One-term course offered either term
Prerequisites: Undergraduate course in Fluid Mechanics (MEAM 302), and in Heat and Mass Transfer (MEAM 333)
Activity: Lecture
1 Course Unit

MEAM 597 Master’s Thesis Research
One-term course offered either term
Activity: Masters Thesis
1 Course Unit

MEAM 599 Master’s Independent Study
One-term course offered either term
Activity: Independent Study
1 Course Unit
MEAM 613 Nonlinear Control Theory
The course studies issues in nonlinear control theory, with a particular emphasis on the use of geometric principles. Topics include: controllability, accessibility, and observability, for nonlinear systems; forbenius’ theorem; feedback and input/output linearization for SISO and MIMO systems; dynamic extension; zero dynamics; output tracking and regulation; model matching disturbance decoupling; examples will be taken from mechanical systems, robotic systems, including those involving nonholonomic constraints, and active control of vibrations. Course not offered every year
Also Offered As: CBE 617, CIS 613, ESE 617
Prerequisites: A sufficient background to linear algebra (ENM 510 or ENM 511 or equivalent) and a course in linear control theory (MEAM 513 or equivalent), or written permission of the instructor.
Activity: Lecture
1 Course Unit

MEAM 620 Advanced Robotics
This course covers advanced topics in robotics and includes such topics as multi-body dynamics, nonlinear control theory and planning algorithms with application to robots and systems of multiple robots.
Course usually offered in spring term
Prerequisites: Graduate standing in engineering and MEAM 535 or ESE 500 or CIS 580 or MEAM 520.
Activity: Lecture
1 Course Unit

MEAM 625 Haptic Interfaces
This class provides a graduate-level introduction to the field of haptics, which involves human interaction with real, remote, and virtual objects through the sense of touch. Haptic interfaces employ specialized robotic hardware and unique computer algorithms to enable users to explore and manipulate simulated and distant environments. Primary class topics include human haptic sensing and control, haptic interface design, virtual environment rendering methods, teleoperation control algorithms, and system evaluation; current applications for these technologies will be highlighted, and important techniques will be demonstrated in a laboratory setting. Coursework includes problem sets, programming assignments, reading and discussion of research papers, and a final project. Appropriate for students in any engineering discipline with interest in robotics, dynamic systems, controls, or human-computer interaction.
Course not offered every year
Prerequisites: Graduate standing in engineering and MEAM 510 (Mechatronics), MEAM 520 (Intro to Robotics), MEAM 535 (Advanced Dynamics) or equivalent. Undergraduates require permission.
Activity: Lecture
1 Course Unit

MEAM 630 Advanced Continuum Mechanics
This course is a more advanced version of MEAM 530. The topics to be covered include: tensor algebra and calculus, Lagrangian and Eulerian kinematics; Cauchy and Piola-Kirchhoff stresses. General principles: conservation of mass, conservation of linear and angular momentum, energy and the first law of thermodynamics, entropy and the second law of thermodynamics. Constitutive theory, ideal fluids, Newtonian and non-Newtonian fluids, finite elasticity, linear elasticity, materials with microstructure.
Course not offered every year
Prerequisites: One graduate level course in applied mathematics and one in either fluid or Solid Mechanics.
Activity: Lecture
1 Course Unit

MEAM 631 Advanced Elasticity
Course not offered every year
Prerequisites: MEAM 519 or permission of instructor.
Activity: Lecture
1 Course Unit

MEAM 632 Plasticity
This course develops the mathematical theory of plastic deformation for both crystalline and disordered materials. Phenomenological models for strain-hardening, creep and size-dependent plastic flow as well as physically-based theories for single crystals are discussed. Applications are drawn from problems in structural mechanics, deformation processing, friction and contact, and fracture. Large strain deformations and problems involving strain localization are considered.
Course not offered every year
Prerequisites: MEAM 519 or permission of instructor.
Activity: Lecture
1 Course Unit

MEAM 633 Mechanics of Plastic Flow and Fracture
This course focuses on mechanics aspects of localized plastic flow and fracture. Topics include: yield criteria, plastic flow rules, phenomenological theories, linear analysis of cracks in elastic materials, non-linear analysis of cracks in elastic-plastic materials, fracture parameter and J-integral methods with and applications to strain localization, crack growth, and stability. Micro-mechanical models of strain localization and fracture are analyzed using non-linear elasticity, plane strain slip line incremental elastic-plastic boundary value problems, and energy methods. Applications to various material systems and processes, including layered materials, forming, friction and wear, and contact.
Course not offered every year
Prerequisites: Background equivalent to MEAM 519 and ENM 510
Activity: Lecture
1 Course Unit

MEAM 634 Rods and Shells
This course is intended for 2nd year graduate students and introduces continuum mechanics theory of rods and shells with applications to structures and to biological systems as well as stability and buckling. The course begins with topics from differential geometry of curves and surfaces and the associated tensor analysis on Riemannian spaces. A brief introduction to variational calculus is included since variational methods are a powerful tool for formulating approximate structural mechanics theories and for numerical analysis. The structural mechanics theories of rods, plates and shells are introduced including both linear and nonlinear theories.
Course not offered every year
Prerequisites: First-year graduate-level applied mathematics for engineers (ENM 510 and 511) and a first course in continuum mechanics or elasticity or permission of instructor.
Activity: Lecture
1 Course Unit
MEAM 635 Composite Materials
This course deals with the prediction of the average, or effective properties of composite materials. The emphasis will be on methods for determining effective behavior. The course will be concerned mostly with linear mechanical and physical properties, with particular emphasis on the effective conductivity and elastic moduli of multi-phase composites and polycrystals. However, time-dependent and non-linear properties will also be discussed.
Course not offered every year
Prerequisite: ENM 510
Corequisite: ENM 511
Activity: Lecture
1 Course Unit

MEAM 637 Modern Applications of Dynamics
This course is targeted at engineering, physical science, computational and mathematics Ph.D. students. The course focuses on techniques for the simulation/modeling of materials on a time and/or length scale that is large compared with atomistic/molecular but with structure that is fine on the scale of typical (homogenized) continuum theory. The course explores kinetic models, defect dynamics, and statistical mechanics models and their implementation in computer simulation.
One-term course offered either term
Also Offered As: AMCS 637, MSE 637
Activity: Lecture
1 Course Unit
Notes: When demand permits.

MEAM 642 Advanced Fluid Mechanics
Fluid mechanics as a vector field theory; basic conservation laws, constitutive relations, boundary conditions, Bernoulli theorems, vorticity theorems, potential flow. Viscous flow; large Reynolds number limit; boundary layers.
One-term course offered either term
Activity: Lecture
1 Course Unit

MEAM 646 Computational Mechanics
The course is divided into two parts. The course first introduces general numerical techniques for elliptical partial differential equations - finite difference method, finite element method and spectral method. The second part of the course introduces finite volume method. SIMPLER formulation for the Navier-Stokes equations will be fully described in the class. Students will be given chances to modify a program specially written for this course to solve some practical problems in heat transfer and fluid flows.
Course not offered every year
Prerequisites: ENM 510, ENM 511, and one graduate level introductory course in mechanics. FORTRAN or C programming experience is necessary.
Activity: Lecture
1 Course Unit

MEAM 647 Fundamentals of Complex Fluids
Complex fluids are a broad class of materials. They are usually homogeneous at the macroscopic scale and disordered at the microscopic scale, but possess structure at an intermediate scale. The macroscopic behavior of these fluids is controlled by the fluid intermediate scale. This course will cover the basic concepts of structure, dynamics, and flow properties of polymers, colloids, liquid crystals, and other substances with both liquid and solid-like characteristics. Both the experimental and theoretical aspects of rheology will be discussed. The basic forces influencing complex fluid rheology will be outlined and discussed. These include van der Waals, electrostatic, excluded volume and other interactions. Methods for characterizing structure will be covered including scattering techniques, optical microscopy. Examples will focus on several types of complex fluids such as polymeric solutions and melts, emulsions & foams, gelling systems, suspensions and self-assembling fluids.
Course not offered every year
Prerequisites: ENM 510, MEAM 530 or MEAM 570, or permission of the instructor
Activity: Lecture
1 Course Unit

MEAM 650 Mechanics of Soft and Biomaterials
One-term course offered either term
Also Offered As: MSE 650
Activity: Lecture
1 Course Unit

MEAM 662 Advanced Molecular Thermodynamics
This course begins with a brief review of classical thermodynamics, including the development of Maxwell relationships and stability analysis. The remainder of the course develops the fundamental framework of statistical mechanics, then reviews various related topics including ideal and interacting gases, Einstein and Debye models of crystals, lattice models of liquids, and the basis of distribution function theory.
Course usually offered in fall term
Also Offered As: BE 662, CBE 618
Activity: Lecture
1 Course Unit

MEAM 663 Entropic Forces in Biomechanics
This course is targeted for engineering/physics students working in the areas of nano/bio technology. The course will start with a quick review of statistical mechanics and proceed to topics such as Langevin dynamics, solution biochemistry (Poisson-Boltzmann and Debye-Huckel theory), entropic elasticity of bio-polymers and networks, reaction rate kinetics, solid state physics and other areas of current technological relevance. Students will be expected to have knowledge of undergraduate mechanics, physics and thermodynamics.
Course not offered every year
Activity: Lecture
1 Course Unit

MEAM 690 Advanced Topics in Thermal Fluid Science or Energy
This course will be offered when demand permits. The topics will change due to the interest and specialties of the instructor(s). Some topics could include: Computational Fluid Mechanics, Visualization of Computational Results, Free Surface Flows, Fluid Mechanics of the Respiratory System, and transport in Reacting Systems.
Course not offered every year
Activity: Lecture
1 Course Unit
MEAM 691 Special Topics in Mechanics of Materials
This course will be offered when demand permits. The topics will change due to the interests and specialties of the instructor(s). Some topics could include: Compliant Mechanisms, Optimal Control, and Fluid-Structure interaction.
Course not offered every year
Activity: Lecture
1 Course Unit

MEAM 692 Topics in Mechanical Systems
This course will be offered when demand permits. The topics will change due to the interests and specialties of the instructor(s). Some topics could include: Electromagnetics, Control Theory, and Micro-Electro-Mechanical Systems.
Course not offered every year
Activity: Lecture
1 Course Unit

MEAM 699 MEAM Seminar
The seminar course has been established so that students get recognition for their seminar attendance as well as to encourage students to attend. Students registered for this course are required to attend weekly departmental seminars given by distinguished speakers from around the world. There will be no quizzes, tests, or homeworks. The course will be graded S/U. In order to obtain a satisfactory (S) grade, the student will need to attend more than 70% of the departmental seminars. Participation in the seminar course will be documented and recorded on the students transcript. In order to obtain their degree, doctoral students will be required to accumulate six seminar courses and MS candidates (beginning in the Fall 2001) two courses. Under special circumstances, i.e. in case of conflict with a course, the student may waive the seminar requirement for a particular semester by petition to the Graduate Group Chair.
One-term course offered either term
Activity: Seminar
1 Course Unit

MEAM 895 Teaching Practicum
This course provides training in the practical aspects of teaching. The students will attend seminars emphasizing teaching and communication skills, deliver demonstration lectures, lead recitations, lead tutorials, supervise laboratory experiments, develop instructional laboratories, develop instructional material, prepare and grade homework; grade laboratory reports, and prepare and grade examinations. Some of the recitations will be supervised and feedback and comments will be provided to the student by the faculty responsible for the course. At the completion of the 0.5 c.u. of teaching practicum, the student will receive a Satisfactory/Unsatisfactory grade and a written evaluation signed by the faculty member responsible for the course. The evaluation will be based on comments of the students taking the course and the impressions of the faculty in charge.
One-term course offered either term
Activity: Lecture
0.5 Course Units

MEAM 899 Independent Study
For students who are studying specific advanced subject areas in mechanical engineering and applied mechanics. Before the beginning of the term, the student must submit a proposal outlining and detailing the study area, along with the faculty supervisor's consent, to the graduate group chair for approval. At the conclusion of the independent study, the student should prepare a brief report.
One-term course offered either term
Activity: Independent Study
1 Course Unit

MEAM 990 Masters Thesis
Master's Thesis
Activity: Masters Thesis
1 Course Unit

MEAM 995 Dissertation
Activity: Dissertation
1 Course Unit

MEAM 999 Thesis/Dissertation Research
For students working on an advanced research program leading to the completion of master's thesis or Ph.D. dissertation requirements.
One-term course offered either term
Activity: Independent Study
1 Course Unit
Notes: Both terms.

Military Science (MSCI)

MSCI 101 Basic Leadership I Laboratory/Practicum
Provides hands-on experience to reinforce leadership fundamentals, while emphasizing increased awareness of and proficiency in military skills.
Course usually offered in fall term
Corequisites: Enrollment in MSCI 110 Basic Leadership I Lecture required.
Activity: Laboratory
0 Course Units
Notes: 1 h. No credit, or as awarded by cross-enrolled schools

MSCI 102 Basic Leadership I Laboratory/Practicum
Provides hands-on experience to reinforce leadership fundamentals, while emphasizing increased awareness of and proficiency in military skills.
Course usually offered in spring term
Corequisites: Enrollment in MSCI 120 Basic Leadership I Lecture required.
Activity: Laboratory
0 Course Units
Notes: 1 h. No credit, or as awarded by cross-enrolled schools

MSCI 110 Leadership and Personal Development
Introduces students/cadets to the personal challenges and competencies that are critical for effective leadership. Focus is placed on developing basic knowledge and comprehension of the U.S. Army's Leadership Dimensions while gaining a "big picture" understanding of the Army ROTC program, its purpose in the U.S. Army and our nation, and its advantages for the student. Classes are conducted for one hour once each week.
Course usually offered in fall term
Corequisites: Enrollment in MSCI 101 Basic Leadership I Lab required.
Activity: Lecture
1 Course Unit
Notes: 1.00 CU · Credit excluded from full-time calculation.
MSCI 120 Foundations in Leadership
Reviews leadership fundamentals such as setting direction, problem solving, listening, presenting briefs, providing feedback and using effective writing skills. Students/cadets are also exposed to key fundamentals of skills required to be successful as an MS II cadet; namely military map reading and land navigation, and small unit operations/leadership drills.
Course usually offered in spring term
Corequisites: Enrollment in MSCI 102 Basic Leadership I Lab required.
Activity: Lecture
1 Course Unit
Notes: 1.00 CU - Credit excluded from full-time calculation.

MSCI 201 Basic Leadership 2 Laboratory/Practicum
Provides hands-on experience to reinforce leadership fundamentals, while emphasizing increased awareness of and proficiency in military skills.
Basic Course Leadership Laboratory. 2h. Open only to (and required of) students in the associated Military Science course. Series, with different roles for students at different levels in the program. Learn and practice basic skills. Gain insight into Advanced Course in order to make an informed decision whether to apply for it. Build self-confidence and teamwork building leadership skills that can be applied throughout life.
Course usually offered in spring term
Corequisites: Enrollment in MSCI 210 Basic Leadership 2 Lecture required.
Activity: Laboratory
0 Course Units
Notes: 2 h. No credit, or as awarded by cross-enrolled schools.

MSCI 210 Innovative Tactical Leadership
Explores the dimensions of creative and innovative tactical leadership strategies and styles by studying historical case studies and engaging in interactive student exercises. Focus is on continued development of the knowledge of leadership values and attributes through an understanding of rank, uniform, customs and courtesies.
Course usually offered in fall term
Corequisites: Enrollment in MSCI 201 Basic Leadership 2 Laboratory required.
Activity: Lecture
1 Course Unit
Notes: 1.00 CU - Credit excluded from full-time calculation.

MSCI 301 Leadership Laboratory/Practicum 3
Provides hands-on experience to reinforce leadership fundamentals, while emphasizing increased awareness of and proficiency in military skills.
Course usually offered in fall term
Prerequisites: Completion of MSCI 100 and 200 level courses.
Corequisites: Enrollment in MSCI 310 Basic Leadership 3 Lecture required.
Activity: Laboratory
0 Course Units
Notes: 2.5 hours. No credit, or as awarded by cross-enrolled schools.

MSCI 302 Leadership Laboratory/Practicum
Provides hands-on experience to reinforce leadership fundamentals, while emphasizing increased awareness of and proficiency in military skills. ROTC Advanced Camp. A six-week camp conducted at an Army post. Only open to (and required of) students who have completed MS 301 and 302. The student receives pay. Travel, lodging and most meal cost are defrayed by the US Army. The Advanced Camp environment is highly structured and demanding, stressing leadership at small unit levels under varying, challenging conditions. Individual leadership and basic skills performance are evaluated throughout the camp. The leaders and skills evaluations at the camp weigh heavily in the subsequent selection process that determines the type commission and job opportunities given to the student upon graduation from ROTC and the university.
Course usually offered in spring term
Prerequisites: Completion of MSCI 100 and 200 level courses.
Corequisites: Enrollment in MSCI 320 Basic Leadership 3 Lecture required.
Activity: Laboratory
0 Course Units
Notes: 2.5 hours. No credit, or awarded by cross-enrolled schools.

MSCI 310 Leadership in Contact
Uses increasingly intense situational leadership challenges to build cadet awareness and skills in leading small units. Skills in decision-making, persuading, and motivating team members when "in combat" are explored, evaluated, and developed.
Prerequisites: Completion of MSCI 100 and 200 level courses.
Corequisites: Enrollment in MSCI 301 Leadership 3 Lab required.
Activity: Lecture
2 Course Units
Notes: 1.00 CU - Credit excluded from full-time calculation.

MSCI 320 Complex Team Leadership Issues
Challenges cadets with more complex leadership issues to further develop, practice, and evaluate adaptive leadership. Cadets continue to analyze and evaluate their own leadership values, attributes, skills and actions in preparation for the Leadership Development and Assessment Course (LDAC). Primary attention is given to preparation for LDAC and the development of both tactical skills and leadership qualities.
Course usually offered in spring term
Corequisites: Enrollment in MSCI 302 Leadership I Lab required.
Activity: Lecture
1 Course Unit
Notes: 1.00 CU - Credit excluded from full-time calculation.
MSCI 401 Leadership Laboratory/Practicum
Provides hands-on experience to reinforce leadership fundamentals, while emphasizing increased awareness of and proficiency in military skills. Course usually offered in fall term
Prerequisites: Completion of MSCI 100, 200 and 300 level courses.
Corequisites: Enrollment in MSCI 410 Leadership 4 Lecture required.
Activity: Laboratory
0 Course Units
Notes: 1.00 CU - credit excluded from full-time calculation.

MSCI 402 Leadership Laboratory/Practicum
Provides hands-on experience to reinforce leadership fundamentals, while emphasizing increased awareness of and proficiency in military skills. Advance Course Leadership Laboratories. 2h. Open only to students in the associated Military Science course. Series, with different roles for students at different levels in the program. Involves leadership responsibilities for the planning, coordination, execution and evaluation of various training and activities with Basic Course students and for the ROTC program as a whole. Students develop, practice and refine leadership skills by serving and being evaluated in a variety of responsible positions.
Course usually offered in spring term
Prerequisites: Completion of MSCI 100, 200 and 300 level courses.
Corequisites: Enrollment in MSCI 420 Basic Leadership 4 Lecture required.
Activity: Laboratory
0 Course Units
Notes: 2.5 hours. No credit, or as awarded by cross-enrolled schools.

MSCI 410 Developing Adaptive Leaders
Develops cadet proficiency in planning, executing, and assessing complex operations, functioning as a member of a staff, and providing leadership performance feedback to subordinates. Cadets are given situational opportunities to assess risk, make ethical decisions, and provide coaching to fellow ROTC cadets.
Course usually offered in fall term
Prerequisites: Completion of MSCI 100, 200 and 300 level courses.
Corequisites: Enrollment in MSCI 401 Leadership 4 Lab required.
Activity: Lecture
1 Course Unit
Notes: 1.00 CU - credit excluded from full-time calculation.

MSCI 420 Leadership in the Contemporary Operating Environment of the 21st Century
Explores the dynamics of leading in the complex situations of current military operations. Cadets examine differences in customs and courtesies, military law, principles of war, and rules of engagement in the face of international terrorism. Aspects of interacting with non-government organizations, civilians on the battlefield, and host nation support are examined and evaluated.
Prerequisites: Completion of MSCI 100, 200 and 300 level courses.
Corequisites: Enrollment in MSCI 402 Leadership I Lab required.
Activity: Lecture
2 Course Units
Notes: 1.00 CU - Credit excluded from full-time calculation.

Music (MUSC)

MUSC 005 College Music Program
Private study in voice, keyboard, strings, woodwind, brass, percussion, and non-western instruments. Such study is designed to meet the artistic, technical, and/or professional needs of the student. Note: This is not a syllabus. Course requirements and assessment will be determined by the private instructor. Private lessons in the College House Music cannot be taken Pass/Fail. Please visit http://www.sas.upenn.edu/music/performance. Students cannot register through Penn In Touch. Registration will be maintained by the music department upon receipt of application and instructor permission.
Activity: Studio
0.5 Course Units
Notes: Permits will be entered after student completes College Music House form. Forms available in Music department.

MUSC 007 Ensemble Performance
Successful participation in a music department sponsored group. Ensemble groups: University Orchestra, University Wind Ensemble, Choral Society, University Choir, Ancient Voices, Baroque and Recorder Ensemble, Chamber Music Society, Arab Music Ensemble, Samba and Jazz Combo. This course must be taken for a letter grade (Pass/Fail registration option may not be utilized for this course).
One-term course offered either term
Activity: Studio
0.5 Course Units
Notes: Please contact Ensemble Director if you are interested in taking Music 007 for credit.

MUSC 010 Applied Music
Instruction in vocal and instrumental performance for music majors and minors only. Students must demonstrate in an audition that they have already attained an intermediate level of musical performance.
Two terms. student must enter first term.
Prerequisite: Must be a music major or minor
Activity: Lecture
0.5 Course Units

MUSC 016 Freshman Seminar
The primary goal of the freshman seminar program is to provide every freshman the opportunity for a direct personal encounter with a faculty member in a small setting devoted to a significant intellectual endeavor. Specific topics will be posted at the beginning of each academic year. Please see the College Freshman seminar website for information on current course offerings http://www .college.upenn.edu/courses/ seminars/freshman.php. Fulfills Arts and Letters sector requirement.
Course not offered every year
Also Offered As: AFRC 016, AFST 016, COML 015
Activity: Seminar
1 Course Unit

MUSC 018 Freshman Seminar
The primary goal of the freshman seminar program is to provide every freshman the opportunity for a direct personal encounter with a faculty member in a small setting devoted to a significant intellectual endeavor. Specific topics be posted at the beginning of each academic year. Please see the College Freshman seminar website for information on current course offerings http:// www.college.upenn.edu/courses/seminars/ freshman.php.
Course not offered every year
Also Offered As: URBS 018
Activity: Seminar
1 Course Unit
MUSC 030 1000 Years of Musical Listening
We know that we like music and that it moves us, yet it is often difficult to pinpoint exactly why, and harder still to explain what it is we are hearing. This course takes on those issues. It aims to introduce you to a variety of music, and a range of ways of thinking, talking and writing about music. The majority of music dealt with will be drawn from the so-called "Classical" repertoire, from the medieval period to the present day, including some of the 'greats' such as Handel, Beethoven, Mozart, Berlioz, and Verdi, but will also introduce you to music you will most likely never have encountered before. This course will explore the technical workings of music and the vocabularies for analyzing music and articulating a response to it; it also examines music as a cultural phenomenon, considering what music has meant for different people, from different societies across the ages and across geographical boundaries. As well as learning to listen ourselves, we will also engage with a history of listening. No prior musical knowledge is required. (Formerly Music 021). Fulfills College Cross Cultural Foundational Requirement.
For BA Students: Arts and Letters Sector
Taught by: Calcagno, Caldwell, Goodman
One-term course offered either term
Activity: Lecture
1 Course Unit
Notes: Open to all students

MUSC 031 Symphony
This course will focus on a specific repertoire of representative symphonies by such composers as Haydn, Mozart, Beethoven, Schubert, Berlioz, Schumann, Brahms, Tchaikowsky, and Mahler. Historical developments will be considered, along with the effects upon symphonic literature of such major sociological changes as the emergence of the public concert hall. But the emphasis will be on the music itself—particularly on the ways we can sharpen our abilities to engage and comprehend the composers’ musical rhetoric. Topics will alternate term to term. Fulfills College Cross Cultural Foundational Requirement.
Taught by: Bernstein
One-term course offered either term
Activity: Lecture
1 Course Unit

MUSC 032 Composers
This course will center on the biography, works, and cultural context of a specific composer or group of composers. As well as introducing students to the musical works of the composer(s), the course will examine issues such as reception history, the canon, mechanisms of cult formation, authorship and attribution, identity, historical and social contexts, and nationalism and patriotism. Fulfills College Cross Cultural Foundational Requirement.
For BA Students: Arts and Letters Sector
Taught by: Calcagno, Caldwell, Goodman, Kallberg
Course not offered every year
Activity: Lecture
1 Course Unit

MUSC 033 History of Opera
An investigation, through a series of representative works, of the central problem of opera: how does the combination of music, text, and visual spectacle create an art form in which the whole is more powerful than its parts. Today this issue can be examined not only in live performances but also through media such as film, DVD, streaming video--media to which this four-centuries-old multimedia form has adapted, evolving in still compelling ways. The works chosen for the course provide a chronological survey but also represent the variety of sources on which opera has drawn for its subject matter: myth and legend, the epic, the novel, and the play.
For BA Students: Arts and Letters Sector
Taught by: Calcagno, Goodman
Course not offered every year
Activity: Lecture
1 Course Unit

MUSC 034 Music Makers
Courses under this number will treat composer performers and performance. Courses will include a class on Haydn and Mozart (formerly 027); Beethoven (Formerly 028; and Mahler (formerly 025).
Taught by: Caldwell, Goodman, Kallberg
Activity: Lecture
1 Course Unit

MUSC 035 Jazz Style and History
Notes: This course is an exploration of the family of musical idioms called jazz. Attention will be given to issues of style development, selective musicians, and to the social and cultural conditions and the scholarly discourses that have informed the creation, dissemination and reception of this dynamic set of styles from the beginning of the 20th century to the present. Fulfills Cultural Diversity in the U.S.

MUSC 036 Popular Music
This course traces the history of popular music in America from the nineteenth century to the present. We will start with parlor songs and social class and the racialized rise of minstrelsy in the antebellum period, track the separation of highbrow and lowbrow culture in the 19th century, explore the explosion of new styles in the early twentieth century, and witness the birth of hugely influential genres such as rock n roll in the 1950s and hip hop in the 1970s and 1980s. Throughout the semester we will consider how popular music intersects with and reflects individual and social identity, particularly in terms of race, class, gender, and sexuality. Students will engage intensively with popular songs and pieces while also gaining a firm grounding in the historical and social forces of which music was a part.
Taught by: Goodman
Course not offered every year
Activity: Lecture
1 Course Unit
MUSC 046 Urban Sound Studies
Sound is all around us and shapes almost every aspect of our everyday days, and yet, in comparison to our rich descriptions of visual culture, we often lack the explanatory power to analyze and assess the overwhelming influence of the sonic. This introduction to sound studies course will combine a rigorous conceptual and a creative, hands-on approach. We will explore how sound and auditory cultures have been theorized, how soundscapes shape built environments and transform social relations, and how technologies have affected our relationships to sound. The course will focus on urban spaces. Cutting across disciplinary, historical and geographical boundaries, we will cover themes including sound-reproduction and mobile technologies, sonic consumption, noise regulation, protest, the politics of listening under Trumpism. We will encounter a wide variety of materials from literary texts to mobile apps and video games, not to mention a vast range of sounds drawn from fieldwork around the world from Las Vegas to Shanghai, Paris to Johannesburg. Alongside written work, you will make fieldwork recordings on the streets of Philadelphia and develop creative projects using media of your choice to reflect upon urban sound.
Taught by: Waltham Smith
Course not offered every year
Also Offered As: URBS 046
Activity: Lecture
1 Course Unit

MUSC 048 Voicing Politics/Politicizing Voices
What does it mean to have a voice? To raise your voice? To have your voice heard? What do our voices say about us and what do they fail to communicate? How we speak and how our voices are perceived impact our interactions in daily life, our participation in the political sphere, and our capacity to effect change through activism. This CWiC course explores the parameters by which voice is defined in the context of music and sound studies, social justice, philosophy, and media and communication studies. We will consider how voice embodies our political constitution through an examination of the vocal practices of artists such as Tanya Tagaq, Anohni, Juliana Huxtable, Laurie Anderson, Sikh Knowledge, and Lucas Silveira; the phenomena of voice-activated devices such as Apple’s Siri and Amazon’s Echo; and the collective voices of movements such as Black Lives Matter and the Standing Rock water protectors. Through individual and group presentations, discussions, and creative projects, this critical speaking seminar encourages students to develop their oral communication skills while examining what informs their individual and collective voices. No previous musical training required. Enrollment limited to 16.
Taught by: Murphy
Course not offered every year
Also Offered As: GSWS 048
Activity: Lecture
1 Course Unit
Notes: Fulfills CWiC requirements. May be used towards music minor requirements.

MUSC 050 World Musics and Cultures
This course examines how we as consumers in the "Western" world engage with musical difference largely through the products of the global entertainment industry. We examine music cultures in contact in a variety of ways—particularly as traditions in transformation. Students gain an understanding of traditional music as live, meaningful person-to-person music making, by examining the music in its original site of production, and then considering its transformation once it is removed, and recontextualized in a variety of ways. The purpose of the course is to enable students to become informed and critical consumers of "World Music" by telling a series of stories about particular recordings made with, or using the music of, peoples culturally and geographically distant from the US. Students come to understand that not all music downloads containing music from unfamiliar places are the same, and that particular recordings may be embedded in intriguing and controversial narratives of production and consumption. At the very least, students should emerge from the class with a clear understanding that the production, distribution, and consumption of world music is rarely a neutral process.
Fulfills College Cross Cultural Foundational Requirement.
For BA Students: Arts and Letters Sector
Taught by: Muller,Rommen,Sykes
One-term course offered either term
Also Offered As: AFRC 050, AFST 050, ANTH 022, FOLK 022
Activity: Lecture
1 Course Unit

MUSC 051 Music of Africa
African Contemporary Music: North, South, East, and West. Come to know contemporary Africa through the sounds of its music: from South African kwela, jazz, marabi, and kwaito to Zimbabwean chimurenga; Central African soukous and pygmy pop; West African Fuji, and North African rai and hophop. Through reading and listening to live performance, audio and video recordings, we will examine the music of Africa and its intersections with politics, history, gender, and religion in the colonial and post colonial era. (Formerly Music 053). Fulfills College Cross Cultural Foundational Requirement.
Taught by: Muller
Course not offered every year
Also Offered As: AFRC 053, AFST 053, COML 053
Activity: Lecture
0 Course Units
**MUSC 056 Seeing/Hearing South Africa: Politics and History through Contemporary Performance**
This course begins in the spring—students engage with South African performance and political history; the history of the festival in Grahamstown; and listen closely to the history of South African jazz. They are given guidelines for writing about live performances; students discuss program choices; and spend some time talking about travel to South Africa and the lived experience of two weeks at the National Arts Festival. Everyone travels to the National Arts Festival in late June and spends two weeks attending live performances (4-6 per day), blogging on the performances, and discussing these experiences with the Professor & fellow students. We visit a game park and do a "township tour" as part of the two weeks in the Eastern Cape. On returning home, students have about 4 weeks to write a substantial paper on the festival experience. While this is primarily a music class, the National Arts Festival includes all kinds of performance—theater, music, dance, and visual arts. This is two weeks of total immersion in the arts, and thinking deeply about the place of the arts in contemporary life and society. For BA Students: Arts and Letters Sector Taught by: Muller Course not offered every year Also Offered As: AFRC 056, AFST 056, COML 056, MUSC 556 Activity: Seminar 1 Course Unit

**MUSC 060 Beginning Tabla I**
An introduction to the tabla, the premier drum of north Indian and Pakistani classical music traditions. Course not offered every year Also Offered As: SAST 104 Activity: Lecture 1 Course Unit

**MUSC 061 Indian Musical Performance A: Elementary**
Introduction to the fundamentals of Indian music; instruction in performance on the sitar. Taught by: Nalbandian One-term course offered either term Also Offered As: SAST 106 Activity: Lecture 1 Course Unit

**MUSC 062 Beginning Tabla II**
Continued study in Tabla Course usually offered in spring term Also Offered As: SAST 105 Activity: Lecture 1 Course Unit

**MUSC 063 Beginning Sitar II**
Taught by: Nalbandian One-term course offered either term Also Offered As: SAST 107 Activity: Lecture 1 Course Unit Notes: Continuation of MUSC 061

**MUSC 064 Beginning Sitar III**
Taught by: Nalbandian Also Offered As: SAST 108 Activity: Lecture 1 Course Unit

**MUSC 065 Beginning Sitar IV**
Taught by: Nalbandian Also Offered As: SAST 109 Activity: Lecture 1 Course Unit

**MUSC 066 Beginning Sitar V**
Taught by: Nalbandian Also Offered As: SAST 110 Activity: Lecture 1 Course Unit

**MUSC 067 Beginning Sitar VI**
Taught by: Nalbandian Also Offered As: SAST 111 Activity: Lecture 1 Course Unit

**MUSC 068 Beginning Sitar VII**
Taught by: Nalbandian Also Offered As: SAST 112 Activity: Lecture 1 Course Unit

**MUSC 069 Beginning Sitar VIII**
Taught by: Nalbandian Also Offered As: SAST 113 Activity: Lecture 1 Course Unit

**MUSC 070 Introduction to Theory and Musicianship: Making Sense of Music.**
This course will cover basic skills and vocabulary for reading, hearing, performing, analyzing, and writing music. Students will gain command of musical rudiments, including notation, reading and writing in treble and bass clefs, intervals, keys, scales, triads and seventh chords, and competence in basic melodic and formal analysis. The course will include an overview of basic diatonic harmony, introduction to harmonic function and tonicization. Musicianship skills will include interval and chord recognition, rhythmic and melodic dictation and familiarity with the keyboard. There will be in-depth study of selected compositions from the "common practice" Western tradition, including classical, jazz, blues and other popular examples. Listening skills—both with scores (including lead sheets, figured bass and standard notation), and without—will be emphasized. There is no prerequisite. Students with some background in music may place out of this course and into Music 170, Theory and Musicianship I. (Formerly Music 70, 71). Fulfills College Formal Reasoning and Analysis Foundational Requirement. Taught by: Waltham-Smith, Weesner One-term course offered either term Prerequisites: There is no prerequisite. Students with some background in music may place out of this course and into Music 170, Theory and Musicianship I. Activity: Lecture 1 Course Unit

**MUSC 080 Literatures of Jazz**
That modernism is steeped as much in the rituals of race as of innovation is most evident in the emergence of the music we have come to know as jazz, which results from collaborations and confrontations taking place both across and within the color line. In this course we will look at jazz and the literary representations it engendered in order to understand modern American culture. We will explore a dizzying variety of forms, including autobiography and album liner notes, biography, poetry, fiction, and cinema. We'll examine how race, gender, and class influenced the development of jazz music, and then will use jazz music to develop critical approaches to literary form. Students are not required to have a critical understanding of music. Class will involve visits from musicians and critics, as well as field trips to some of Philadelphias most vibrant jazz venues. Course not offered every year Also Offered As: ENGL 080 Activity: Lecture 1 Course Unit

**MUSC 081 Film Sound and Film Music**
This course is an introduction to classic film scores, music written for movies from the late 1920s to the 1960s. At the same time, we will deal with film sound in general: the technology that made silent movies talk, the rules and tricks of sound and music production for film, and the scientific and aesthetic theories behind different approaches to the soundtrack. One goal of the course is for students to learn to listen analytically to what is heard on a soundtrack. Another is to get a sense for the ways that European classical music (opera and symphony) influenced and continues to influence film composers. Students do not need to read music for this course: we deal with film music on an aural basis and look at musical notation occasionally. Some Musical background (for example, playing an instrument) could be helpful. Taught by: Waltham Smith Also Offered As: CIMS 070, FNAR 070 Activity: Seminar 1 Course Unit
MUSC 082 African-American Lit
Course not offered every year
Also Offered As: AFRC 081, ENGL 081, GSWS 081
Activity: Lecture
1 Course Unit

MUSC 099 Guided Research
Individual research under the supervision of a member of the faculty.
One-term course offered either term
Activity: Independent Study
1 Course Unit

MUSC 130 Introduction to European Art Music
This course aims to introduce students to what it means to study the European musical tradition. Students will approach the diverse music that constitute the classical tradition from a variety of scholarly perspectives. The goal of this class is to listen deeply and think broadly.
Students will consider questions such as: what sort of object is music? Where is it located? What does it mean to say a work is "canonic"? What is left out of the story? This class will be in dialog with other tier-one classes, and will consider what the historian can bring to the study and understanding of music.
For BA Students: Arts and Letters Sector
Taught by: Calcagno, Caldwell, Goodman, and Kallberg
Course not offered every year
Prerequisite: Music 070
Activity: Lecture
1 Course Unit
Notes: Fulfills the requirements of the Music Major. Music 070 prerequisite.

MUSC 135 Introduction to the Music Life in America
This course surveys American musical life from the colonial period to the present. Beginning with the music of Native Americans, the European legacy, and the African Diaspora, the course treats the singular social and political milieu that forged the profile of America's musical landscape.
Attention will be given to the establishment of the culture industry and to various activities such as sacred music, parlor music, concert and theater music, the cultivation of oral traditions, the appearance of jazz, the trajectory of western art music in the United States, and the eventual global dominance of American popular music. Music 070 prerequisite. Preference given to music Majors and Minors. Fulfills the Cultural Diversity in the U.S. College Requirement.
Taught by: Ramsey, Goodman
Course not offered every year
Prerequisite: Music 070
Activity: Lecture
1 Course Unit
Notes: Required of music majors.

MUSC 150 Introduction to Ethnomusicology
This course introduces students to the field of ethnomusicology through a series of case studies that explore a range of traditional, popular, and art musics from around the world. The course takes as a point of departure several works of musical ethnography, musical fiction, and musical autobiography and, through in-depth reading of these texts, close listening to assigned sound recordings, and in-class case studies, generates a context within which to think and write about music. Fulfills College Cross Cultural Analysis Foundational Requirement.
Taught by: Muller, Rommen, Sykes
Course not offered every year
Activity: Lecture
1 Course Unit
Notes: Fulfills the requirements of the Music Major.
MUSC 231 Historical Eras and Topics: Later Periods
This course offers an in-depth look at topics and repertoires of the eighteenth century to today. Classes focus on one (or more) of four historical epochs: Enlightenment, Romantic, Modern, and Postmodern. The purpose of this course is to give students the opportunity to engage deeply with musical works historically, analytically and contextually, in addition to introducing a range of methodologies within the historical study of music. (Formerly 123, 124).
Taught by: Goodman, Kallberg, Ramsey
Activity: Lecture
1 Course Unit

MUSC 232 Themes in Music History
In this course, students will have the opportunity to explore music history from a thematic or conceptual perspective, frequently through several eras. Past themes organizing the course include the Voice, the Sacred, Uncanny, Technology, Instruments, Orality and Literacy, and Machines.
Taught by: Calcagno, Caldwell, Goodman, Kallberg, Ramsey
Course not offered every year
Activity: Lecture
1 Course Unit

MUSC 233 Musical Thought and Scholarship
This course will introduce students to the field of music philosophy, aesthetics and intellectual history.
Activity: Lecture
1 Course Unit

MUSC 234 Music Makers
Courses under this number will treat composer, performers, and performance. This class may also on occasion have a performance component, including collaborations with local performance venues, artists in residence. Courses will include a class on Haydn and Mozart (formerly 027); Beethoven (formerly 28); Mahler (formerly 25); Monks and Nuns; String Quartets.
Taught by: Calcagno, Caldwell, Goodman, Kallberg, Ramsey
Course not offered every year
Activity: Lecture
1 Course Unit

MUSC 235 Studies in African-American Music
This course explores aspects of the origins, style development, aesthetic philosophies, historiography, and contemporary conventions of African-American musical traditions. Topics covered include: the music of West and Central Africa, the music of colonial America, 19th century church and dance music, minstrelsy, music of the Harlem Renaissance, jazz, blues, gospel, hip-hop, and film music. Special attention is given to the ways that black music produces "meaning" and how the social energy circulating within black music articulates myriad issues about American identity at specific historical moments. The course will also engage other expressive art forms from visual and literary sources in order to better position music making into the larger framework of African American aesthetics. (Formerly Music 146).
Taught by: Ramsey
Course not offered every year
Also Offered As: AFRC 147, FOLK 106
Activity: Lecture
1 Course Unit

MUSC 236 Performance, Analysis, History
Participation in the course is contingent upon a successful audition. This course must be taken for a letter grade (pass/fail option may not be utilized for this course). This weekly seminar will explore music from the past and present through class discussions of performance, historical context, and analytical aspects of the music led by a professor and/or performer. One example of a class in this number will be an indepth study of chamber music repertoire led by the Daedalus Quartet. Students will prepare for a final performance at the end of the semester as well as a paper/presentation. Students interested in this applied approach to music may also wish to take 256 and/or 276.
Taught by: Weesner
Course not offered every year
Prerequisites: Music 170, 171, and 270
Activity: Lecture
1 Course Unit

MUSC 239 Guided Reading in Musicology
Individual research under the supervision of a member of the faculty.
Students who take Music 239 may not take Music 259 or 279.
Prerequisite 130 and one other class from tier 1 or 2. Student must complete one guided Reading Course in order to be eligible for departmental honors.
One-term course offered either term
Prerequisites: Musc 130 or 135, and 170
Activity: Independent Study
1 Course Unit

MUSC 252 Music of South and Southeast Asia
What role does music play in articulating religious identities and spaces? What is the importance of ritual musics as they persist and change in the modern world? How does music reflect and articulate religious ways of thinking and acting? In this course, we explore these and other questions about the interrelations between music, religion, and ritual in South and Southeast Asia. Focusing on India, Sri Lanka, Malaysia, and Indonesia, the course emphasizes musics from Hindu, Buddhist, Muslim and Christian traditions; nevertheless, it draws widely to touch upon sacred musics in Pakistan, Nepal, Burma, Thailand, Vietnam, and among some indigenous peoples in the region. Throughout, we explore ontologies of sound; sonic occurrences in religious structures, public processions, and pilgrimage sites; the construction of religion and ritual as ideas forged through colonial encounter and modern scholarship on religion; the politics of sacred sounds in today’s public spaces and contemporary media, such as television and online; and the surprising fluidity between popular and sacred musical genres.
Taught by: Sykes
Also Offered As: ANTH 242, SAST 252
Activity: Lecture
1 Course Unit
MUSC 255 Accordions of the New World
This course focuses on the musical genres and styles (both traditional and popular) that have grown up around the accordion in the New World. We will begin our explorations in Nova Scotia and move toward the Midwest, travelling through the polka belt. From there, our investigation turns toward Louisiana and Texas–toward zydeco, Cajun, and Tex-Mex music. We will then work our way through Central and South America, considering norteno, cumbia, vallenato, tango, chamame, and forro. Our journey will conclude in the Caribbean, where we will spend some time thinking about merengue and rake-n-scrape music. Throughout the semester, the musical case studies will be matched by readings and film that afford ample opportunity to think about the ways that music is bound up in ethnicity, identity, and class. We will also have occasion to think about the accordion as a multiply meaningful instrument that continues to be incorporated into debates over cultural politics and mobilized as part of strategies of representation through the New World. (Formerly Music 157).
Taught by: Rommen
Course not offered every year
Also Offered As: AFRC 157, FOLK 157, LALS 157
Activity: Lecture
1 Course Unit

MUSC 256 Music and Performance of Africa
This class provides an overview of the most popular musical styles and discussion of the cultural and political contexts in which they emerged in contemporary Africa. Learning to perform a limited range of African music/dance will be part of this course. No prior performance experience required. (Formerly Music 253).
Taught by: Muller
Course not offered every year
Also Offered As: AFRC 253, AFST 253, ANTH 263, FOLK 253
Activity: Lecture
1 Course Unit

MUSC 257 Caribbean Music and Diaspora
This course considers Caribbean musics within a broad and historical framework. Caribbean musical practices are explored by illustrating the many ways that aesthetics, ritual, communication, religion, and social structure are embodied in and contested through performance. These initial inquiries open onto an investigation of a range of theoretical concepts that become particularly pertinent in Latin American contexts—concepts such as post-colonialism, migration, ethnicity, and globalization. Throughout the course, we will listen to many different styles and repertories of music and then work to understand them not only in relation to the readings that frame our discussions but also in relation to our own, North American contexts of music consumption and production. (Formerly Music 158).
Taught by: Rommen
Course not offered every year
Also Offered As: AFRC 158, LALS 158
Activity: Lecture
1 Course Unit

MUSC 258 Latin American Music
This survey course considers Latin American musics within a broad cultural and historical framework. Latin American musical practices are explored by illustrating the many ways that aesthetics, ritual, communication, religion, and social structure are embodied in and contested through performance. These initial inquiries open onto an investigation of a range of theoretical concepts that become particularly pertinent in Latin American contexts—concepts such as post-colonialism, migration, ethnicity, and globalization. Throughout the course, we will listen to many different styles and repertories of music and then work to understand them not only in relation to the readings that frame our discussions but also in relation to our own, North American contexts of music consumption and production. (Formerly Music 158).
Taught by: Rommen
Course not offered every year
Also Offered As: AFRC 158, LALS 158
Activity: Lecture
1 Course Unit

MUSC 259 Guided Research Ethnomusicology
Individual research under the supervision of a member of the faculty. Students who take Music 259 may not take 239 or 279.
One-term course offered either term
Prerequisites: Music 150 and 170.
Activity: Independent Study
1 Course Unit

MUSC 265 Performing Arts in South Asia
This course is a survey of selected traditions of theater, music, and dance in India and surrounding regions. Topics include ritual practices, theater, classical dance, classical music, devotional music, regional genres, and contemporary popular musics. Readings and lectures are supplemented by audio and visual materials and live performances. The aim of the course is to expose students to a variety of performance practices from this part of the world and to situate the performing arts in their social and cultural contexts. The course has no prerequisites.
For BA Students: Arts and Letters Sector
One-term course offered either term
Also Offered As: SAST 005
Activity: Lecture
1 Course Unit

MUSC 266 Music Cult in India & Pak
One-term course offered either term
Also Offered As: SAST 116
Activity: Lecture
1 Course Unit

MUSC 270 Theory and Musicianship III
Continuation of techniques established in Theory and Musicianship I and II. Concepts will be developed through analysis and model composition. Musicianship component will include advanced sight singing, clef reading, harmonic dictation and keyboard harmony.
Taught by: Moreno, Primosch, Reise, Waltham-Smith, Weesner
Course not offered every year
Prerequisites: Music 170 and 171
Activity: Lecture
1.5 Course Unit
Notes: Required of music majors.
MUSC 271 Composition I: Historical Practices
Studies in selected 16th through 19th century compositional practices. Possible topics may include 16th century modal counterpoint; sonata forms in Viennese classicism; advanced chromatic harmony. Course includes analysis of relevant pieces and student compositional projects reflecting course topic.
Taught by: Primosch, Reise, Waltham-Smith
Course not offered every year
Prerequisites: Music 170, 171, 270
Activity: Lecture
1 Course Unit

MUSC 272 Composition II: Contemporary Practices
Studies in selected 20th and 21st century compositional practices. Possible topics may include symmetry in post-tonal harmony; composing for piano; the sonata in the 20th century. Course includes analysis of relevant pieces and student compositional projects reflecting course topic.
Taught by: Reise
Course not offered every year
Prerequisites: Music 170, 171, 270
Activity: Lecture
1 Course Unit

MUSC 273 Orchestration
An introduction to writing for the instruments of the orchestra. Course will include study of individual instruments and various instrumental combinations, including full orchestra. Representative scores from the 18th century to the present day will be analyzed. Students will be responsible for several scoring projects and will have opportunities to hear readings of their projects. Prerequisite: at least two semesters of music theory or permission of instructor. (Formerly 285).
Taught by: Primosch
Course not offered every year
Prerequisite: Music 70 or 170
Activity: Lecture
1 Course Unit

MUSC 274 Jazz Improvisation
This introductory "hands-on" course survey applies various theoretical approaches to playing specific idioms of jazz and related musical styles. The approach will be eclectic and includes the study of written scores, recordings, live performances, and selected theoretical treatises. (Formerly Music 145).
Taught by: Primosch, Ramsey
Course not offered every year
Prerequisites: Music 70 or 170.
Activity: Lecture
1 Course Unit

MUSC 275 Electronic Music
MUSC 275 offers an introduction to electronic music/sound production with a focus on analogue systems and performance. Guest artists will join us for in-class visits and performances during the semester. Meetings will take place in the classroom, in concert spaces and in the studio. Preference given to Music majors and minors for registration.
Taught by: Lew
Course not offered every year
Prerequisite: Music 070 or 170
Activity: Lecture
1 Course Unit

MUSC 276 Performance and Analysis
Participation in the course is contingent upon a successful audition. This course must be taken for a letter grade (pass/fail option may not be utilized for this course). This weekly seminar will explore music from the past and present through class discussions of performance and analytical aspects of the music led by a professor and/or performer. Compared to Music 236, this class will have a more analytical focus. Students will prepare for a final performance at the end of the semester as well as a paper/presentation. Students interested in this applied approach to music may also wish to take 236 and 256.
One-term course offered either term
Prerequisite: Music 70 or 170
Activity: Seminar
1 Course Unit

MUSC 277 Recording Music
An introduction to music and sound recording with a focus on concerts and live performances. The entire process will be examined from start to finish, including the roles played by composers, musicians, listeners, performance spaces, and recording technology. Meetings will take place in the classroom, in concert spaces and in the studio. Music majors and minors will be given preference for registration.
Taught by: Lew
Course usually offered in fall term
Prerequisites: Music 170.
Activity: Seminar
1 Course Unit
Notes: This course is for Music Majors and minors.

MUSC 279 Guided Research in Theory and Composition
Individual research under the supervision of a member of the faculty. Students who take Music 279 may not take Music 239 or Music 259.
Prerequisites: Music 170, 171 and one other tier 2 class
Activity: Independent Study
1 Course Unit

MUSC 280 Seminar in Ethnomusicology
Advanced seminar in topics in ethnomusicology.
Taught by: Calcagno, Caldwell, Goodman, Kallberg, Ramsey
Course not offered every year
Activity: Seminar
1 Course Unit

MUSC 281 Seminar in Music History
Advanced seminar in topics in musicology.
Taught by: Calcagno, Caldwell, Goodman, Kallberg, Ramsey
Course not offered every year
Activity: Seminar
1 Course Unit

MUSC 282 Seminar in Composition
Advanced seminar in topics in composition.
Taught by: Primosch, Reise, Waltham-Smith
Course not offered every year
Activity: Seminar
1 Course Unit

MUSC 283 Seminar in Theory and Composition
Advanced seminar in topics in music theory and compositions.
Taught by: Waltham-Smith, Weesner, Moreno
Course not offered every year
Activity: Seminar
1 Course Unit
MUSC 398 Study Abroad
Study Abroad
Activity: Lecture
1 Course Unit

MUSC 399 Independent Study
Independent Research Project under faculty supervision
One-term course offered either term
Prerequisites: Music 170, 171, 270
Activity: Lecture
1 Course Unit

MUSC 505 Advanced Chromatic Harmony
Analytical Studies in Harmony. Please see department website https://www.sas.upenn.edu/music/courses for current term course descriptions
Taught by: Reise
Course not offered every year
Activity: Lecture
1 Course Unit

MUSC 508 Advanced Musicianship
Advanced techniques of score reading and general musicianship at the keyboard. Goals of the course include increasing proficiency in sight singing (including C clefs), taking harmonic, melodic, and rhythmic dictations. Accurate performance of rhythms.
Two terms, student must enter first term.
Prerequisites: Reasonable keyboard and sight-reading facility
Activity: Lecture
1 Course Unit

MUSC 515 Analysis of Twentieth-Century Music
Analytical studies of twentieth-century music.
Taught by: Primosch
Course not offered every year
Activity: Seminar
1 Course Unit

MUSC 516 Analysis of 20th Century Music II
Analytical Studies of 20th century music focusing on post World War II music.
Taught by: Primosch, Reise
Course not offered every year
Activity: Lecture
1 Course Unit

MUSC 520 Orchestration
A study of the instruments of the orchestra and their combination.
Frequent written projects.
Taught by: Reise
Course not offered every year
Activity: Lecture
1 Course Unit

MUSC 525 Composition in Selected Forms
Study of the style and form of one genre, composer, or historical period, with emphasis on written projects.
Taught by: Reise
Course not offered every year
Activity: Seminar
1 Course Unit

MUSC 530 Introduction to techniques of electronic composition.
Introduction to techniques of electronic composition.
Taught by: Primosch
Course not offered every year
Activity: Seminar
1 Course Unit

MUSC 600 The Interpretation of Evidence
The nature of evidence; basic methods of musicological research.
Taught by: Bernstein
Course not offered every year
Activity: Seminar
1 Course Unit

MUSC 601 Texts and Material Culture
Topics may include book, manuscript, and print culture; history of the book; history of music notation; codicology and paleography; textual criticism, philology, and editing; encoding and textual technologies; musical bibliographies.
Taught by: Caldwell
Course not offered every year
Activity: Seminar
1 Course Unit

MUSC 602 The Interpretation of Theoretical Treatises
A consideration of theoretical principles based upon the reading and interpretation of selected treatises.
Course not offered every year
Activity: Seminar
1 Course Unit

MUSC 603 Aesthetics and Criticism
Topics may include hermeneutics, methods of formulating value judgements, the relationship of evaluation to interpretation, and the role of aesthetics in history.
Taught by: Kallberg
Course not offered every year
Activity: Seminar
1 Course Unit

MUSC 604 Historiography
Theories and models of historical investigation. Analysis of historiographic writings and musicological works exemplifying particular approaches, such as transnational, environmental/landscape, gender/sexuality, critical race studies, performance studies, archives, and the digital humanities.
Taught by: Calcagno, Caldwell, Goodman
Course not offered every year
Activity: Seminar
1 Course Unit

MUSC 605 Anthropology of Music
Topics may include the intellectual history of ethnomusicology, current readings in ethnomusicology, a consideration of theoretical principles based upon the reading and interpretation of selected monographs, and area studies. Please see department website https://www.sas.upenn.edu/music/courses for current term course descriptions.
Taught by: Muller, Rommen, Sykes
Course not offered every year
Also Offered As: ANTH 605, COML 605, FOLK 605
Activity: Seminar
1 Course Unit

Notes: Open to graduate students from all departments
MUSC 606 The Interpretation of Oral Traditions
Topics may draw on methodologies derived from jazz studies, chant studies, and ethnomusicology. Please see department website https://www.sas.upenn.edu/music/courses for current term course descriptions.
Taught by: Ramsey
Course not offered every year
Also Offered As: AFRC 606, FOLK 616
Activity: Seminar
1 Course Unit

MUSC 610 Musical Notation
Concepts and systems of the notation of medieval and Renaissance music. Chant, monophonic song, and polyphony through the mid-thirteenth century. Please see department website https://www.sas.upenn.edu/music/courses for current term course descriptions.
Taught by: Caldwell
Course not offered every year
Activity: Seminar
1 Course Unit

MUSC 620 Analytical Methods: Tonal Music
Current methods in the analysis of tonal music. Please see department website https://www.sas.upenn.edu/music/courses for current term course descriptions.
Taught by: Moreno, Waltham-Smith
Course not offered every year
Also Offered As: HSPV 638
Activity: Seminar
1 Course Unit

MUSC 621 Analytical Methods: Twentieth-Century Music
Please see department website https://www.sas.upenn.edu/music/courses for current term course descriptions.
Taught by: Moreno, Waltham-Smith
Course not offered every year
Also Offered As: COML 638, FREN 638
Activity: Seminar
1 Course Unit

MUSC 622 Analytical Methods: Early Music
Analytical methods in early music.
Course not offered every year
Activity: Seminar
1 Course Unit

MUSC 650 Field Methods in Ethnomusicology
The goal of the seminar is to give students a compressed dissertation research experience—taking them from the beginnings of "researching" a community and its music, through the documentation and representation stages. Students do background and methods reading, though the focus of the class is the development of basic ethnoorphic and documentation skills. This is a community partnership seminar, which means that all forms of representation are produced in collaboration with community partners in West Philadelphia. These include photographic essays, an NPR style audio documentary, but most significantly, twenty-thirty minute documentary films on a particular subject. See sample syllabus and projects on http://ccat.sas.upenn.edu/music/westphillymusic Please see department website https://www.sas.upenn.edu/music/courses for current term course descriptions.
Taught by: Muller, Rommen, Sykes
Course not offered every year
Also Offered As: ANTH 257, FOLK 650
Activity: Lecture
1 Course Unit

MUSC 700 Seminar in Composition
Seminar in selected compositional problems, with emphasis on written projects. Please see department website https://www.sas.upenn.edu/music/courses for current term course descriptions.
Taught by: Primosch, Reise, Weesner
Course not offered every year
Activity: Seminar
1 Course Unit

MUSC 705 Seminar in Ethnomusicology
Topics in Ethnomusicology. Please see department website https://www.sas.upenn.edu/music/node/53425 for current term course descriptions.
Taught by: Muller, Rommen, Sykes
Course usually offered in fall term
Also Offered As: AFRC 640, AFRC 705, ANTH 705, COML 715, GSWS 705
Activity: Seminar
1 Course Unit
Notes: Open to graduate students from all departments

MUSC 710 Studies in Medieval Music
PLEASE see department website for current term course description.
http://www.sas.upenn.edu/music/courses/music/courses .
Taught by: Caldwell
Course not offered every year
Also Offered As: COML 720, LALS 720
Activity: Seminar
1 Course Unit

MUSC 720 Studies in Renaissance Music
Seminar on selected topics in the music of the Renaissance.
Course not offered every year
Also Offered As: COML 720, LALS 720
Activity: Seminar
1 Course Unit

MUSC 730 Studies in Baroque Music
Seminar on selected topics in the music of the Baroque period. Please see department website https://www.sas.upenn.edu/music/courses for current term course descriptions.
Taught by: Calcagno
Course not offered every year
Also Offered As: ITAL 540
Activity: Seminar
1 Course Unit

MUSC 740 Studies in Classical Music
Seminar on selected topics in the music of the Classical period. Please see department website https://www.sas.upenn.edu/music/courses for current term course descriptions.
Taught by: Goodman, Kallberg
Course not offered every year
Activity: Seminar
1 Course Unit

MUSC 750 Studies in Romantic Music
Studies of Music in the 19th-Century. Please see department website https://www.sas.upenn.edu/music/courses for current term course descriptions.
Taught by: Kallberg
Course not offered every year
Activity: Seminar
1 Course Unit
**MUSC 760 Studies in Twentieth-Century Music**
Seminar on selected topics in the music of the twentieth century. Please see department website https://www.sas.upenn.edu/music/courses for current term course descriptions.
Taught by: Kallberg
Course not offered every year
Activity: Seminar
1 Course Unit

**MUSC 770 Seminar in Afro-American Music**
Seminar course description offerings can be found on the Music department website: https://www.sas.upenn.edu/music/courses. Scroll through Current graduate seminar offerings on right.
Taught by: Ramsey
Course not offered every year
Also Offered As: AFRC 771, FOLK 770, LALS 770
Activity: Seminar
1 Course Unit

**MUSC 780 Studies in Music Theory and Analysis**
Seminar on selected topics in music theory and analysis. Please see department website https://www.sas.upenn.edu/music/courses for current term course descriptions.
Taught by: Moreno, Waltham-Smith
Course not offered every year
Also Offered As: COML 780
Activity: Seminar
1 Course Unit

**Nanotechnology (NANO)**

**NANO 597 Master's Thesis Research**
One-term course offered either term
Activity: Masters Thesis
1 Course Unit

**NANO 599 Master's Independent Study**
One-term course offered either term
Activity: Independent Study
1 Course Unit

**Naval Science (NSCI)**

**NSCI 100 Naval Science Drill**
A professional laboratory covering various aspects of naval leadership and professional development. While emphasis is given to military marching, formation, and parade, the course also includes lectures from sources in and out of the Navy. Guest speakers cover topics such as leadership, Navy career paths, equal opportunity, rights and responsibilities, AIDS awareness, terrorism/counterterrorism, naval warfare doctrine, employment of naval forces, ethics and values, operations security, and safety.
One-term course offered either term
Prerequisites: Prerequisite (Sophomores, Juniors, Seniors) Fall NSCI 101/Spring NSCI 102
Corequisite: Corequisite (Freshmen) Fall NSCI 101/Spring NSCI 102
Activity: Lecture
1 Course Unit

**NSCI 101 Naval Orientation**
A course designed to familiarize the student with the history, characteristics and present employment of sea power. Particular emphasis is placed upon our naval forces and their capability in achieving and maintaining our national objectives. Naval organization and operational functions are discussed in conjunction with sea power concepts. Additionally, the student is given an insight into the Naval Service, shipboard organization and safety, time management skills and study techniques.
Course usually offered in fall term
Activity: Lecture
1 Course Unit

**NSCI 102 Seapower and Maritime Affairs**
A broad survey of naval history designed to add historical perspective to current defense problems. Topics covered include: naval power as an aspect of national defense policy, navies as an instrument of foreign policy, strategy selection, resource control, technology, and manning.
Course usually offered in spring term
Activity: Lecture
1 Course Unit
Notes: Engineering and Nursing students receive credit

**NSCI 201 Leadership & Management**
This course emphasizes principles of leadership, personnel and material management, and subordinate development in the context of the naval organization. Practical applications are explored through experiential exercises and case studies.
Course usually offered in fall term
Activity: Lecture
1 Course Unit
Notes: Only Engineering, Nursing, and Wharton students receive credit.

**NSCI 202 Navigation I**
A comprehensive study of the theory and practice of terrestrial, and electronic navigation and the laws of vessel operations. Topics include fundamentals of coastal and harbor piloting, electronic navigation and mean of navigating without reference to land. An in-depth study of the international and inland nautical Rules of the Road is also included. Case studies and practical exercises are used to reinforce the fundamentals of marine navigation.
Course usually offered in spring term
Activity: Lecture
1 Course Unit
Notes: Only Engineering students receive credit.

**NSCI 301 Engineering**
This course provides an overview of how propulsion and electricity are provided to our Navy’s fighting ships. The basic engineering principles relating to thermodynamics, steam propulsion (conventional and nuclear), gas turbine propulsion, internal combustion engines, electricity generation and distribution, and various support systems will be taught.
Ship design, stability, damage control, and some engineering-related ethical issues will also be discussed.
Course usually offered in fall term
Activity: Lecture
1 Course Unit
Notes: Only Engineering students receive credit.
NSCI 302 Weapons
This course provides an overview of the theory and concepts underlying modern weapons systems. The principles behind sensors and detection systems, tracking systems, computational systems, weapon delivery systems, and the fire control problem will be examined, with a consistent emphasis on the integration of these components into a "weapons system". Case studies will be used to illustrate and reinforce concepts introduced in the course.
Course usually offered in spring term
Activity: Lecture
1 Course Unit
Notes: Only Wharton students receive credit.

NSCI 310 Evolution of Warfare
This course is designed to add broad historical perspective to understanding military power. Treating war and the military as an integral part of society, the course deals with such topics as: war as an instrument of foreign policy, military influences on foreign policy, the military as a reflection of society, manning and strategy selection.
Course offered fall; even-numbered years
Activity: Lecture
1 Course Unit

NSCI 401 Navigation II
Insight into modern naval operations is gained through analysis of relative motion pertaining to ships at sea, underway replenishment, shiplhandling, and tactical communications. The process of command and control and leadership is examined through case studies of actual incidents at sea.
Course usually offered in fall term
Activity: Lecture
1 Course Unit

NSCI 402 Leadership and Ethics
The capstone course of the NROTC curriculum, this course is intended to provide the midshipman with the ethical foundation and basic leadership tools to be effective junior officers. Topics such as responsibility, accountability, ethics, the law of armed conflict, military law, division organization and training, and discipline are introduced through practical exercises, group discussion, and case studies.
Course usually offered in spring term
Activity: Lecture
1 Course Unit
Notes: Only Wharton students receive credit

NSCI 410 Fundamentals of Maneuver Warfare
This course prepares future military officers and other leaders for service by studying modern tactical principles, current military developments, and other aspects of warfare and their interactions with the influences on maneuver warfare doctrine. There is a specific focus on the United States Marine Corps as the premier maneuver warfighting organization. Study also includes historical influences on tactical, operational, and strategic levels of maneuver warfare practices in the current and future operating environments.
Course offered fall; odd-numbered years
Activity: Lecture
1 Course Unit

Near Eastern Languages & Civilization (NELC)

NELC 008 Critical Speaking Seminar
American political discourse, especially since September 11th, has often depicted Islam as an oppressive force from which both Muslims and non-Muslims, particularly women and gender/sexual minorities, must be saved. In this CWIC critical speaking seminar, we will investigate how oral and written narratives such as political rhetoric, apologists and historical sources - claim to establish unassailable "facts" about Islam, Muslims and the Middle East. We will also investigate how the notion of empire-both in its traditionally understood form in Islamic and European history, as well as in its iterations as US Military and soft power-privileges certain voices over others, and how we can reclaim the voices of the marginalized in both contemporary discourse as well as historical oral traditions.
Taught by: Rafi
One-term course offered either term
Also Offered As: COML 014, GSWS 008
Prerequisite: None
Corequisite: none
Activity: Seminar
1 Course Unit

NELC 009 Critical Writing Seminar in Near Eastern Languages and Civilizations
This is a critical writing seminar. It fulfills the writing requirement for all undergraduates. As a discipline-based writing seminar, the course introduces students to a topic within its discipline but throughout emphasizes the development of critical thinking, analytical, and writing skills. For current listings and descriptions, visit the Critical Writing Program's website at www.writing.upenn.edu/critical.
For BA Students: Writing Requirement Course
One-term course offered either term
Activity: Seminar
1 Course Unit

NELC 031 History of the Middle East Since 1800
A survey of the modern Middle East with special emphasis on the experiences of ordinary men and women as articulated in biographies, novels, and regional case studies. Issues covered include the collapse of empires and the rise of a new state system following WWI, and the roots and consequences of the Palestinian-Israeli conflict, the Iranian revolution and the U.S.-Iraq War. Themes include: the colonial encounter with Europe and the emergence of nationalist movements, the relationship between state and society, economic development and international relations, and religion and cultural identity. Requirements: one paper and two take-home exams.
For BA Students: History and Tradition Sector
Taught by: Kashani-Sabet
One-term course offered either term
Also Offered As: HIST 081
Activity: Recitation
1 Course Unit
NELC 032 Topics in 20th C. Middle East
If "the clash of civilizations" is the first image that jumps to mind when thinking about the modern Middle East, then this is the course for you. From the familiar narratives about the creation of modern nation-states to the oft-neglected accounts of cultural life, this course surveys the multi-faceted societies of the twentieth-century Middle East. Although inclusive of the military battles and conflicts that have affected the region, this course will move beyond the cliches of war and conflict in the Middle East to show the range of issues and ideas with which intellectuals and governments grappled throughout the century. The cultural politics and economic value of oil as well as the formation of a vibrant literary life will be among the topics covered in the course. Ty considering illustrative cultural moments that shed light on the political history of the period, this course will adopt a nuanced framework to approach the Arab/Israeli conflict, the history of the Gulf States, the Iran-Iraq War, and U.S. involvement in the region.
Taught by: Kashani-Sabet
One-term course offered either term
Also Offered As: CIMS 036
Activity: Lecture
1 Course Unit

NELC 036 The Middle East through Many Lenses
This freshman seminar introduces the contemporary Middle East by drawing upon cutting-edge studies written from a variety of disciplinary perspectives. These include history, political science, and anthropology, as well as studies of mass media, sexuality, religion, urban life, and the environment. We will spend the first few weeks of the semester surveying major trends in modern Middle Eastern history. We will spend subsequent weeks intensively discussing assigned readings along with documentary films that we will watch in class. The semester will leave students with both a foundation in Middle Eastern studies and a sense of current directions in the field.
Taught by: Sharkey H
Course not offered every year
Also Offered As: CIMS 036
Activity: Seminar
1 Course Unit

NELC 047 Magical Science: Sages, Scholars and Knowledge in Babylon and Assyria
From sympathetic rituals to cure sexual dysfunction to the sages’ esoteric creation of worlds through the manipulation of words, we will learn from the ancient writings of Assyria and Babylonia just what knowledge was, what it was good for, and how it was divided up. This interdisciplinary course will combine literary, anthropological, historical and cultural approaches to textual, archaeological and iconographic data to bring to life the world, words and beliefs of these ancient intellectuals.
Taught by: Tinney
Course not offered every year
Activity: Seminar
1 Course Unit
Notes: Freshman Seminar

NELC 048 Introduction to Mesopotamian Civilization
This class provides a chronologically organized survey of ancient Mesopotamian culture and history from the dawn of urbanization to the advent of the Greeks. Material culture and primary texts in translation are discussed in their contexts, introducing alongside the history such topics as urbanization and state formation; the invention of writing and the development of education; the king and his scholars in the Assyrian empire; the epic of Gilgamesh and other major works of Sumerian and Akkadian literature. One class will be held at the Penn Museum and will include hands-on experience of cuneiform school texts.
For BA Students: History and Tradition Sector
Taught by: Tinney
Course not offered every year
Activity: Lecture
1 Course Unit

NELC 049 Myths of Ancient Mesopotamia
Iraq's ancient civilizations, Sumer, Babylon, and Assyria, have emerged spectacularly from their ruin mounds over the last century and a half. In this class we will read the core myths of these cultures in translation and situate them in their literary, historical, religious and cultural contexts. The case of characters includes, among other, Enki, trickster and god of wisdom; Inana, goddess of sex and war; and Marduk, warrior son, slayer of the sea, king of the gods and founder of Babylon. Themes range from creation to flood, from combat to the dangers of humans acting in the worlds of the divine, to the heroic peregrinations of Gilgamesh as he wrestles with monsters, fate and the pain of mortality.
Taught by: Tinney
Course not offered every year
Activity: Seminar
1 Course Unit
Notes: Sometimes offered as a Freshman Seminar

NELC 051 History of Jewish Civilization I---Jews and Judaism in Antiquity: From the Bible to the Talmud
The course is an overview of Jewish history, culture, and society from its biblical settings through the Hellenistic-Roman, and early rabbinic periods. The course will trace the political, social, and intellectual-religious, and literary development of Judaism in its formative centuries, building from an awareness of the impact of imperial power on Jewish thoughts, politics, and culture. Topics to be covered include: the evolution of biblical thought and religious practice over time; Jewish writing and literary genres; varieties of Judaism; Judaism and Imperialism; the emergence of the rabbinic class and institutions.
Taught by: Dohrmann
Course usually offered in fall term
Also Offered As: HIST 139, JWST 156, NELC 451, RELS 120
Activity: Lecture
1 Course Unit

NELC 052 Medieval and Early Modern Jewry
Exploration of intellectual, social, and cultural developments in Jewish civilization from the dawn of rabbinic culture in the Near East through the assault on established conceptions of faith and religious authority in 17th century Europe. Particular attention will be paid to the impact of Christian and Muslim "host societies" on expressions of Jewish culture.
For BA Students: History and Tradition Sector
Taught by: Ruderman
Course usually offered in fall term
Also Offered As: HIST 140, JWST 157, RELS 121
Activity: Lecture
1 Course Unit
NELC 053 The History of Jewish Civilization from the Late Seventeenth Century to the Present
This course offers an intensive survey of the major currents in Jewish culture and society from the late middle ages to the present. Focusing upon the different societies in which Jews have lived, the course explores Jewish responses to the political, socio-economic, and cultural challenges of modernity. Topics to be covered include the political emancipation of Jews, the creation of new religious movements within Judaism, Jewish socialism, Zionism, the Holocaust, and the emergence of new Jewish communities in Israel and the United States. No prior background in Jewish history is expected.
For BA Students: History and Tradition Sector
Taught by: Ruderman
Course usually offered in spring term
Also Offered As: HIST 141, JWST 158, RELS 122
Activity: Lecture
1 Course Unit

NELC 061 Literary Legacy of Ancient Egypt
This course surveys the literature of Ancient Egypt from the Old Kingdom through the Greco-Roman period, focusing upon theme, structure, and style, as well as historical and social context. A wide range of literary genres are treated, including epics; tales, such as the "world’s oldest fairy tale;" poetry, including love poems, songs, and hymns; religious texts, including the "Cannibal Hymn;" magical spells; biographies; didactic literature; drama; royal and other monumental inscriptions; and letters, including personal letters, model letters, and letters to the dead. Issues such as literacy, oral tradition, and the question poetry vs. prose are also discussed. No prior knowledge of Egyptian is required.
Taught by: Houser Wegner
Course not offered every year
Also Offered As: NELC 463
Activity: Lecture
1 Course Unit

NELC 062 Land of the Pharaohs
This course provides an introduction to the society, culture and history of ancient Egypt. The objective of the course is to provide an understanding of the characteristics of the civilization of ancient Egypt and how that ancient society succeeded as one of the most successful and long-lived civilizations in world history.
For BA Students: History and Tradition Sector
Taught by: Wegner
One-term course offered either term
Also Offered As: AFST 062
Activity: Lecture
1 Course Unit

NELC 063 The History of Jewish Civilization from the Late Seventeenth Century to the Present
This course offers an intensive survey of the major currents in Jewish culture and society from the late middle ages to the present. Focusing upon the different societies in which Jews have lived, the course explores Jewish responses to the political, socio-economic, and cultural challenges of modernity. Topics to be covered include the political emancipation of Jews, the creation of new religious movements within Judaism, Jewish socialism, Zionism, the Holocaust, and the emergence of new Jewish communities in Israel and the United States. No prior background in Jewish history is expected.
For BA Students: History and Tradition Sector
Taught by: Ruderman
Course usually offered in spring term
Also Offered As: HIST 141, JWST 158, RELS 122
Activity: Lecture
1 Course Unit

NELC 064 The World of Cleopatra
The figure of Cleopatra is familiar from modern stories, legends, and film. Was this famous woman a brash seductress or a brilliant political mind? How many of these presentations are historically accurate? This class will examine the Ptolemaic period in Egypt (305-30 BCE), the time during which Cleopatra lived, in an attempt to separate myth from reality. The Ptolemaic period is filled with political and personal intrigue. It was also a time of dynamic multiculturalism. Arguably one of the most violent and fascinating eras in ancient Egyptian history, the Ptolemaic period is largely unknown and often misunderstood. This course will examine the history, art, religion and literature of Egypt’s Ptolemaic period which culminated in the reign of Cleopatra VII.
Taught by: Houser Wegner
Course not offered every year
Also Offered As: NELC 664
Activity: Lecture
1 Course Unit

NELC 065 Art and Architecture in Ancient Egypt
This course will be an introduction to the art, architecture and minor arts that were produced during the three thousand years of ancient Egyptian history. This material will be presented in its cultural and historical contexts through illustrated lectures and will include visits to the collection of the University Museum.
Taught by: Silverman
Course not offered every year
Also Offered As: ARTH 218, ARTH 618, NELC 668
Activity: Lecture
1 Course Unit

NELC 066 The History of Jewish Civilization from the Late Seventeenth Century to the Present
This course offers an intensive survey of the major currents in Jewish culture and society from the late middle ages to the present. Focusing upon the different societies in which Jews have lived, the course explores Jewish responses to the political, socio-economic, and cultural challenges of modernity. Topics to be covered include the political emancipation of Jews, the creation of new religious movements within Judaism, Jewish socialism, Zionism, the Holocaust, and the emergence of new Jewish communities in Israel and the United States. No prior background in Jewish history is expected.
For BA Students: History and Tradition Sector
Taught by: Ruderman
Course usually offered in spring term
Also Offered As: HIST 141, JWST 158, RELS 122
Activity: Lecture
1 Course Unit

NELC 067 The History of Jewish Civilization from the Late Seventeenth Century to the Present
This course offers an intensive survey of the major currents in Jewish culture and society from the late middle ages to the present. Focusing upon the different societies in which Jews have lived, the course explores Jewish responses to the political, socio-economic, and cultural challenges of modernity. Topics to be covered include the political emancipation of Jews, the creation of new religious movements within Judaism, Jewish socialism, Zionism, the Holocaust, and the emergence of new Jewish communities in Israel and the United States. No prior background in Jewish history is expected.
For BA Students: History and Tradition Sector
Taught by: Ruderman
Course usually offered in spring term
Also Offered As: HIST 141, JWST 158, RELS 122
Activity: Lecture
1 Course Unit

NELC 068 Art and Architecture in Ancient Egypt
This course will be an introduction to the art, architecture and minor arts that were produced during the three thousand years of ancient Egyptian history. This material will be presented in its cultural and historical contexts through illustrated lectures and will include visits to the collection of the University Museum.
Taught by: Silverman
Course not offered every year
Also Offered As: ARTH 218, ARTH 618, NELC 668
Activity: Lecture
1 Course Unit

NELC 101 Introduction to the Ancient Near East
The great pyramids and mysterious mummies of Egypt, the fabled Tower of Babel, and the laws of the Babylonian king Hammurabi are some of the things that might come to mind when you think of the ancient Near East. Yet these are only a very few of the many fascinating - and at time perplexing - aspects of the civilizations that flourished there c. 3300-300 BCE. This is where writing first developed, where people thought that the gods wrote down what would happen in the future on the lungs and livers of sacrificed sheep, and where people knew how to determine the length of hypotenuse a thousand years before the Greek Pythagoras was born. During this course, we will learn more about these other matters and discover their place in the cultures and civilizations of that area. This is an interdisciplinary survey of the history, society and culture of the ancient Near East, in particular Egypt and Mesopotamia, utilizing extensive readings from ancient texts in translation (including the Epic of Gilgamesh, "one of the great masterpieces of world literature"), but also making use of archaeological and art historical materials. The goal of the course is to gain an appreciation of the various societies of the time, to understand some of their great achievements, to become acquainted with some of the fascinating individuals of the time (such as Hatshepsut, "the women pharaoh," and Akhenaten, "the heretic king"), and to appreciate the rich heritage that they have left us.
For BA Students: History and Tradition Sector
Taught by: Frame
Course usually offered in fall term
Also Offered As: ANCH 025, HIST 024
Activity: Lecture
1 Course Unit
NELC 102 Intro to Middle East
This is the second half of the Near East sequence. This course surveys Islamic civilization from circa 600 (the rise of Islam) to the start of the modern era and concentrates on political, social, and cultural trends. Although the emphasis will be on Middle Eastern societies, we will occasionally consider developments in other parts of the world, such as sub-Saharan Africa, Central Asia, and Spain, where Islamic civilization was or has been influential. Our goal is to understand the shared features that have distinguished Islamic civilization as well as the varieties of experience that have endowed it with so much diversity.
For BA Students: History and Tradition Sector
Taught by: Cobb, Sharkey
Course usually offered in spring term
Also Offered As: HIST 023
Activity: Lecture
1 Course Unit
Notes: Fulfills Cross-Cultural Analysis

NELC 103 Origin and Culture of Cities
The UN estimates that 2.9 of the world's 6.1 billion people live in cities and that this percentage is rapidly increasing in many parts of the world. This course examines urban life and urban problems by providing anthropological perspectives on this distinctive form of human association and land use. First we will examine the "origin" of cities, focusing on several of the places where cities first developed, including Mesopotamia and the Valley of Mexico. We will then investigate the internal structure of non-industrial cities by looking at case studies from around the world and from connections between the cities of the past and the city in which we live and work today.
For BA Students: History and Tradition Sector
Taught by: Zettler
Course usually offered in fall term
Also Offered As: ANTH 121, URBS 121
Activity: Lecture
1 Course Unit

NELC 104 Jerusalem through Ages
A study of Jerusalem, the sacred city for three different world religions, is fundamental to a rich understanding of the history and religions of the Middle East. Beginning in antiquity and continuing through the medieval and modern periods, this course will chronicle the rise, fall and reconstruction of Jerusalem many times over. Particular emphasis will be placed on the archaeology and architecture of the city, the phenomenology of sacred space, the meanings of Jerusalem in art, and the religious history of the city. We will investigate the meanings Jerusalem has had in the past and will also consider current questions about its future.
Course not offered every year
Activity: Lecture
1 Course Unit
Notes: Offered through the College of Liberal and Professional Studies.

NELC 118 Iranian Cinema: Gender, Politics and Religion
This seminar explores Iranian culture, society, history and politics through the medium of film. We will examine a variety of cinematic works that represent the social, political, economic and cultural circumstances of contemporary Iran, as well as the diaspora. Along the way, we will discuss issues pertaining to gender, religion, nationalism, ethnicity, and the role of cinema in Iranian society and beyond. Discussions topics will also include the place of the Iranian diaspora in cinema, as well as the transnational production, distribution, and consumption of Iranian cinema. Films will include those by internationally acclaimed filmmakers, such as Rakhshan Bani-Etemad, Asghar Farhadi, Bahman Ghobadi, Abbas Kiarostami, Mohsen Makhmalbaf, Dariush Mehrjui, Tahmineh Milani, Jafar Panahi, Marjane Satrapi and others. All films will be subtitled in English. No prior knowledge is required.
Taught by: Entezari
Course usually offered in fall term
Also Offered As: CIMS 118, COML 120, GSWS 118, GSWS 418, NELC 618
Activity: Seminar
1 Course Unit

NELC 119 Middle Eastern Cinema
In the past two decades, films from the Middle East have gained exceptional international reception. This course is designed to explore the reasons behind this reception through a study of the prevalent social, political, and historical themes and issues in Middle Eastern cinema. Questions such as women's laws, literature and its function, familial issues and gender roles, historical legacies and political tensions, and religion, will be discussed. This course assumes no previous knowledge of film studies or languages of the region. Films from Israel, the Arab World, Turkey, and Iran will be shown in subtitled versions.
Course not offered every year
Also Offered As: CIMS 119, COML 129
Activity: Seminar
1 Course Unit

NELC 130 Introduction to the Qur'an
The goal of this course is to provide students with a general introduction to the holy scripture of the religion of Islam, the Qur'an. In particular, students will become familiar with various aspects of Qur'anic content and style, the significance of the Qur'an in Islamic tradition and religious practice, scholarly debates about the history of its text, and contemporary interpretations of it. Through close readings of a wide range of passages and short research assignments, students will gain first-hand knowledge of the Qur'an’s treatment of prophecy, law, the Biblical tradition, and many other topics. No previous background in Islamic studies or Arabic language is required for this course.
For BA Students: Humanities and Social Science S
Taught by: Lowry
Course not offered every year
Also Offered As: RELS 140
Activity: Lecture
1 Course Unit
NELC 133 Penn/Philadelphia/and the Middle East
This seminar explores the historic engagement of the University of Pennsylvania and its faculty, students, and graduates in the Near and Middle East. It does so while drawing on archives, rare books and manuscripts, and artifacts that are now preserved in the University Archives, the Penn Museum, and the Penn Libraries. Together we will consider how, beginning in the late nineteenth century, Penn scholars engaged in archaeological expeditions to celebrated sites like Ur (in what is now Iraq) and Memphis (in Egypt) and how some of these efforts influenced the late Ottoman Empire's policies towards antiquities and museums. We will examine how Penn's curriculum changed over time to accommodate Semitics, including the study of languages and biblical traditions, in light of or in spite of historic tensions at the university between secular and religious learning. We will assess how Penn responded to changing American popular attitudes and U.S. foreign policy concerns relative to the Middle East, including during the Cold War and post-2001 (post-9/11) eras. Finally, we will trace the stories or biographies of some individual objects in Penn collections in order to appreciate the university's roles in collecting, preserving, analyzing, and disseminating knowledge about the region's deep cultural heritage. Ultimately, by investigating and writing.
Taught by: Sharkey,H
One-term course offered either term
Activity: Seminar
1 Course Unit

NELC 134 Getting Crusaded
What did it feel like to get crusaded? In this course, we will examine the roughly two-century period from the call of the First Crusade in 1095 to the final expulsion of Latin Crusaders from the Middle East in 1291. Our examination will be primarily from the perspective of the invaded, rather than the invaders, as is usually done. How did the Muslims, Jews, and Eastern Christians of the medieval Middle East respond to the presence of Frankish invaders from Europe?
For BA Students: History and Tradition Sector
Taught by: Cobb
Course offered fall; even-numbered years
Activity: Lecture
1 Course Unit

NELC 136 Introduction to Islam
This course is an introduction to Islam as a religion as it exists in societies of the past as well as the present. It explores the many ways in which Muslims have interpreted and put into practice the prophetic message of Muhammad through historical and social analyses of varying theological, philosophical, legal, political, mystical and literary writings, as well as through visual art and music. The aim of the course is to develop a framework for explaining the sources and symbols through which specific experiences and understandings have been signified as Islamic, both by Muslims and by other peoples with whom they have come into contact, with particular emphasis given to issues of gender, religious violence and changes in beliefs and behaviors which have special relevance for contemporary society.
Taught by: Elias
Course usually offered in fall term
Also Offered As: RELS 143, SAST 139
Activity: Lecture
1 Course Unit

NELC 145 Near Eastern Topics
Course topics will vary
Course not offered every year
Activity: Seminar
1 Course Unit
Notes: Sometimes offered as a Benjamin Franklin Seminar.

NELC 150 Introduction to the Bible (The "Old Testament")
An introduction to the major themes and ideas of the Hebrew Bible (the Old Testament), with attention to the contributions of archaeology and modern Biblical scholarship, including Biblical criticism and the response to it in Judaism and Christianity. All readings are in English.
For BA Students: Humanities and Social Science Sector
Course usually offered in fall term
Also Offered As: JWST 150, NELC 450, RELS 125
Activity: Lecture
1 Course Unit

NELC 154 Women in Jewish Literature
This course introduces students of literature, women's studies, and Jewish studies to the long tradition of women as readers, writers, and subjects in Jewish literature. All texts will be in translation from Yiddish and Hebrew, or in English. Through a variety of genres--devotional literature, memoir, fiction, and poetry--we will study women's roles and selves, the relation of women and men, and the interaction between Jewish texts and women's lives. The legacy of women in Yiddish devotional literature will serve as background for our reading of modern Jewish fiction & poetry from the past century. The course is divided into five segments. The first presents a case study of the Matriarchs Rachel and Leah, as they are portrayed in the Hebrew Bible, in rabbinic commentary, in pre-modern prayers, and in modern poems. We then examine a modern novel that recasts the story of Dinah, Leah's daughter. Next we turn to the seventeenth century Gikl of Hamel, the first Jewish woman memoirist. The third segment focuses on devotional literature for and by women. In the fourth segment, we read modern women poets in Yiddish, Hebrew, and English. The course concludes with a fifth segment featuring a short story and a memoir written by women in Yiddish, Hebrew, and English. "Jewish woman, who knows your life? In darkness you have come, in darkness do you go." J. L. Gordon (1890)
For BA Students: Arts and Letters Sector
Taught by: Hellerstein
Course not offered every year
Also Offered As: GRMN 262, GSWS 162
Activity: Lecture
1 Course Unit

NELC 155 Archaeology & The Bible
The Hebrew Bible (Tanah) and archaeological research provide distinct, and at times conflicting, accounts of the origins and development of ancient Israel and its neighbors. Religion, culture and politics ensure that such accounts of the past have significant implications for the world we live in today. In this course we will discuss the latest archaeological research from Israel, the Palestinian Territories, and Jordan as it relates to the Bible, moving from Creation to the Babylonian Exile. Students will critically engage the best of both biblical and archaeological scholarship. Open discussions of the religious, social and political implications of the material covered will be an important aspect of the course.
Taught by: Zettler
Course not offered every year
Also Offered As: ANTH 124, JWST 124, RELS 024
Activity: Lecture
1 Course Unit
NELC 156 Great Books of Judaism
The Babylonian Talmud (Bavli), a product reflecting the collaborative effort of generations of sages, is the foundational legal and ethical document of rabbinic Judaism. Both the methods of interpreting this text—and their theoretical frameworks—have varied dramatically, evolving creatively throughout the generations. In the past century, theories of how to read the Talmud have opened up new avenues for understanding what the text says and, more importantly, how it works. Through in-depth examination of demonstrative legal passages, this course will contrast the insights generated by the major critical schools of the past century and with the interpretations of selected medieval scholars, the Rishonim. English translations will be provided alongside the original texts. Previous study of Talmud is helpful.
For BA Students: Arts and Letters Sector
Course usually offered in fall term
Also Offered As: COML 057, JWST 151, NELC 456, RELS 027
Activity: Seminar
1 Course Unit

NELC 158 Jewish Literature in the Middle Ages in Translation
Course explores the cultural history of Jews in the lands of Islam from the time of Mohammed through the late 17th century (end of Ottoman expansion into Europe) —in Iraq, the Middle East, al-Andalus and the Ottoman Empire. Primary source documents (in English translation) illuminate minority-majority relations, internal Jewish tensions (e.g., Qaraism), and developments in scriptural exegesis, rabbinic law, philosophy, poetry, polemics, mysticism and liturgy. Graduate students have additional readings and meetings. Spring 2015
Taught by: Fishman
One-term course offered either term
Also Offered As: COML 257, JWST 153, NELC 458, RELS 223
Activity: Seminar
1 Course Unit

NELC 159 Modern Hebrew Literature and Culture in Translation
This course follows and analyzes the transformations in Israeli literature and cinema. The focus and the specific topic of the study changes from semester to semester. Topics include: The Holocaust; The Image of Childhood; Dream, Fantasy and Madness; Love and War; The Many Voices of Israel; The Image of the City; and other topics. While Israeli works constitute much of the course’s material, European and American film and fiction play comparative roles. 5-6 film screenings per semester; The content of this course changes from semester to semester, and therefore, students may take it for credit more than once. This topic course explores aspects of Hebrew Literature, Film, and Culture. Specific course topics vary from semester to semester. See the Cinema and Media Studies (...NELC, JWST, ENGL, COML) website for a description of the current offerings.
For BA Students: Arts and Letters Sector
Taught by: Gold
One-term course offered either term
Also Offered As: CIMS 159, COML 282, ENGL 079, JWST 154
Activity: Lecture
1 Course Unit
Notes: There will be five film screenings; the films will also be placed on reserve at the library for those students unable to attend. The content of this course changes from year to year, and therefore, students may take it for credit more than once.

NELC 166 The Religion of Ancient Egypt
Weekly lectures (some of which will be illustrated) and a field trip to the University Museum’s Egyptian Section. The multifaceted approach to the subject matter covers such topics as funerary literature and religion, cults, magic religious art and architecture, and the religion of daily life.
Taught by: Silverman/Wegner
Course not offered every year
Also Offered As: NELC 468, RELS 114
Activity: Lecture
1 Course Unit

NELC 168 Women in Ancient Egypt
This class will examine the many roles played by women in ancient Egypt. From goddesses and queens, to wives and mothers, women were a visible presence in ancient Egypt. We will study the lives of famous ancient Egyptian women such as Hatshepsut, Nefertiti and Cleopatra. More independent than many of their contemporaries in neighboring areas, Egyptian women enjoyed greater freedoms in matters of economy and law. By examining the evidence left to us in the literature (including literary texts and non-literary texts such as legal documents, administrative texts and letters), the art, and the archaeological record, we will come away with a better understanding of the position of women in this ancient culture.
Taught by: Houser Wegner
Course not offered every year
Also Offered As: NELC 568
Activity: Lecture
1 Course Unit

NELC 180 Narrative Across Cultures
An introduction to literary study through a genre, either the short story or poetry. Versions of this course will vary widely in the selection of texts assigned. Some versions will begin with traditional stories or poems, including a sampling of works in translation. Others will focus exclusively on modern and contemporary American short fiction or poetry. This course is designed for the General Requirement, and is ideal for the students wishing to take an English course but not necessarily intending to major.
For BA Students: Arts and Letters Sector
One-term course offered either term
Also Offered As: COML 125, ENGL 103, FOLK 125
Activity: Lecture
1 Course Unit

NELC 182 Ancient Civilizations of the World
The archaeology of the complex societies of the Old and New Worlds from the end of the Paleolithic up to and including the earliest civilizations.
For BA Students: History and Tradition Sector
Taught by: Zettler
Course not offered every year
Also Offered As: ANTH 139, URBS 139
Activity: Lecture
1 Course Unit
NELC 186 Jewish Mysticism
Survey of expressions of Jewish mysticism from Hebrew Scripture through the 21st century. Topics include rabbinic concerns about mystical speculation, the ascent through the celestial chambers - heikhalot-, the Book of Creation, the relationship of Jewish philosophy and mysticism, techniques of letter permutation, schematicization of the Divine Body, the prominence of gender and sexuality in kabalistic thought, the relationship of kabbalah to the practice of the commandments, Zohar, Lurianic kabbalah, Hasidism, New-Age Jewish spirituality and the resurgence of Jewish mysticism in the 20th century. All readings will be in English translation.
For BA Students: Arts and Letters Sector
Taught by: Fishman
Course not offered every year
Also Offered As: JWST 102, JWST 126, RELS 126
Activity: Lecture
1 Course Unit

NELC 201 Modern Middle Eastern Literature in Translation
The Middle East boasts a rich tapestry of cultures that have developed a vibrant body of modern literature that is often overlooked in media coverage of the region. While each of the modern literary traditions that will be surveyed in this introductory course-Arabic, Hebrew, Persian and Turkish-will be analyzed with an appreciation of the cultural context unique to each body of literature, this course will also attempt to bridge these diverse traditions by analyzing common themes-such as modernity, social values, the individual and national identity-as reflected in the genres of poetry, the novel and the short story. This course is in seminar format to encourage lively discussion and is team-taught by four professors whose expertise in modern Middle Eastern literature serves to create a deeper understanding and aesthetic appreciation of each literary tradition. In addition to honing students’ literary analysis skills, the course will enable students to become more adept at discussing the social and political forces that are reflected in Middle Eastern literature, explore important themes and actively engage in reading new Middle Eastern works on their own in translation. All readings are in English.
For BA Students: Arts and Letters Sector
Taught by: Allen/Gold
Course usually offered in spring term
Also Offered As: COML 212
Activity: Lecture
1 Course Unit
Notes: Fulfills Cross-Cultural Analysis

NELC 218 Media and Culture in Contemporary Iran
This course is an introduction to the major cultural themes and trends of contemporary Iran. Through the lens of press, cinema, literature and drama, the course will examine the ways in which contemporary Iranian society has been subject to rapid change and transformation over the past century. This class is designed for both junior and senior students who are keen to better understand the cultural context of Iran as one of the most influential and significant countries in the Middle East.
Taught by: Shams Esmaeili
One-term course offered either term
Also Offered As: NELC 518
Activity: Seminar
1 Course Unit

NELC 233 Arabic Literary Heritage
This course provides a survey of the genres and major figures in Arabic literary history from the 6th century up to the present day. Selections will be read in translation after a general introduction to the cultural background and a session devoted to the Qur'an and its influence, a sequence of sessions will be devoted to poetry, narratives, drama, and criticism. Each set of texts is accompanied by a collection of background readings which place the authors and works into a literary, political and societal context. This course thus attempts to place the phenomenon of “literature” into the larger context of Islamic studies by illustrating the links between Arab litterateurs and other contributors to the development of an Islamic/Arab culture on the one hand and by establishing connections between the Arabic literary tradition and that of other (and particularly Western) traditions.
Taught by: Fakhreddine
Course usually offered in fall term
Activity: Lecture
1 Course Unit

NELC 235 Food in the Islamic Middle East: History, Memory, Identity
In the tenth century, a scholar named Ibn Sayyar al-Warraq produced an Arabic manuscript called Kitab al-Tabikh (“The Book of Cooking”). This volume, which compiled and discussed the recipes of eighth- and ninth-century Islamic rulers (caliphs) and their courts in Iraq, represents the oldest known surviving cookbook of the Arab-Islamic world. Many more such cookbooks followed; in their day they represented an important literary genre among cultured elites. As one food historian recently noted, “there are more cookbooks in Arabic from before 1400 than in the rest of the world’s languages put together”. This course will take the study of Ibn Sayyar’s cookbook as its starting point for examining the cultural dynamics of food. The focus will be on the Middle East across the sweep of the Islamic era, into the modern period, and until the present day, although many of the readings will consider the study of food in other places (including the contemporary United States) for comparative insights. The class will use the historical study of food and “foodways” as a lens for examining subjects that relate to a wide array of fields and interests. These subjects include politics, economics, agricultural and environmental studies, anthropology, literature, religion, and public health. With regard to the modern era, the course will pay close attention to the social consequences of food in shaping memories and identities - including religious, ethnic, national, and gender-based identities - particularly among people who have dispersed or otherwise migrated.
Taught by: Sharkey
Course not offered every year
Also Offered As: HIST 205
Activity: Seminar
1 Course Unit
NELC 238 Introduction to Islamic Law
This course will introduce students to classical Islamic law, the all-embracing sacred law of Islam. Among the world's various legal systems, Islamic law may be the most widely misunderstood and even misrepresented; certainly, misconceptions about it abound. Islamic law is, however, the amazing product of a rich, fascinating and diverse cultural and intellectual tradition. Most of the readings in this course will be taken from primary sources in translation. Areas covered will include criminal law, family law, law in the Quran, gender and sexuality, the modern application of Islamic law, Islamic government and other selected topics.
Taught by: Lowry
Course usually offered in fall term
Also Offered As: RELS 248
Activity: Lecture
1 Course Unit

NELC 239 Migration and the Middle East
This reading-and-discussion-intensive seminar examines the phenomenon of migration into, out of, within, and across the Middle East and North Africa. We will focus on the period from the late nineteenth century to the present, and will emphasize the cultural (rather than economic) consequences of migration. Along the way we will trace connections between the Middle East and other regions– notably the Americas, sub-Saharan Africa, South Asia, the Caucasus, and Western Europe. Readings are interdisciplinary and include works of history, anthropology, sociology, medical research, literature, political science, geography, and human rights advocacy. As students develop final projects on topics of their choice, we will spend time throughout the semester discussing tactics for research and writing.
Taught by: Sharkey
Course not offered every year
Also Offered As: ASAM 239, NELC 539, SAST 269
Activity: Seminar
1 Course Unit

NELC 241 Iraq: Ancient Cities and Empires
This course consists of an analytical survey of civilization in the ancient Mesopotamia from prehistoric periods to the middle centuries of the first millennium B.C. A strong focus is placed on Mesopotamia (Iraq, eastern Syria) proper, but it occasionally covers its adjacent regions, including Anatolia (Turkey), north-central Syria, and the Levantine coast. As we chronologically examine the origin and development of civilization in the region, various social, political, economic, and ideological topics will be explored, including subsistence, cosmology, writing, trade, technology, war, private life, burial custom, and empire. Based on both archaeological and historical evidence, these topics will be examined from archaeological, anthropological, historical and art historical perspectives. Students will be exposed to a variety of theoretical approaches and types of relevant evidence, including settlement survey data, excavated architectural remains and artifacts, and written documents. The course aims to provide students with a strong foundation for further study in Near Eastern civilization.
Taught by: Zettler
Course not offered every year
Also Offered As: ANTH 236, ANTH 636, NELC 641, URBS 236
Activity: Lecture
1 Course Unit

NELC 242 Early Empires of the Ancient Near East: The Neo-Assyrian Empire
The Assyrians appear as destructive and impious enemies of the Israelites and Judeans in various books of the Bible and this view is reflected in Lord Byron's poem: "The Assyrian came down like the wolf on the fold, / and his cohorts were gleaming in purple and gold" (Hebrew Melodies. The Destruction of Sennacherib). In the ninth, eighth and seventh centuries BCE, Assyrian armies marched out from their homeland in northern Iraq to Iran in the East, Egypt in the West, the Persian Gulf in the south and central Turkey in the north, and they created the largest empire known up until that time. They built impressive palaces and cities, created great works of art and have left us a vast number of documents preserving ancient literature and scholarly knowledge. In the course we will look at the structure of the Assyrian state, Assyrian culture, the development of the Assyrian empire, and its sudden collapse at the end of the seventh century. While the course will emphasize the use of textual sources, archaeological and iconographic data will also be used to help us arrive at an understanding of the great achievements of the ancient Assyrians. The classes will be part lecture and part seminar.
Taught by: Frame
Course not offered every year
Also Offered As: AAMW 543, NELC 542
Prerequisites: As: AAMW 543, NELC 542
Activity: Lecture
1 Course Unit

NELC 244 Reading Ancient Mesopotamia
An introduction to the literature of Ancient Mesopotamia. The literature of ancient Mesopotamia flourished thousands of years ago in a culture all of its own, yet the survival of hundreds of thousands of written records challenges us to read it and make sense of it without simply approximating it to the realm of our own understanding. How can we learn to do this? Situating our understanding of how we read and how we understand culture within an interdisciplinary range of literary-critical and analytic approaches, we will approach this question by immersing ourselves in the myths tales and mentalities that made Mesopotamian literature meaningful. To give us a measure of our progress we will bracket the semester by reading Gilgamesh which is never less than a great story, but which will take on new layers of meaning as the semester develops and we learn to read the text in more and more Mesopotamian ways. As we journey through these mysterious realms we will reflect not only Mesopotamia and its immortal literature but on what it means to read and understand any cultures other than our own.
Taught by: Tinney
One-term course offered either term
Also Offered As: NELC 544
Activity: Seminar
1 Course Unit

NELC 249 Myth in Society
In this course we will explore the mythologies of selected peoples in the Ancient Near East, Africa, Asia, and Native North and South America and examine how the gods function in the life and belief of each society. The study of mythological texts will be accompanied, as much as possible, by illustrative slides that will show the images of these deities in art and ritual.
Taught by: Ben-Amos
Course not offered every year
Also Offered As: ANTH 226, COML 357, FOLK 229
Activity: Lecture
1 Course Unit
NELC 250 The Bible in Translation
This course introduces undergraduates and graduate students to one specific Book of the Hebrew Bible. "The Bible in Translation" involves an in-depth reading of a biblical source against the background of contemporary scholarship. Depending on the book under discussion, this may also involve a contextual reading with other biblical books and the textual sources of the ancient Near East. Although no prerequisites are required, NELC 250 is a perfect follow-up course for NELC 150 "Intro to the Bible."
Taught by: Cranz
One-term course offered either term
Also Offered As: COML 380, JWST 255, NELC 550, RELS 224
Activity: Seminar
1 Course Unit

NELC 251 Dead Sea Scrolls
Exploration of the issues relating to the identification and history of the people who produced and used these materials as well as the claims made about the inhabitants of the Qumran site near the caves in which the scrolls were discovered, with a focus on what can be known about the community depicted by some of the scrolls, its institutions and religious life, in relation to the known Jewish groups at that time (the beginning of the Common Era). This will involve detailed description and analysis of the writings found in the caves -- sectarian writings, "apocrypha" and "pseudepigrapha," biblical texts and interpretations.
Course not offered every year
Also Offered As: JWST 225, NELC 651, RELS 225
Activity: Seminar
1 Course Unit

NELC 252 THEMES JEWISH TRADITION: Iberian Conversos: Jew-Christian?
Course topics will vary; they have included The Binding of Isaac, Responses to Catastrophes in Jewish History, Holy Men & Women (Ben-Amos); Rewriting the Bible (Dohrmann); Performing Judaism (Fishman); Jewish Political Thought (Fishman); Jewish Esotericism (Lorberbaum) Democratic culture assumes the democracy of knowledge - the accessibility of knowledge and its transparency. Should this always be the case? What of harmful knowledge? When are secrets necessary? In traditional Jewish thought, approaching the divine has often assumed an aura of danger. Theological knowledge was thought of as restricted. This seminar will explore the "open" and "closed" in theological knowledge, as presented in central texts of the rabbinic tradition: the Mishnah, Maimonides and the Kabbalah. Primary sources will be available in both Hebrew and English.
For BA Students: History and Tradition Sector
Taught by: Ben-Amos/Dohrmann/Fishman
One-term course offered either term
Also Offered As: FOLK 252, JWST 100, NELC 552, RELS 129
Activity: Seminar
1 Course Unit

NELC 254 Jewish Humor
In modern American popular culture Jewish humor is considered by Jews and non-Jews as a recognizable and distinct form of humor. Focusing upon folk-humor, in this course we will examine the history of this perception, and study different manifestation of Jewish humor as a particular case study of ethnic in general. Specific topics for analysis will be: humor in the Hebrew Bible, Jewish humor in Europe and in America, JAP and JAM jokes, Jewish tricksters and pranksters, Jewish humor in the Holocaust and Jewish humor in Israel. The term paper will be collecting project of Jewish jokes.
For BA Students: Arts and Letters Sector
Taught by: Ben-Amos
Course not offered every year
Also Offered As: COML 259, FOLK 296, JWST 102
Activity: Lecture
1 Course Unit

NELC 258 Jewish Folklore
The Jews are among the few nations and ethnic groups whose oral tradition occurs in literary and religious texts dating back more than two thousand years. This tradition changed and diversified over the years in terms of the migrations of Jews into different countries and the historical, social, and cultural changes that these countries underwent. The course attempts to capture the historical and ethnic diversity of Jewish Folklore in a variety of oral literary forms.
Taught by: Ben-Amos
Course usually offered in fall term
Also Offered As: COML 283, FOLK 280, JWST 260
Activity: Lecture
1 Course Unit

NELC 266 History of Ancient Egypt
Review and discussion of the principal aspects of ancient Egyptian history, 3000-500 BC.
Taught by: Wegner
Course usually offered in fall term
Also Offered As: NELC 666
Activity: Lecture
1 Course Unit

NELC 281 Topics In Anthropology and the Modern World
This course relates anthropological models and methods to current problems in the Modern World. The overall objective is to show how the research findings and analytical concepts of anthropology may be used to illuminate and explain events as they have unfolded in the recent news and in the course of the semester. Each edition of the course will focus on a particular country or region that has been in the news.
Taught by: Spooner
Course usually offered in spring term
Also Offered As: ANTH 100, ANTH 654, NELC 681, SAST 161
Activity: Lecture
1 Course Unit
NELC 283 Introduction to Classical Judaism
This course will be a broad introduction for those with little or no knowledge of Judaism. It will be a sampling of several key themes in the religion, as well as several ways to think about both Judaism in particular and religion in general (what after all does it mean to “introduce” a religion?). We will read from several key texts in Jewish history, from Bible to Talmud, mystical and philosophical texts, and beyond. Practices and key concepts (i.e., sacred texts, law, ritual, diaspora, assimilation, Israel, interpretation...) will be studied as dynamic and changing institutions, against the background of historical change.
Taught by: Dohrmann
Course not offered every year
Activity: Lecture
1 Course Unit

NELC 285 Jews Under Medieval Islam
This seminar will examine what Jews living in Muslim lands wrote during medieval times, focusing on a range of primary sources including poetry, Bible commentary, historiography and polemics. Through these sources we will develop an understanding of the place of this community in Jewish history as well as within the medieval empire of Islam.
For BA Students: Humanities and Social Science S
Taught by: Goldstein
Course not offered every year
Also Offered As: AAMW 635, ARTH 235, ARTH 635, NELC 685, VLST 235
Activity: Lecture
1 Course Unit

NELC 331 Iraq, Egypt, Algeria: Case Studies from the Arab World
This reading- and discussion-intensive seminar will use historical and political analyses, ethnographic studies, novels, and films to consider and compare the experiences of Iraq, Egypt, and Algeria in the modern period. Themes to be covered include the nature of local Arab and Arabic cultures; the impact and legacies of Ottoman and Western imperialism; the development of Islamist, nationalist, and feminist movements; the status of non-Arab or non-Muslim minorities (notably the Iraqi Kurds, Egyptian Copts, and Algerian Berbers); and patterns of social and economic change. The class will culminate in research projects that students individually design and pursue. This class is intended for juniors, seniors, and graduate students.
Taught by: Sharkey
Course not offered every year
Also Offered As: NELC 531
Prerequisites: A university-level survey class in Middle Eastern and North African history.
Activity: Seminar
1 Course Unit

NELC 332 North Africa: History, Culture, Society
This interdisciplinary seminar aims to introduce students to the countries of North Africa, with a focus on the Maghreb and Libya (1830-present). It does so while examining the region’s close economic and cultural connections to sub-Saharan Africa, Europe, and the Middle East. Readings will include histories, political analyses, anthropological studies, and novels, and will cover a wide range of topics such as colonial and postcolonial experiences, developments in Islamic thought and practice, and labor migration. This class is intended for juniors, seniors, and graduate students.
Taught by: Sharkey
Course not offered every year
Also Offered As: AFST 332, AFST 533, HIST 370, NELC 632
Prerequisites: A university-level survey course in Middle Eastern, African, or Mediterranean history.
Activity: Seminar
1 Course Unit

NELC 334 Africa and the Middle East
Taught by: Troutt Powell
One-term course offered either term
Also Offered As: AFST 373, HIST 412
Activity: Seminar
1 Course Unit

NELC 335 Muslim, Christian, and Jewish Relations in the Middle East and North Africa: Historical Perspectives
A reading- and discussion-intensive seminar that addresses several recurring questions with regard to the Middle East and North Africa. How have Islam, Judaism, and Christianity influenced each other in these regions historically? How have Jews, Christians, and Muslims fared as religious minorities? To what extent have communal relations been characterized by harmony and cooperation, or by strife and discord, and how have these relations changed in different contexts over time? To what extent and under what circumstances have members of these communities converted, intermarried, formed business alliances, and adopted or developed similar customs? How has the emergence of the modern nation-state system affected communal relations as well as the legal or social status of religious minorities in particular countries? How important has religion been as one variable in social identity (along with sect, ethnicity, class, gender, etc.), and to what extent has religious identity figured into regional conflicts and wars? The focus of the class will be on the modern period (c. 1800-present) although we will read about some relevant trends in the early and middle Islamic periods as well. Students will also pursue individually tailored research to produce final papers. Prior background in Islamic studies and Middle Eastern history is required. This class is intended for juniors, seniors, and graduate students.
Taught by: Sharkey
One-term course offered either term
Also Offered As: HIST 479, JWST 335, NELC 535, RELS 311
Activity: Seminar
1 Course Unit
NELC 336 Nationalism and Communal Identity in the Middle East
This seminar views the phenomenon of nationalism as it affected the modern Middle East in the nineteenth and twentieth centuries. Together we will consider the diverse components of nationalism, including religion, language, territorial loyalty, and ethnicity, and test the thesis that nations are "imagined communities" built on "invented traditions." At the same time, we will examine other forms of communal identity that transcend national borders or flourish on more localized scales. This class approaches nationalism and communal identity as complex products of cultural, political, and social forces, and places Middle Eastern experiences within a global context. Students must take a survey of modern Middle Eastern history or politics before enrolling in this class. This class is intended for juniors, seniors, and graduate students.
Taught by: Sharkey
Course usually offered in fall term
Also Offered As: NELC 536
Prerequisites: NELC 102 or other relevant introductory courses on the Middle East.
Activity: Seminar
1 Course Unit

NELC 351 History and Civilization of Ancient Israel
This course is a study of ancient Israel from its pre-nation origins through the early Second Temple period. Topics include: methodological issues for the reconstruction of Israelite history; pre-Israelite Canaan - a bridge between empires; the patriarchal and Exodus traditions; Israelite settlement of Canaan; the rise of the monarchy; the Davidic dynasty; the states of Israel and Judah in the context of the greater ancient Near East; the fall of the Israelite states - the Assyrian and Babylonian exiles - and the return from exile in the Persian period. Special issues include: the development of monotheism; the role of the prophet in Israelite society; and the formation of Biblical corpus. Archaeological evidence from the land of Israel and other Near Eastern States, especially written material, will be utilized to supplement the Biblical sources.
Course not offered every year
Activity: Lecture
1 Course Unit

NELC 356 Ancient Interpretation of the Bible
Christianity and Judaism are often called "Biblical religions" because they are believed to be founded upon the Bible. But the truth of the matter is that it was less the Bible itself than the particular ways in which the Bible was read and interpreted by Christians and Jews that shaped the development of these two religions and that also marked the difference between them. So, too, ancient Biblical interpretation - Jewish and Christian - laid the groundwork for and developed virtually all the techniques and methods that have dominated literary criticism and hermeneutics (the science of interpretation) since then. The purpose of this course is to study some of the more important ways in which the Bible was read and interpreted by Jews and Christians before the modern period, and particularly in the first six centuries in the common era. We will make a concerted effort to view these interpretive approaches not only historically but also through the lens of contemporary critical and hermeneutical theory in order to examine their contemporary relevance to literary interpretation and the use that some modern literary theorists (e.g. Bloom, Kermode, Derrida, Todorov) have made of these ancient exegetes and their methods. All readings are in English translation, and will include selections from Philo of Alexandria, the Dead Sea Scrolls, Rabbinic midrash, the New Testament and early Church Fathers, Gnostic writings, Origen, and Augustine. No previous familiarity with Biblical scholarship is required although some familiarity with the Bible itself would be helpful.
Course not offered every year
Also Offered As: COML 556, JWST 356, JWST 555, NELC 556, RELS 418
Activity: Seminar
1 Course Unit

NELC 383 The Religious Other
Course explores attitudes toward monotheists of other faiths, and claims made about these "religious Others" in real and imagined encounters between Jews, Christians and Muslims from antiquity to the present. Strategies of "othering" will be analyzed through an exploration of claims about the Other’s body, habits and beliefs, as found in works of scripture, law, theology, polemics, art, literature and reportage. Attention will be paid to myths about the other, inter-group violence, converts, cases of cross-cultural influence, notions of toleration, and perceptions of Others in contemporary life. Primary sources will be provided in English.
Taught by: Fishman
Course not offered every year
Also Offered As: COML 205, JWST 213, RELS 203
Activity: Seminar
1 Course Unit

NELC 422 Intermediate Urdu Part II
This continuing second-year course allows students to continue improving their Urdu proficiency while also gaining a broad foundational understanding of Urdu society and culture throughout South Asia. The course provides students the tools needed to handle a variety of authentic written and spoken Urdu sources including film, music, media reports, folk tales, and simple literature. Students will also continue to increase their speaking and writing proficiency to be able to discuss a broad range of concrete, real-world topics. The course is designed for students with one year of previous Urdu or Hindi study or the equivalent proficiency.
For BA Students: Last Language Course
Taught by: Pien
Also Offered As: URDU 422
Activity: Seminar
1 Course Unit
NELC 434 Arabic Literature and Literary Theory
This course will explore different critical approaches to the interpretation and analysis of Arabic literature from pre-Islamic poetry to the modern novel and prose-poem. The course will draw on western and Arabic literary criticism to explore the role of critical theory not only in understanding and contextualizing literature but also in forming literary genres and attitudes. Among these approaches are: Meta-poetry and inter-Arts theory, Genre theory, Myth and Archetype, Poetics and Rhetoric, and Performance theory.
Taught by: Fakhreddine
One-term course offered either term
Also Offered As: COML 353, COML 505
Activity: Lecture
1 Course Unit

NELC 437 Islamic Intellectual Tradition
This comprehensive survey of the traditions of rational thought in classical Islamic culture is distinguished by its attempt to contextualize and localize the history of what is best described as philosophy in Islam, including not only the Islamic products of the Hellenistic mode of thought but also religious and linguistic sciences whose methodology is philosophical. Reading history as a set of local contingencies, the course examines the influence of these different disciplines upon each other, and the process of the Islamic "aspecting" of the Greek intellectual legacy. The readings thus include not only the works of Hellenized philosophers (falasifa) of Islam, but also those of theologians (mutakallimin), logists (fiqh scholars), and grammarians (nawh/lugha scholars). No prerequisites. Additional advanced-level assignments can be given for graduate credit.
Taught by: Lowry
Course not offered every year
Activity: Seminar
1 Course Unit

NELC 450 Introduction to the Bible (The "Old Testament")
An introduction to the major themes and ideas of the Hebrew Bible (the Old Testament), with attention to the contributions of archaeology and modern Biblical scholarship, including Biblical criticism and the response to it in Judaism and Christianity. All readings are in English.
For BA Students: Humanities and Social Science S
Course usually offered in fall term
Also Offered As: NELC 150
Activity: Lecture
1 Course Unit

NELC 451 History of Jewish Civilization I--Jews and Judaism in Antiquity: From the Bible to the Talmud
The course is an overview of Jewish history, culture, and society from its biblical settings through the Hellenistic-Roman, and rabbinic periods. We will trace the political, social, and intellectual-religious, and literary development of Judaism from its beginnings through the Second Temple period to the formation and evolution of Rabbinic Judaism. Topics to be covered include: the evolution of biblical thought and religious practice over time; Jewish writing and literary genres; varieties of Judaism; Judaism and Imperialism; the emergence of the rabbinic class and institutions.
Taught by: Dohrmann
Course usually offered in fall term
Also Offered As: HIST 139, JWST 156, NELC 051, RELS 120
Activity: Lecture
1 Course Unit

NELC 454 Spirit and Law
While accepting "the yoke of the commandments", Jewish thinkers from antiquity onward have perennially sought to make the teachings of revelation more meaningful in their own lives. Additional impetus for this quest has come from overtly polemical challenges to the law, such as those leveled by Paul, medieval Aristotelians, Spinoza and Kant. This course explores both the critiques of Jewish Law, and Jewish reflections on the Law's meaning and purpose, by examining a range of primary sources within their intellectual and historical contexts. Texts (in English translation) include selections from Midrash, Talmud, medieval Jewish philosophy and biblical exegesis, kabbalah, Hasidic homilies, Jewish responses to the Enlightenment, and contemporary attempts to re-value and invent Jewish rituals.
Taught by: Fishman
Course not offered every year
Also Offered As: JWST 320, JWST 520, RELS 321, RELS 520
Activity: Seminar
1 Course Unit

NELC 456 Great Books of Judaism
The Babylonian Talmud (Bavli), a product reflecting the collaborative effort of generations of sages, is the foundational legal and ethical document of rabbinic Judaism. Both the methods of interpreting this text --and their theoretical frameworks--have varied dramatically, evolving creatively throughout the generations. In the past century, theories of how to read the Talmud and hypotheses about its formation and redaction have opened up new avenues for understanding what the text says and, more importantly, how it works. Through in-depth examination of demonstrative legal passages, this course will contrast the insights generated by the major critical schools of the past century and with the interpretations of selected medieval scholars, the Rishonim. English translations will be provided alongside the original
For BA Students: Arts and Letters Sector
Course usually offered in fall term
Also Offered As: NELC 156
Activity: Seminar
1 Course Unit

NELC 458 Jewish Literature in the Middle Ages in Translation
Course explores the cultural history of Jews in the lands of Islam from the time of Mohammed through the late 17th century (end of Ottoman expansion into Europe) --in Iraq, the Middle East, al-Andalus and the Ottoman Empire. Primary source documents (in English translation) illuminate minority-majority relations, internal Jewish tensions (e.g., Qaraism), and developments in scriptural exegesis, rabbinic law, philosophy, poetry, polemics, mysticism and liturgy. Graduate students have additional readings and meetings. Spring 2015
Taught by: Fishman
One-term course offered either term
Also Offered As: COML 257, JWST 153, NELC 158, RELS 223
Activity: Seminar
1 Course Unit
NELC 463 Literary Legacy of Ancient Egypt
This course surveys the literature of Ancient Egypt from the Old Kingdom through the Graeco-Roman period, focusing upon theme, style, as well as historical and social context. A wide range of literary genres are treated, including epics; tales, such as the "world's oldest fairy tale," poetry, including love poems, songs, and hymns; religious texts, including the "Cannibal Hymn"; magical spells; biographies; didactic literature; drama; royal and other monumental inscriptions; and letters, including personal letters, model letters, and letters to the dead. Issues such as literacy, oral tradition, and the question poetry vs. prose are also discussed. No prior knowledge of Egyptian is required.
Taught by: Silverman
Course not offered every year
Also Offered As: NELC 061
Activity: Lecture
1 Course Unit

NELC 465 Egyptian Artifacts
Detailed typological and chronological discussion of principal kinds of ancient Egyptian artifacts.
Taught by: Wegner
One-term course offered either term
Activity: Lecture
1 Course Unit

NELC 466 Archaeology and History of the Middle Kingdom
Taught by: Wegner
Course not offered every year
Activity: Seminar
1 Course Unit

NELC 467 History of Egypt - New Kingdom
Covers principal aspects of ancient Egyptian culture (environment, urbanism, religion, technology, etc.) with special focus on archaeological data; includes study of University Museum artifacts. Follows NELC 266/466 - History of Egypt taught in the fall semester.
Taught by: Wegner
Course not offered every year
Also Offered As: AFST 467
Activity: Lecture
1 Course Unit

NELC 468 The Religion of Ancient Egypt
Weekly lectures (some of which will be illustrated) and a field trip to the University Museum's Egyptian Section. The multifaceted approach to the subject matter covers such topics as funerary literature and religion, cults, magic religious art and architecture, and the religion of daily life.
Taught by: Silverman/Wegner
Course not offered every year
Also Offered As: NELC 166, RELS 114
Activity: Lecture
1 Course Unit

NELC 469 The Archaeology of Nubia
The course will examine the archaeology of Ancient Nubia from Pre-history through the Bronze and Iron Ages, ca. 5000 BCE to 300 AD. The course will focus on the various Nubian cultures of the Middle Nile, and social and cultural development, along with a detailed examination of the major archaeological sites and central issues of Nubian archaeology.
Taught by: Wegner
Course not offered every year
Activity: Lecture
1 Course Unit

NELC 481 Elementary Amharic I
The Elementary Amharic I course can be taken to fulfill a language requirement, or for linguistic preparation to do research on Ethiopia/Africa-related topics. The course emphasizes communicative competence to enable the students to acquire linguistic and extra-linguistic skills in Amharic. The content of the course is selected from various everyday life situations to enable the students to communicate in predictable common daily settings. Culture, as it relates to language use, is also part of the course content.
For BA Students: Language Course
Taught by: Hailu
Course usually offered in fall term
Also Offered As: AFRC 240, AFRC 540, AFST 240, AFST 540
Activity: Lecture
1 Course Unit
Notes: Offered through the Penn Language Center

NELC 482 Elementary Amharic II
Continuation of Elementary Amharic I.
For BA Students: Language Course
Course usually offered in spring term
Also Offered As: AFRC 241, AFRC 541, AFST 241, AFST 541
Prerequisite: Completion of NELC 481
Activity: Lecture
1 Course Unit
Notes: Offered through the Penn Language Center

NELC 483 Intermediate Amharic I
For BA Students: Language Course
Taught by: Hailu
Course usually offered in fall term
Also Offered As: AFRC 242, AFRC 543, AFST 242, AFST 543
Prerequisites: Completion of NELC 482 or permission of the instructor.
Activity: Lecture
1 Course Unit
Notes: Offered through the Penn Language Center

NELC 484 Intermediate Amharic II
For BA Students: Last Language Course
Taught by: Hailu
Course usually offered in spring term
Also Offered As: AFRC 243, AFRC 544, AFST 243, AFST 544
Activity: Lecture
1 Course Unit
Notes: Offered through the Penn Language Center

NELC 489 Medieval Islamic Art and Architecture
An introduction to the major architectural monuments and trends, as well as to the best-known objects of the medieval (seventh-to fourteenth-century) Islamic world. Attention is paid to such themes as the continuity of late antique themes, architecture as symbol of community and power, and the importance of textiles and primacy of writing. Suitable for students of literature, history, anthropology as well as art history.
Taught by: Holod
Course not offered every year
Also Offered As: AAMW 435, ARTH 435, COML 415
Activity: Lecture
1 Course Unit
NELC 518 Media and Culture in Contemporary Iran
This course is an introduction to the major cultural themes and trends of contemporary Iran. Through the lens of press, cinema, literature and drama, the course will examine the ways in which contemporary Iranian society has been subject to rapid change and transformation over the past century. This class is designed for both junior and senior students who are keen to better understand the cultural context of Iran as one of the most influential and significant countries in the Middle East.
Taught by: Shams Esmaeili
One-term course offered either term
Also Offered As: NELC 218
Activity: Seminar
1 Course Unit

NELC 535 Muslim, Christian, and Jewish Relations in the Middle East and North Africa: Historical Perspectives
This class is a reading- and discussion-intensive seminar that addresses several recurring questions with regard to the Middle East and North Africa. How have Islam, Judaism, and Christianity influenced each other in these regions historically? How have Jews, Christians, and Muslims fared as religious minorities? To what extent have communal relations been characterized by harmony and cooperation, or by strife and discord, and how have these relations changed in different contexts over time? To what extent and under what circumstances have members of these communities converted, intermarried, formed business alliances, and adopted or developed similar customs? How has the emergence of the modern nation-state system affected communal relations as well as the legal or social status of religious minorities in particular countries? How important has religion been as one variable in social identity (along with sect, ethnicity, class, gender, etc.), and to what extent has religious identity figured into regional conflicts and wars? The focus of the class will be on the modern period (c. 1800-present) although we will read about some relevant trends in the early and middle Islamic periods as well. Students will also pursue individually tailored research to produce final papers. Prior background in Islamic studies useful.
Taught by: Sharkey
Course not offered every year
Also Offered As: NELC 335, RELS 311
Activity: Seminar
1 Course Unit

NELC 536 Nationalism and Communal Identity in the Middle East
This seminar views the phenomenon of nationalism as it affected the modern Middle East in the nineteenth and twentieth centuries. Together we will consider the diverse components of nationalism, including religion, language, territorial loyalty, and ethnicity, and test the thesis that nations are "imagined communities" built on "invented traditions." At the same time, we will examine other forms of communal identity that transcend national borders or flourish on more localized scales. This class approaches nationalism and communal identity as complex products of cultural, political, and social forces, and places Middle Eastern experiences within a global context.
Taught by: Sharkey
Course usually offered in fall term
Also Offered As: NELC 336
Prerequisites: NELC 102 or other relevant introductory courses on the Middle East.
Activity: Seminar
1 Course Unit

NELC 531 Iraq, Egypt, Algeria: Case Studies from the Arab World
This reading- and discussion-intensive seminar will use historical and political analyses, ethnographic studies, novels, and films to consider and compare the experiences of Iraq, Egypt, and Algeria in the modern period. Themes to be covered include the nature of local Arab and Arabic cultures; the impact and legacies of Ottoman and Western imperialism; the development of Islamist, nationalist, and feminist movements; the status of non-Arab or non-Muslim minorities (notably the Iraqi Kurds, Egyptian Copts, and Algerian Berbers); and patterns of social and economic change. The class will culminate in research projects that students individually design and pursue. This class is intended for juniors, seniors, and graduate students.
Taught by: Sharkey
Course not offered every year
Also Offered As: NELC 331
Activity: Seminar
1 Course Unit

NELC 534 Topics in Islamic Religion
Selected topics, such as Sufi texts or The Qur’an, in the study of Islamic religion.
Course not offered every year
Also Offered As: RELS 545, SAST 549
Activity: Seminar
1 Course Unit
NELC 542 Early Empires of the Ancient Near East: The Neo-Assyrian Empire
The Assyrians appear as destructive and impious enemies of the Israelites and Judeans in various books of the Bible and this view is reflected in Lord Byron’s poem: “The Assyrian came down like the wolf on the fold, / and his cohorts were gleaming in purple and gold” (Hebrew Melodies. The Destruction of Sennacherib). In the ninth, eighth and seventh centuries BCE, Assyrian armies marched out from their homeland in northern Iraq to Iran in the East, Egypt in the West, the Persian Gulf in the south and central Turkey in the north, and they created the largest empire known up until that time. They built impressive palaces and cities, created great works of art and have left us a vast number of documents preserving ancient literature and scholarly knowledge. In the course we will look at the structure of the Assyrian state, Assyrian culture, the development of the Assyrian empire, and its sudden collapse at the end of the seventh century. While the course will emphasize the use of textual sources, archaeological and iconographic data will also be used to help us arrive at an understanding of the great achievements of the ancient Assyrians. The classes will be part lecture and part seminar.

Taught by: Frame
Course not offered every year
Also Offered As: AAMW 543, NELC 242
Prerequisite: NELC 101 or permission of the instructor
Activity: Lecture
1 Course Unit

NELC 544 Reading Ancient Mesopotamia
An introduction to the literature of Ancient Mesopotamia.

Taught by: Tinney
One-term course offered either term
Also Offered As: NELC 244
Activity: Seminar
1 Course Unit

NELC 550 The Bible in Translation
This course introduces undergraduates and graduate students to one specific Book of the Hebrew Bible. "The Bible in Translation" involves an in-depth reading of a biblical source against the background of contemporary scholarship. Depending on the book under discussion, this may also involve a contextual reading with other biblical books and the textual sources of the ancient Near East. Although no prerequisites are required, NELC 250 is a perfect follow-up course for NELC 150 "Intro to the Bible."

One-term course offered either term
Also Offered As: COML 380, JWST 255, NELC 250, RELS 224
Activity: Seminar
1 Course Unit
Notes: May be repeated for credit.

NELC 552 THEMES JEWISH TRADITION
Course topics will vary; they have included The Binding of Isaac, Responses to Catastrophes in Jewish History, Holy Men & Women (Ben-Amos); Rewriting the Bible (Dohrmann); Performing Judaism (Fishman); Jewish Political Thought (Fishman); Jewish Esotericism (Lorberbaum) Democratic culture assumes the democracy of knowledge - the accessibility of knowledge and its transparency. Should this always be the case? What of harmful knowledge? When are secrets necessary? In traditional Jewish thought, approaching the divine has often assumed an aura of danger. Theological knowledge was thought of as restricted. This seminar will explore the "open" and "closed" in theological knowledge, as presented in central texts of the rabbinic tradition: the Mishnah, Maimonides and the Kabbalah. Primary sources will be available in both Hebrew and English. When did the Bible become the Bible? What was the nature of canon and authority in early Israel and Judaism, and how did biblical communities think about their sacred texts? How and what did the Bible mean to ancient readers? The answers to these questions are varied and surprising. This course looks at early biblical and Jewish texts that both write and re-write the tradition’s own central texts. We will think blindly and creatively about ancient textuality, orality, interpretation, composition, and authority. Drawing on literary theory, the course will examine the ways that biblical and post-biblical literature from the Second Temple to the rabbinic period (with some forays into contemporary literature) manifest complex ideas about power, meaning, and religiosity in early Judaism.

Taught by Ben-Amos/Dohrmann/Fishman
One-term course offered either term
Also Offered As: NELC 252, RELS 129, RELS 523
Activity: Seminar
1 Course Unit

NELC 556 Ancient Interpretation of the Bible
Christianity and Judaism are often called "Biblical religions" because they are believed to be founded upon the Bible. But the truth of the matter is that it was less the Bible itself than the particular ways in which the Bible was read and interpreted by Christians and Jews that shaped the development of these two religions and that also marked the difference between them. So, too, ancient Biblical interpretation -- Jewish and Christian-- laid the groundwork for and developed virtually all the techniques and methods that have dominated literary criticism and hermeneutics (the science of interpretation) since then. The purpose of this course is to study some of the more important ways in which the Bible was read and interpreted by Jews and Christians before the modern period, and particularly in the first six centuries in the common era. We will make a concerted effort to view these interpretive approaches not only historically but also through the lens of contemporary critical and hermeneutical theory in order to examine their contemporary relevance to literary interpretation and the use that some modern literary theorists (e.g. Bloom, Kermode, Derrida, Todorov) have made of these ancient exegetes and their methods. All readings are in English translation, and will include selections from Philo of Alexandria, the Dead Sea Scrolls, Rabbinic midrash, the New Testament and early Church Fathers, Gnostic writings, Origen, and Augustine. No previous familiarity with Biblical scholarship is required although some familiarity with the Bible itself would be helpful.

Course not offered every year
Also Offered As: NELC 356
Activity: Seminar
1 Course Unit
Notes: May be repeated for credit.
NELC 557 Seminar in Rabbinic Literature
Most of the foundational writings of rabbinic Judaism corpora of Midrash, Mishna, and the two Talmuds were in existence by the end of the sixth century CE. Yet, for several centuries thereafter, there is little evidence attesting to the lived nature of rabbinic culture and society. Course will focus on writings by Jews and about Jews, produced between the 7th and 10th centuries, complemented by secondary sources. Texts will include selections from archaeological inscriptions; Midrash; liturgical poetry; Targum; Masora; geonic responsa, writings by Muslims and by Church Fathers. While students must be able to read Hebrew, much class time will be devoted to the improvement of reading and comprehension skills. Undergraduates should seek permission of the instructor. 
Course usually offered in spring term 
Also Offered As: HEBR 557, JWST 553, RELS 557
Prerequisites: Proficiency in Hebrew and/or Greek recommended. Undergraduates need permission to enroll.
Activity: Seminar
1 Course Unit
Notes: May be repeated for credit

NELC 567 Seminar on Egyptian Archaeology and History
Specific topics will vary from year to year.
Taught by: Wegner
Course not offered every year
Activity: Seminar
1 Course Unit

NELC 568 Women in Ancient Egypt
This class will examine the many roles played by women in ancient Egypt. From goddesses and queens, to wives and mothers, women were a visible presence in ancient Egypt. We will study the lives of famous ancient Egyptian women such as Hatshepsut, Nefertiti and Cleopatra. More independent than many of their contemporaries in neighboring areas, Egyptian women enjoyed greater freedoms in matters of economy and law. By examining the evidence left to us in the literature (including literary texts and non-literary texts such as legal documents, administrative texts and letters), the art, and the archaeological record, we will come away with a better understanding of the position of women in this ancient culture.
Course usually offered in spring term
Also Offered As: NELC 168
Activity: Lecture
1 Course Unit

NELC 614 Introduction to Persian Literature
This course, which requires no knowledge of Persian, aims to introduce students to the major trends and developments in the Persian literary tradition, which has spanned for more than a millennium. Introductory sessions will familiarize students with the history of Persian literature, especially the transition away from classical modes of representation, a tradition that was largely poetic, to modern genres and forms, including the novel, blank-verse poetry, and short stories. However, most of the course will be organized thematically rather than chronologically, and each unit will bring together literary texts from both the classical and modern traditions. Together we will examine how authors from different historical periods have utilized a limited number of motifs in order to represent and critique the dominant religious and social institutions of their time. We will conclude by considering the rapid politicization of Persian literature in the 20th century and recent efforts to control systems of representation, and especially the written word, in the Islamic Republic of Iran.
Also Offered As: NELC 114
Activity: Lecture
1 Course Unit

NELC 618 Iranian Cinema: Gender, Politics and Religion
This seminar explores Iranian culture, art, history and politics through film in the contemporary era. We will examine a variety of works that represent the social, political, economic and cultural circumstances of post-revolutionary Iran. Along the way, we will discuss issues pertaining to gender, religion, nationalism, ethnicity, and the function of cinema in present day Iranian society. Films to be discussed will be by internationally acclaimed filmmakers, such as Abbas Kiarostami, Mohsen Makhmalbaf, Rahkshan Bani-Etemad, Tahmineh Milani, Jafar Panahi, Bahman Gobadi, among others.
One-term course offered either term
Also Offered As: NELC 118
Activity: Lecture
1 Course Unit

NELC 632 North Africa: History, Culture, Society
This interdisciplinary seminar aims to introduce students to the countries of North Africa, with a focus on the Maghreb and Libya (1830-present). It does so while examining the region’s close economic and cultural connections to sub-Saharan Africa, Europe, and the Middle East. Readings will include histories, political analyses, anthropological studies, and novels, and will cover a wide range of topics such as colonial and postcolonial experiences, developments in Islamic thought and practice, and labor migration. This class is intended for juniors, seniors, and graduate students.
Taught by: Sharkey
Course not offered every year
Also Offered As: AFST 332, AFST 533, NELC 332
Prerequisites: A university-level survey course in Middle Eastern, African, or Mediterranean history.
Activity: Seminar
1 Course Unit
NELC 633 Seminar in Selected Topics in Arabic Literature
This is the graduate seminar course in which a variety of aspects of
Arabic literature studies are covered at the advanced graduate level.
Students in this course are expected to be able to read large amounts
of literature in Arabic on a weekly basis and to be able to discuss them
critically during the class itself. Topics are chosen to reflect student
interest. Recent topics have included: 1001 NIGHTS; the short story; the
novel; MAQAMAT; classical ADAB prose; the drama; the novella; modern
Arabic poetry.
Taught by: Allen
Course usually offered in spring term
Activity: Seminar
1 Course Unit

NELC 638 Approaches to Islamic Law
This course aims to introduce students to the study of Islamic law, the all-
embracing sacred law of Islam. In this course we will attempt to consider
many different facets of the historical, doctrinal, institutional and social
complexity of Islamic law. In addition, the various approaches that have
been taken to the study of these aspects of Islamic law will be analyzed.
The focus will be mostly, though not exclusively, on classical Islamic law.
Specific topics covered include the beginnings of legal thought in Islam,
various areas of Islamic positive law (substantive law), public and private
legal institutions, Islamic legal theory, and issues in the contemporary
development and application of Islamic law.
Taught by: Lowry
Course not offered every year
Also Offered As: RELS 648
Prerequisites: Some background knowledge about Islam is an asset.
Activity: Seminar
1 Course Unit

NELC 641 Iraq: Ancient Cities and Empires
This course consists of an analytical survey of civilization in the ancient
Mesopotamia from prehistoric periods to the middle centuries of the
first millennium B.C. A strong focus is placed on Mesopotamia (Iraq,
eastern Syria) proper, but it occasionally covers its adjacent regions,
including Anatolia (Turkey), north-central Syria, and the Levantine
coast. As we chronologically examine the origin and development of
civilization in the region, various social, political, economic, and
ideological topics will be explored, including subsistence, cosmolgy,
writing, trade, technology, war, private life, burial custom, and empire.
Based on both archaeological and historical evidence, these topics
will be examined from archaeological, anthropological, historical and
art historical perspectives. Students will be exposed to a variety of
theoretical approaches and types of relevant evidence, including
settlement survey data, excavated architectural remains and artifacts,
and written documents. The course aims to provide students with a
strong foundation for further study in Near Eastern civilization.
Taught by: Zettler
Course not offered every year
Also Offered As: ANTH 236, NELC 241
Activity: Lecture
1 Course Unit

NELC 651 Dead Sea Scrolls
Exploration of the issues relating to the identification and history of the
people who produced and used these materials as well as the claims
made about the inhabitants of the Qumran site near the caves in which
the scrolls were discovered, with a focus on what can be known about the
community depicted by some of the scrolls, its institutions and religious
life, in relation to the known Jewish groups at that time (the beginning of
the Common Era). This will involve detailed description and analysis
of the writings found in the caves -- sectarian writings, "apocrpaha" and
"pseudepigrapha" biblical texts and interpretations.
Course not offered every year
Also Offered As: JWST 225, NELC 251, RELS 225
Activity: Seminar
1 Course Unit

NELC 654 The World of Cleopatra
The figure of Cleopatra is familiar from modern stories, legends, and film.
Was this famous woman a brazen seductress or a brilliant political mind?
How many of these presentations are historically accurate? This class
will examine the Ptolemaic period in Egypt (305-30 BCE), the time period
during which Cleopatra lived, in an attempt to separate myth from reality.
The Ptolemaic period is filled with political and personal intrigue. It was
also a time of dynamic multiculturalism. Arguably one of the most violent
and fascinating eras in ancient Egyptian history, the Ptolemaic period
is largely unknown and often misunderstood. This course will examine
the history, art, religion and literature of Egypt's Ptolemaic period which
culminated in the reign of Cleopatra VII.
Taught by: Houser Wegner
Course not offered every year
Also Offered As: NELC 064
Activity: Seminar
1 Course Unit

NELC 664 History of Ancient Egypt
Review and discussion of the principal aspects of ancient Egyptian
history, 3000-500 BC.
Taught by: Wegner
Course usually offered in fall term
Also Offered As: NELC 266
Activity: Lecture
1 Course Unit

NELC 666 Art and Architecture in Ancient Egypt
This course will be an introduction to the art, architecture and minor
arts that were produced during the three thousand years of ancient
Egyptian history. This material will be presented in its cultural and
historical contexts through illustrated lectures and will include visits to
the collection of the University Museum.
Taught by: Silverman
Course not offered every year
Also Offered As: ARTH 218, ARTH 618, NELC 068
Activity: Lecture
1 Course Unit
NETS 112 Networked Life
What kind of science is appropriate for understanding the Facebook? How does Google find what you’re looking for... and exactly how do they make money doing so? What properties might we expect any social network to reliably have, and are there simple explanations for them? How does your position in an economic network (dis)advantage you? How are individual and collective behavior related in complex networks? What might we mean by the economics of spam? What do game theory and the Paris subway have to do with Internet routing? Networked Life looks at how our world is connected -- socially, economically, strategically and technologically -- and why it matters.
Course usually offered in fall term
Activity: Lecture
1 Course Unit

NETS 212 Scalable and Cloud Computing
What is the “cloud”? How do we build software systems and components that scale to millions of users and petabytes of data, and are “always available”? In the modern Internet, virtually all large Web services run atop multiple geographically distributed data centers: Google, Yahoo, Facebook, iTunes, Amazon, EBAY, Bing, etc. Services must scale across thousands of machines, tolerate failures, and support thousands of concurrent requests. Increasingly, the major providers (including Amazon, Google, Microsoft, HP, and IBM) are looking at “hosting” third-party applications in their data centers - forming so-called “cloud computing” services. This course, aimed at a sophomore with exposure to basic computer science applications like machine learning, next-generation interfaces, and data mining. Beyond these computer science aspects, we will also delve into topics like prediction markets, how businesses can capitalize on collective intelligence, and the fundamental principles that underlie democracy and other group decision-making processes.
One-term course offered either term
Prerequisite: CIS 120 or prior programming experience
Activity: Lecture
1 Course Unit
NETS 312 Theory of Networks
Want to understand how memes spread across the Internet? How organisms exhibit flocking behavior? How the structure of a network can help predict behavior among the nodes? This course is a rigorous study of the structure and function of complex networks. From World Wide Web to networks of banks and lenders that form the financial sector, to friendship networks that influence our opinion and everyday decision-making, networks have become an integral part of our daily lives.
One-term course offered either term
Activity: Lecture
1 Course Unit

NETS 412 Algorithmic Game Theory
How should an auction for scarce goods be structured if the sellers wish to maximize their revenue? How badly will traffic be snarled if drivers each selfishly try to minimize their commute time, compared to if a benevolent dictator directed traffic? How can couples be paired so that no two couples wish to swap partners in hindsight? How can you be as successful as the best horse-racing expert at betting on horse races, without knowing anything about horse racing? In this course, we will take an algorithmic perspective on problems in game theory, to solve problems such as the ones listed above. Game theory has applications in a wide variety of settings in which multiple participants with different incentives are placed in the same environment, must interact, and each “player”’s actions affect the others.
One-term course offered either term
Activity: Lecture
1 Course Unit

Neuroscience (NGG)

NGG 510 Neurotransmitter Signaling & Pharmacology
This course will provide in-depth information on neurotransmitters and their associated signaling systems. Emphasis will be placed on the wealth of new molecular information that has been gathered to examine how neurons function and communicate. Students will develop skills to appreciate, present and critically evaluate the current literature in neurotransmitter signaling and neuropharmacology.
Taught by: Steve Thomas, Teresa Reyes, Chris Pierce
Course offered spring; even-numbered years
Also Offered As: PHRM 510
Activity: Lecture
1 Course Unit

NGG 521 Brain Computer Interface
This course is geared to advanced undergraduate and graduate students interested in understanding the basics of implantable neuro-devices, their design, practical implementation, approval, and use. Reading will cover the basics of neuro signals, recording, analysis, classification, modulation, and fundamental principles of Brain-Machine Interfaces. The course will be based upon twice weekly lectures and "hands on" weekly assignments that teach basic signal recording, feature extraction, classification and practical implementation in clinical systems. Assignments will build incrementally toward constructing a complete, functional BMI system. Fundamental concepts in neurosignals, hardware and software will be reinforced by practical examples and in-depth study. Guest lecturers and demonstrations will supplement regular lectures.
Also Offered As: BE 521
Prerequisites: BE 301 (Signals and Systems) or equivalent, computer programming experience, preferably MATLAB (e.g., as used in BE labs, BE 209/210/310). Some basic neuroscience background (e.g. BIOL 215, BE 305, BE 520, NGG core course), or independent study in neuroscience, is required. This requirement may be waived based upon practical experience on a case by case basis by the instructor.
Activity: Lecture
1 Course Unit

NGG 534 Seminar in Current Genetics Research
This is an advanced seminar course emphasizing genetic research in model organisms and how it informs modern medicine. Each week a student will present background on a specific human disease. This is followed by an intense discussion by the entire class of 2 recent papers in which model organisms have been used to address the disease mechanism and/or treatment. As a final assignment, students will have the opportunity to write, edit, and publish a "News & Views" style article in the journal "Disease Models and Mechanisms".
Course usually offered in spring term
Also Offered As: CAMB 534
Activity: Seminar
1 Course Unit

NGG 572 Electrical Language of Cells
This course introduces students to high-speed electro-chemical signaling mechanisms that occur in nerve and other excitable cells during normal activity. Topics considered in substantial detail include: a) a basic description of the passive and active membrane electrical properties; b) the molecular architecture and functional role of ion channels in cell signaling; c) the role of the calcium ion as an ubiquitous chemical messenger, with applications to neuro-secretion; d) excitatory and inhibitory transmission in the central nervous system; e) sensory transduction, as illustrated by the visual, olfactory, and auditory pathways. The course assumes a standard background in cell biology, as well as basic concepts from college physics and college calculus.
Taught by: Toshinori Hoshi, Doug Coulter
Course usually offered in fall term
Activity: Lecture
1 Course Unit
NGG 573 Systems Neuroscience
This course provides an introduction to what is known about how neuronal circuits solve problems for the organism and to current research approaches to this question. Topics include: vision, audition, olfaction, motor systems, plasticity, and oscillations. In addition, the course aims to provide an overview of the structure of the central nervous system. A number of fundamental concepts are also discussed across topics, such as: lateral inhibition, integration, filtering, frames of reference, error signals, adaptation. The course format consists of lectures, discussions, readings of primary literature, supplemented by textbook chapters and review articles.
Taught by: Yale Cohen, Diego Contreras
Course usually offered in spring term
Also Offered As: PSYC 609
Activity: Lecture
1 Course Unit

NGG 575 Neurobiology of Learning and Memory
This course focuses on the current state of our knowledge about the neurological basis of learning and memory. A combination of lectures and discussions will explore the molecular and cellular basis of learning in invertebrates and vertebrates from a behavioral and neural perspective. This course is intended for upper level undergraduate and graduate students.
Taught by: Ted Abel, Isabel Muzzio
Course offered fall; odd-numbered years
Also Offered As: BIBB 442, BIOL 442, PSYC 421
Activity: Seminar
1 Course Unit

NGG 578 Advanced Topics in Behavioral Genetics
This course focuses on the use of genetic techniques to study the molecular and cellular bases of behavior. Particular emphasis will be given to the role of genetic approaches in understanding the biological processes underlying learning, memory storage, circadian rhythms, and drug abuse. Reverse genetic approaches utilizing gene knockout and transgenic technology, as well as forward genetic approaches using mutagenesis and quantitative genetic techniques, will be discussed.
Taught by: Ted Abel, Maja Bucan, Robert Schultz
Course offered spring; even-numbered years
Also Offered As: BIBB 442, BIOL 442, PSYC 421
Activity: Lecture
1 Course Unit

NGG 584 Neurobiology of Sleep and Arousal
The objectives of this course are: to discuss and evaluate mechanisms controlling sleep and circadian rhythms; to survey novel approaches to investigations in these areas; indicate the clinical relevance of these ideas where possible. About half the course consists of core lectures on basic rhythms, sleep, and their neural substrates. The rest of the lectures are devoted to special topics which change from year to year.
Taught by: Allan Pack, David Raizen
Course offered fall; even-numbered years
Activity: Lecture
1 Course Unit

NGG 587 Neurobiology of Disease
This course is designed to familiarize neuroscientists with basic information about a number of important neurological and psychiatric disease, focusing on a relatively brief clinical description of the condition and a more in depth discussion of what is currently understood about the basic pathobiology of the disorder. The course is divided into two parts: on Tuesday afternoons there will be a formal didactic teaching session. The first part of each lecture (1/2 hour to 1 hour) will be devoted to a discussion of the disease in question and the second part will consist of one or two student presentations (in lieu of a paper or exam) reviewing in depth one critical neuroscience component of the disease. Each student will work with the course director or an assigned faculty member to develop her/his lecture. On Thursday afternoons, a faculty member will present a research seminar or chalk talk describing the research she or he is conducting in that particular disease. Papers will be provided before the seminar so the students will be familiar with the research. It is expected that having a research seminar given after the introductory lecture will allow the students to become familiar in depth with at least one approach to each disease.
Taught by: Marc Dichter
Course offered spring; even-numbered years
Prerequisites: Working knowledge of biology and chemistry
Corequisite: Permission of course director
Activity: Lecture
1 Course Unit

NGG 594 Theoretical and Computational Neuroscience
Theoretical studies of neural function from the molecular to the cognitive level. Emphasis on organization and function of neural maps, synaptic plasticity, vision, and recent neural network models of higher brain functions and on neurobiological problems that are well suited to computational study.
Taught by: Vijay Balasubramanian
Course usually offered in spring term
Also Offered As: BIBB 585, PHYS 585, PSYC 539
Prerequisites: Previous coursework in physiology and in differential equations and some familiarity with computers, or instructor's permission.
Activity: Lecture
1 Course Unit

NGG 583 Seminar FMRI Data Analysis
Seminar FMRI Data Analysis.
Taught by: Seminar FMRI Data Analysis.
One-term course offered either term
Also Offered As: PSYC 745
Activity: Seminar
1 Course Unit
NGG 597 Neural Development, Regeneration and Repair
The goal of this course is to examine the principles underlying nervous system development and to appreciate how understanding the molecular mechanisms that govern development can be used to inform approaches to promote regeneration and repair. This is not a survey course. Rather, the course will focus on selected topics, for which we will discuss the genetic, molecular and cellular strategies employed to study these problems in different model organisms. Emphasis is on how to interpret and critically evaluate experimental data. Each class is 1.5 hours in length. During the first hour, an assigned paper will be discussed in detail. During the last 20-30 minutes, faculty will introduce methods, concepts, background and information pertinent to the paper that will be discussed at the following meeting. Topics for Spring 2014 will include: 1) Neural specification, diversification and the use of Stem Cells for neural replacement and repair, 2) Axon guidance at the midline and regeneration in spinal cord, 3) Neuronal tiling, self-avoidance and Wallerian degeneration, 4) Development of olfactory circuits and 5) Synapse formation, positioning and synaptic partner choice. There are no exams, but each student will submit two short (two page) research proposals related to the topics presented.
Taught by: Greg Bashaw, Michael Granato
Course usually offered in fall term
Also Offered As: CAMB 597
Activity: Lecture
1 Course Unit

NGG 598 Advanced Systems Neuroscience
How do we perceive the external world with different senses? How do we use our knowledge of the world to make decisions that benefit us? How do we transform these decisions into actions? How do we improve the execution of the actions themselves? Most importantly, from a neuroscience perspective, how does our brain do it? These are some of the fundamental questions in neuroscience. The Advanced Systems Neuroscience course explores these questions with two focuses: 1) what are our current best guesses? 2) what are the strategies/techniques used in systems neuroscience that have proven successful in improving our guesses? The course will follow a general sensory-decisionmaking motor theme, with lectures, presentations of research articles by students and presentations of experiment proposals by students. Lectures by faculty members will review leading hypotheses in particular topics and illustrate key experiments/results that support those hypotheses; paper presentations by students will facilitate more detailed understanding of how studies were constructed and how results were obtained and interpreted; experiment proposals by students (with faculty mentors) will serve as exercises for the students to develop critical skills in designing experiments and writing proposals.
Taught by: Marc Schmidt, Long Ding
Course offered fall; odd-numbered years
Prerequisite: Core III or Permission of course director
Activity: Lecture
1 Course Unit

NGG 600 Topics in Neurobiology of Disease 001: Neurodegenerative Diseases
Activity: Seminar
0.5 Course Units

NGG 618 Recovery After Neural Injury
The human nervous system is subject to several types of injury, (traumatic, ischemic, epileptic, demyelinating and/or inflammatory) that cause serious functional deficits. The mechanisms used by the central and peripheral nervous systems for functional recovery from these injuries will be described in this course. The molecular and cellular pathobiology of CNS injury will be reviewed and methods to enhance functional recovery will be discussed in detail. These include the limitation of secondary neuronal damage by pharmacological manipulations (neuroprotection), the promotion of regeneration, and plasticity, the application of bioengineering strategies, and the use of behavioral rehabilitative approaches. Course Format: a combination of lecture, journal club type student presentations and classroom discussion.
Taught by: Akiva Cohen
Course offered spring; odd-numbered years
Activity: Lecture
1 Course Unit

NGG 615 Protein Conformational Diseases
Protein misfolding and aggregation has been associated with over 40 human diseases, including Alzheimer’s disease, Parkinson’s disease, amyotrophic lateral sclerosis, prion diseases, alpha (1)-antitrypsin deficiency, inclusion body myopathy, and systemic amyloidoses. This course will include lectures, directed readings and student presentations, to cover seminal and current papers on the cell biology of conformational diseases including topics such as protein folding and misfolding, protein degradation pathways, effects of protein aggregation on cell function, model systems to study protein aggregation and novel approaches to prevent protein aggregation.
Taught by: Yair Argon, Harry Ischiropoulos
Course offered fall; odd-numbered years
Also Offered As: BMB 518, CAMB 615
Activity: Lecture
1 Course Unit

NGG 695 Scientific Writing
This 7-class course is designed to introduce students to basic scientific writing skills and is timed for second year graduate students preparing for qualifying examinations. Participants will review the general principles of clear, persuasive writing, and will apply these principles to writing for a scientific audience. Particular emphasis will be placed on conveying the significance of your research, outlining the aims, and discussing the results for scientific papers and grant proposals. The course will also provide an overview of the structure and style of research grant proposals and scientific manuscripts. Classes are highly interactive, and the majority of class time will be spent discussing student scientific writing. The goal of the course is to encourage active and open interaction among students. Ideal endpoints include improved self-editing, and development of effective strategies for offering and receiving editorial recommendations among peers.
Taught by: Alice Chen-Plotkin, Joshua Ian Gold
Course usually offered in spring term
Prerequisites: NGG Pre-candidacy exam students only.
Activity: Seminar
0.5 Course Units

NGG 706 Neuroeconomics
One-term course offered either term
Also Offered As: BIBB 473, PSYC 473
Activity: Seminar
1 Course Unit
**NGG 799 Independent Study**
One-term course offered either term
Activity: Independent Study
1 Course Unit

**NGG 990 Master's Thesis**
Course not offered every year
Activity: Masters Thesis
1 Course Unit

## Nonprofit Leadership (NPLD)

**NPLD 510 Social Innovation**
This is a class focused on understanding how innovation plays a central role in public problem solving. We will explore how social entrepreneurs develop their ideas, define intended impact, market their solutions, understand competition, and collaborate with other actors. At the end of the course, students will have mastered a set of conceptual tools that will allow them to be effective problem solvers in diverse settings throughout their careers. The course has five core objectives: 1. To introduce students to the concepts and practices of social entrepreneurship; 2. To introduce students to the components of a successful social enterprise; 3. To equip students with the tools to be able to accurately identify and assess innovation and impact in social enterprises; 4. To train students to view the world from a perspective of social innovation; and 5. To empower students to develop their own innovative solutions to difficult social problems around the world.

Taught by: Frumkin
Course usually offered in spring term
Activity: Lecture
1 Course Unit
Notes: Open to graduate and undergraduate students

**NPLD 561 Nonprofit Branding**
This course will provide the tools and framework for helping to understand the role that marketing and brand building can play in the non-profit sector. As such, we will create a shared understanding of the key concepts that help define branding and the classic elements of marketing that will serve as a foundation for discussion and analysis throughout the semester. We will identify the fundamental differences that non-profit organizations face in building their brands and how those challenges differ from tradition/for profit brand building. We will identify tools and frameworks that brands/organizations can use to help design and implement marketing strategy. We will utilize current and relevant case studies that help demonstrate the core concepts of this course.

Taught by: Rhode
Activity: Lecture
0.5 Course Units
Notes: half credit course; Fall 2017 course dates: Mondays 9/18, 10/9, 10/23, 11/6, 11/27, and 12/4, 5-8pm

**NPLD 562 (Almost) Everything You Need to Know About Nonprofit Law**
This half credit course will provide a basic understanding of the law that applies to nonprofit organizations, with an emphasis on the law affecting 501(c)(3) public charities. It will focus on ways to obtain and maintain federal tax exempt status, including issues of private inurement and private benefit, limits on advocacy, lobbying and electioneering, unrelated business income tax, and excess benefits taxes. It will show how legal structure and governance procedures affect the answer to the questions "Whose Organization Is It?" Students will review bylaws of multiple organizations to see how differences in structure reflect the great diversity of nonprofits and why "one size does not fit all" within the sector. They will learn how to avoid bad legal drafting that can create problems for dysfunctional organizations. The course will explain the fiduciary duty of officers and directors, explore the extent of potential personal liability, and review necessary insurance and indemnification. It will review Form 990 publicly available tax returns of multiple nonprofits to see why a tax return may be a nonprofit's most important public relations document. It will also review the basics of charitable giving through a mock meeting of university development officers, outline the concepts of planned giving, and discuss the requirements for charitable solicitation registration at the state level. It will explain the legal requirements for maintaining endowments and discuss a series of ethical issues that can face nonprofit executives and their lawyers.

Taught by: Kramer
Activity: Lecture
0.5 Course Units

**NPLD 563 Raising Philanthropic Capital**
Americans gave more than $350 billion to nonprofit organizations last year, the highest total ever recorded. Now, more than ever, it is crucial that nonprofit leaders master the art and science of raising philanthropic capital. Participants in this innovative class will: 1) acquire an understanding of the nonprofit funding landscape; 2) learn proven and creative strategies to secure investments; 3) gain the experience of giving and motivating charitable commitments; and 4) receive peer evaluation and professional consulting feedback. This experiential and interactive learning course will provide students an opportunity to evaluate a nonprofit organization endeavoring to attract voluntary support, and coach students to think through and develop the ideas, skills, and tools required to participate personally in today's philanthropic market.

Taught by: Hagin
Activity: Lecture
0.5 Course Units

**NPLD 564 Social Entrepreneurship at the Bottom of the Pyramid**
This half credit course will offer a broad and pragmatic perspective on social impact at the Bottom of the Pyramid. The early part of the course will focus on general characteristics, challenges, and opportunities of resource-poor settings and high-uncertainty environments. The bulk of the course will focus on tools and frameworks designed to operationalize such Social Impact initiatives. The course is aimed at students with no to moderate experience in entrepreneurship/international development. Students with extensive work experience in for-profits, nonprofits, NGOs, or development work are most welcome.

Taught by: Thompson
Activity: Lecture
0.5 Course Units
NPLD 565 Financial Management of Nonprofits
The half credit class will provide students with the ability to use the financial tools of cash flow, budgeting and forecasting models to assist in strategic thinking as it relates to a nonprofit organization. In addition, the class will provide tools that can be used to follow implementation of such strategies including: personal cash flow; basic financial statements; supplemental schedules; and cash flow, budgeting, and forecasting.
Taught by: Boylston
Activity: Lecture
0.5 Course Units

NPLD 580 Effective Governance Practices for Nonprofits
Effective governance relies upon consistent and ethical board leadership, yet nonprofit organizations that exemplify truly model governance are few and far between. This course introduces students to broad frameworks of governance, but will focus most deeply on the human dimensions of board leadership. In particular, we will examine real examples and cases of moral and ethical dilemmas faced by nonprofit boards and executive leaders, and the nuanced practices required to achieve effective board governance. This will involve a careful look at several real cases, as well as guest lectures from 3-4 different nonprofit board and CEO leaders. The invited leaders will use their own experiences to guide students through some of the most challenging ethical and managerial situations that can be encountered, with the goal of providing a practical grounding for students who expect to contribute to nonprofit leadership in their careers - either as executive staff or as board members.
Taught by: Shmavonian
Course usually offered in fall term
Activity: Lecture
0.5 Course Units
Notes: .5 cu course; Fall 2017 class dates: Mondays 9/25, 10/2, 10/16, 10/30, 11/13, 11/20; 5-8pm

NPLD 582 NGOs and International Development
The course will offer a broad perspective on international development, aid, and the roles of NGOs and social enterprises. The latter half of the course will focus on issues in NGO management: fundraising, staff (expatriate and local), monitoring, and evaluation (including randomized controlled trials). The course is aimed at students with no to moderate experience in international development, but students with extensive work experience with NGOs or development work are also welcome.
Taught by: Thompson
Activity: Lecture
1 Course Unit

NPLD 587 Interpersonal Dynamics In Nonprofits That Thrive
This course is designed for interdisciplinary students with an enthusiastic interest in cultivating flourishing organizations, engaged stakeholders, and inspiring leaders across sectors and especially within nonprofits. Over the past several years, the field of Positive Organizational Scholarship (POS) has proliferated, yielding a compelling body of knowledge on how and when people thrive at work. This course focuses on both the theoretical and practical insights that can be gained from cutting-edge POS research and applied to help practitioners enrich people's experiences at work. Special attention is placed on how this wisdom applies not only across sectors but also specifically to the nonprofit organizational context. The course is built upon a foundation of experiential learning, such that students can expect to experiment and apply course concepts in their own lives throughout the semester. In other words, students will start with themselves as the first site of learning and development. The experiential community is enhanced further with team projects where students assess and consult with local nonprofit organizations. These team projects culminate in students presenting to their actual nonprofit organizations their recommendations for enhanced strategy and practices. In particular, the learning objectives of the course provide students with: 1) Techniques and real-world experience in using positive leadership concepts to enrich one's own career, relationships, and life; 2) Ability to identify opportunities to use positive leadership practices in the workplace to enhance stakeholder engagement, individual and organizational performance, and collective impact; 3) Tools for applying positive leadership concepts in nonprofits, as well as all other organizational domains (e.g. business, government, coaching, the family etc.); 4) Research and consulting experience with a local non-profit organization.
Taught by: Myers
Activity: Lecture
1 Course Unit

NPLD 589 Ethics and the Pursuit of Social Impact
Leaders of organizations must often make difficult decisions that pit the rights of one set of stakeholders against another. Having multiple stakeholders or bottom-lines brings with it challenges when conflicts arise, with the perennial question of whose rights/benefits prevail? What trade-offs need to be made between multiple bottom lines? Does the mission of the organization prevail over the privileges of employees/clients? To what extent can large donors influence the mission of the organization? What is an appropriate social return on investment? This course will introduce the factors that influence moral conduct, the ethical issues that arise when pursuing social goals, and discuss the best ways to promote ethical conduct within such organizations. The course will use specific case studies, real and hypothetical, to analyze a variety of ethical issues that arise (including finance, governance, accountability, fundraising, labor (paid and unpaid), client groups, and service provision) among the multiple stakeholders. This course is offered in the fall semester and will conclude by discussing ways that organizations can prevent and correct misconduct, develop a spirit of ethical behavior and institutionalize ethical values in the organization's culture.
Taught by: Handy
Course usually offered in fall term
Activity: Lecture
1 Course Unit
NPLD 590 Social Finance
Economic analysis and financial accounting are like languages: fluency comes with practice. In-class review of case studies (including in-person discussions with the representatives of diverse agencies and organizations featured in the case studies) will enable students to test and develop their capacity for applying conceptual tools and analytical methods to sometimes messy and always complicated, real-life situations. The course objective is to develop theoretical understanding, critical judgment, and practical skills for sensitive and effective engagement with financial and economic matters of significance. Students will learn: (a) different ways of thinking about the economic foundations of social policy, (b) the basic terminology, tools, and methods for analyzing the financial statements of a wide range of organizations, and (c) accounting procedures for evaluating business, government, and organizational operations, policies, and practices.
Taught by: Lamas
Course usually offered in fall term
Also Offered As: NPLD 790
Activity: Lecture
1 Course Unit
Notes: The course is open to students across the University. All graduate students who take this course must register under NPLD 790. All undergraduate students must register under NPLD 590.

NPLD 591 Change Making: Personal Traits and Professional Skills
Over the past decade, researchers have identified some of the key skills that people need to succeed in their work and in their lives. These are skills that anyone can develop with practice. In this class, we will teach three of the key skills: resilience (the ability to thrive in difficult times); creativity (the ability to come up with innovative solutions to problems); and productivity (the ability to make the best use of your time and find life balance). This summer session will take place through dynamic, interactive workshops. During the first session we will learn the key skills. Over the course of the next three weeks, we will practice these skills to see significant improvement in important areas of our daily lives. By the final day of class, we will talk about how to sustain these gains in our personal and professional lives long after the course has ended.
Taught by: Sherman
Course usually offered summer term only
Activity: Lecture
1 Course Unit

NPLD 593 Design Thinking for Social Impact
Thinking like a designer can transform the way people and organizations develop products, services, processes, and strategy. This approach, called design thinking, brings together what is desirable from a human point of view with what is technologically feasible and economically viable. It also allows people who aren’t trained as designers to use creative tools to address a vast range of challenges. Design thinking is a deeply human process that taps into abilities we all have but get overlooked by more conventional problem-solving practices. It relies on our ability to be intuitive, to recognize patterns, to construct ideas that are emotionally meaningful as well as functional, and to express ourselves through means beyond words or symbols.
Taught by: Lidgus
Course usually offered summer term only
Also Offered As: SWRK 593
Activity: Lecture
1 Course Unit
Notes: for exact meeting days and course times, please check the website: http://www.sp2.upenn.edu/npl/course-schedule

NPLD 720 Data Analysis for Social Impact
Practitioners, leaders, and researchers need to engage with the latest cutting-edge research findings in their field. In this class you will develop an understanding of the quantitative methods that underpin social impact research, in an applied lab-based context. Theoretically, we will focus on developing your working statistical knowledge, and practically we will develop your data analysis skills by introducing you to a range of approaches for analyzing and handling large-scale secondary quantitative data that capture social impact. This applied course covers the fundamental elements and approaches to handling and analyzing quantitative survey data. The emphasis is on developing an adequate understanding of basic theoretical statistical principles, descriptive and exploratory methods of analysis, graphical representation, operational procedures and interpretation of statistical results using STATA. The course will cover a wide range of statistical techniques from basic descriptive statistics to more advanced multivariate statistical techniques, such as OLS regression and logistic regression. You will also be introduced to a number of important topics, including theory testing and development; philosophy of science and research judgement; and replication in social impact research.
Taught by: Bennett
Activity: Lecture
1 Course Unit
Notes: Undergraduates need permission

NPLD 750 Corporate Social Responsibility (CSR): Partnerships and Practices
Businesses performing philanthropic activity often use their platform of CSR activities to engage with society, directly, via a corporate foundation, or through partnerships with nonprofit organizations. Although such philanthropic activities are not directly related to profit-making ventures, they may boost their reputation, be used in marketing their products, talent recruitment, increase employee engagement and commitment, and thus contribute to the profit indirectly. Many businesses undertake their CSR related philanthropic activities using strategic partnerships with nonprofits or public sector organizations to meet their goals. This provides opportunities to nonprofit and public sector leaders in achieving social and sustainable change.
Taught by: Handy
Activity: Lecture
1 Course Unit
NPLD 782 Small Group Processes
Studying the behavior of groups and the actions/inactions of people within groups provides a doorway to a deeper understanding of ourselves, our families, our friends, our colleagues, our organizations, and our communities. This .5 credit course is designed for Penn Graduate students eager to generate constructive group processes when chairing a committee, managing a work group, teaching in a classroom, conducting a support/therapy group or facilitating strategy formulation. It is easy to look back and see what went right or wrong in a group or when observing what others are doing. But tuning into and gaining a comprehensive grasp of these processes when they are happening and learning how to take constructive actions in the here and now when it can have a meaningful impact, requires a high level of cognitive capability combined with a special form of relational artistry. This weekend course is an amalgam of experiential activities and energizing ways to internalize the rich concepts developed during a hundred years of research. Participants are required to be fully present and fully engaged for the whole weekend, read the equivalent of a book’s worth of material, and write an 8-page (double spaced) paper. Taught by senior group instructors, including those who have worked in the Small Group Process workshop in the Wharton Leadership Ventures.
Activity: Seminar
0.5 Course Units
Notes: see website for course dates/times: http://www.sp2.upenn.edu/npl/course-schedule

NPLD 783 Field Exercise in Social Impact Measurement
The twofold purpose of social impact measurement is to assess and improve the impact of nonprofit programs, and to inform grantmaking practice and effectiveness. In addition to accounting for funds spent and reporting on the actual work carried out, social impact measurement is an essential learning opportunity for grantmaker and grantee. However, choosing an appropriate methodology of measurement is critical. This course will offer an overview of leading social impact measurement methodologies and tools, and an impact measurement field exercise. During the field exercise, student teams will develop an evaluation plan and associated instruments for a local nonprofit using one or more of the methodologies. Teams will present their evaluation plans and offer recommendations for implementation. Lectures will be complemented by class time devoted to field exercise team meetings and off-site field work. Taught by: Hargro
Activity: Lecture
1 Course Unit
Notes: see website for course dates/times: http://www.sp2.upenn.edu/npl/course-schedule

NPLD 784 The Nonprofit Sector: Concepts and Theories
Can you imagine a world without the vitality and diversity of the nonprofit sector? What would it be like? Everything from health care to education, from serving the disadvantaged to protecting and restoring the environment, nonprofit organizations seem to have become an inseparable part of every aspect of our lives. So often they are taken for granted that we seldom pause and reflect on the roles and functions of these vital organizations in our community. This course will introduce you to the various roles that voluntary, philanthropic and nonprofit organizations play in American society. It will cover the theory, size, scope and functions of the sector from multiple disciplinary perspectives including historical, political, economic, and social views. The course also has a “hidden agenda.” Take this class to see and discover what this agenda is!
Taught by: Guo
Course usually offered in fall term
Activity: Lecture
1 Course Unit

NPLD 785 Group Dynamics and Organizational Politics
This intensely experiential course, offered in the fall semester, is designed for those providing group and institutional leadership at any level of a human enterprise, managing work groups, serving on special task forces, chairing committees, teaching in classrooms, conducting support groups, facilitating groups in clinical settings, etc. Students will focus on two topics: (1) an in-depth understanding of group dynamics while they are in action, and (2) the organizational relationships between groups with power, groups that experience themselves as powerless and those caught in the middle. With group and inter-group relations it is easy to see what went right or wrong in hindsight, or when observing from a distance, but tuning into these dynamics when caught up in them and taking constructive actions when it can have a meaningful impact, requires complex cognitive and emotional processing and use of multiple logics simultaneously. This educational format also explores the mysteries of counter-intuitive principles, such as “to grow, cut back,” and “to strengthen self, augment other,” are examined. The experiential events that are at the center of this learning occur over two full weekends, one in October and one in November.
Taught by: Smith
Course usually offered in fall term
Prerequisite: Enrollment in NPLD program or permission of the instructor
Activity: Lecture
1 Course Unit
Notes: See website for course date and times: http://www.sp2.upenn.edu/npl/course-schedule

NPLD 786 Strategic Management and Leadership of Nonprofits
This course is about doing good and doing well. It is designed to introduce you to the fundamental issues in accountability and governance and the administration and management in nonprofit organizations. Through research and analysis, you will understand multiple structures of accountability and the various stakeholders in nonprofits, understand the duties and dynamics of boards of directors in conjunction with other mechanisms of governance (e.g. chief executive officers, advisory boards, etc.), and develop an understanding of management techniques and leadership skills for enhancing the effectiveness of nonprofit organizations. You will be asked to think about the challenges of running nonprofit organizations in a comparative context, with cases drawn from both the U.S. and abroad. The emphasis of this course is on acquiring operational skills. The course is designed for those who may have had years of experience managing other people and programs in the nonprofit sector but who want to develop a more systematic mastery of this challenge, as well as students from other sectors who aspire to a nonprofit leadership role.
Taught by: Guo
Course usually offered in fall term
Activity: Lecture
1 Course Unit
NPLD 790 Social Finance
Economic analysis and financial accounting are like languages: fluency comes with practice. In-class review of case studies (including in-person discussions with the representatives of diverse agencies and organizations featured in the case studies) will enable students to test and develop their capacity for applying conceptual tools and analytical methods to sometimes messy and always complicated, real-life situations. The course objective is to develop theoretical understanding, critical judgment, and practical skills for sensitive and effective engagement with financial and economic matters of significance. Students will learn: (a) different ways of thinking about the economic foundations of social policy, (b) the basic terminology, tools, and methods for analyzing the financial statements of a wide range of organizations, and (c) accounting procedures for evaluating business, government, and organizational operations, policies, and practices.
Taught by: Lamas
Course usually offered in fall term
Also Offered As: NPLD 590
Activity: Lecture
1 Course Unit
Notes: The course is open to students across the University. All graduate students who take this course must register under NPLD 790. All undergraduate students must register under NPLD 590.

NPLD 791 Leadership: Designing the Future
This experiential, highly interactive seminar is for those eager to serve in managerial/leadership positions of human systems that create/maintain the organizational and fiscal viability of public, non-profit or private enterprises, including their partnerships. Candidates in all Penn graduate programs are welcome, whether one’s ambition is to generate sustainable livelihoods, renewable energy, wealth, clean water, viable environments, robotics, or quality services in fields such as education, health care, AI, or criminal justice. Course Participants are members of decision-making groups that run a computer-based, data-driven, future-creating, socio-economic simulation while synchronously studying the intra and inter-group dynamics inherent in all leadership actions.
Taught by: Smith
Course usually offered in fall term
Activity: Lecture
1 Course Unit
Notes: See website for course date and times: http://www.sp2.upenn.edu/npl/course-schedule

NPLD 792 Social Entrepreneurship
Social entrepreneurs are individuals with innovative vision seeking to accomplish important public purposes through the creative and aggressive mobilization of people and resources. Using academic theory and research on social entrepreneurship as a framework, student innovators learn to design, develop, and lead social change organizations of their own invention. Students turn their passion for changing the world into concrete plans for launching a venture. Over the course of the semester, we will cover a broad array of topics associated with social innovation and entrepreneurship, including defining the problem/opportunity, refining the mission/vision, developing market research and industry analysis, defining a financial and operating structure, assessing results and progress, and scaling an enterprise. This course is neutral on sector. Graduate students in any of Penn's graduate and professional schools who want to create social value through either nonprofit or for-profit ventures are invited to take the class and develop their ideas. The class will expose students to the process of getting an organization - regardless of sector - off the ground and running. While this is a class on innovation and entrepreneurship, students do not need to be committed to starting a venture upon graduation. The skills and tools contained in the course have wide applicability in the workplace. Being able to develop a coherent venture plan is great training for anyone who wants to work in government, philanthropy, or the business sector funding or managing existing organizations. The course attempts to convey a picture of what a well-considered and well-executed venture plan looks like with the goal of developing in students an appreciation for clear thinking in the pursuit of the creation of public value.
Taught by: Frumkin
Course usually offered in spring term
Activity: Seminar
1 Course Unit

NPLD 796 Philanthropy and Fundraising Tools for Managers
This course will review the everyday tools that nonprofit managers and development officers need to raise funds from individuals and other sources of private philanthropy. Last year, Americans gave approximately $300 million and 83% of it was from individuals. The fundraising profession has created a body of knowledge in the past twenty years that can guide effective fundraising programs so that charitable organizations can support their mission. The sessions will review the theory and practical techniques that development professionals use every day in large and small organizations including annual giving, major gifts, planned giving, cultivation of donors, making your case for support, the Seven Faces of Philanthropy, special events, and prospect research. There will also be discussions of philanthropic trends and current giving patterns. For those who are interested in nonprofit administration, these will be critical tools to understand.
Taught by: Heisman
Course usually offered in spring term
Activity: Lecture
1 Course Unit
Notes: Undergraduates need permission
NPLD 797 Philanthropy and the City
This course will focus on how urban communities are shaped by the nonprofit sector and the billions of philanthropic dollars that fuel their work. By bridging theory and practice, the class explores what dynamics are at play to deliver vital services or programs in healthcare, education, the arts, community development, and other issues. The course will also focus on these important questions: (1) Whose responsibility is the public good? How is that responsibility shared by the public, private, and nonprofit sectors? and (2) Given that responsibility for the public good, which individuals and groups make the decisions about how to serve the public good? How are these decisions made, and who benefits from these decisions? Students will consider these questions in an interdisciplinary context that will bring a historical and philosophical perspective to the examination of the values and institutions that characterize the contemporary philanthropy and the nonprofit sector.
Taught by: Bauer/Goldman
Course usually offered in spring term
Also Offered As: URBS 404
Activity: Seminar
1 Course Unit

Nursing (NURS)

NURS 061 Biologically-Based Chemistry
A contextual approach will be used in studying the concepts in General, Organic and Biological Chemistry that are foundational to an understanding of normal cellular processes. Topics that will be covered include measurements, atomic structure, bonding, chemical reactions, properties of gases and liquids, solutions, equilibrium, acids and bases, pH, buffers, nuclear chemistry, nomenclature and properties of the main organic functional groups, and the structures and function of carbohydrates, proteins and lipids.
Taught by: Lafferty-Della Valle
Course usually offered in fall term
Prerequisite: One year of high school general chemistry or its equivalent
Activity: Lecture
0.5 Course Units
Notes: 0.5 course units

NURS 065 Fundamentals of Nutrition
Essentials of normal nutrition and their relationships to the health of individuals and families. These concepts serve as a basis for the development of an understanding of the therapeutic application of dietary principles and the nurse's role and responsibility in this facet of patient care.
Taught by: Compher; Dolan; Caspar-Clark
Course usually offered in spring term
Prerequisite: NURS 061; NURS 062 (or equivalent Science Sequence Courses)
Activity: Lecture
1 Course Unit

NURS 068 Integrated Cell Biology and Microbiology
This course will include the major topics of cell biology and microbiology that are foundational for an understanding of normal and pathological cellular processes. Topics will include the brief study of prokaryotic and eukaryotic cell structures and functions; the main biological molecules; membrane transport; cellular communications; the flow of genetic information; cell division; and cellular metabolism. The course will also examine the role of cells and microbes in human health and infectious diseases. It will include a description of the main types of microbes, how they are identified, their growth requirements, and the role of the immune system in controlling infections, the control of microbes, host-microbe interactions. The context for this course will be the application of cell biology and microbiology for understanding the cellular basis of cancer and infectious human infection disease processes. This course will include special sessions from a clinical perspective in the various fields of medicine, microbiology, and immunology.
Taught by: Johnson, Ross
Course usually offered in fall term
Activity: Lecture
1 Course Unit

NURS 098 Sexual Health Promotion & Risk Reduction in West Philadelphia: A Seminar on Urban Campus/Community Norms
This course is a unique combination of hands-on research, teaching, and servicto the West Philadelphia community. Students research sexual risk behaviors and risk reduction for HIV and FSTI's in the West Philadelphia community, both on and off Penn's campus, and make concrete recommendations for interventions to promote sexual health & reduce risks for infection based on their findings. This course satisfies the Society & Social Structures Sector for Nursing Class of 2012 and Beyond.
Taught by: Jemmot
Course usually offered in spring term
Prerequisite: Junior or Senior academic standing
Activity: Seminar
1 Course Unit
Notes: Satisfies Society Social Structures Sector for Nursing Class of 2012 and Beyond

NURS 101 The Nature of Nursing Practice
This course facilitates students' ability to conceptualize the experiences of individuals, families, communities, and populations living with health and illness. It emphasizes the integration of knowledge from other disciplines and of nursing science as the basis for practice. The course introduces the four core themes of the undergraduate nursing program: engagement, inquiry, judgment, and voice and examines how the themes are used to characterize the nature of nursing practice.
Taught by: Kutney-Lee; Brooks-Carthon; Wiltse Nicely
Course usually offered in fall term
Activity: Lecture
0.5 Course Units
Notes: 0.5 course units
NURS 102 Situating the Practice of Nursing
This course emphasizes not only how nursing is practiced, but also where it is practiced. The course further explores the four core themes of engagement, inquiry, judgment, and voice as it provides guided observational experiences in a wide variety of settings. These experiences help the student to discover what is not known and what is subsequently necessary to know. These experiences also explore the place of the natural and social sciences and the arts and humanities in nursing practice. This course also will highlight the relationships between and among members of the interprofessional team and families and patients. NURS 102 fosters development of the professional role and sets the stage for life-long learning.
Taught by: Kutney-Lee; Brooks-Carthon; Kaufman; Brewer
Course usually offered in spring term
Prerequisite: NURS 101
Activity: Lecture
0.5 Course Units
Notes: For Students in Accelerated BSN Nursing Program Only

NURS 103 Psychological and Social Diversity in Health and Wellness
This course explores and integrates the intersection of psychological, cognitive, and social development with the lived experiences of individuals, families, and communities across the lifespan in order to conduct socially contextualized health assessments and health teaching. Extant theories will be critically analyzed and examined with respect to issues of health care access, health history, health promotion, and issues of equity and diversity from a life-course perspective. This knowledge will be synthesized and integrated with the development of the student's communication skills and interviewing processes necessary to develop socially attuned health history and teaching that promote psychological well being and healthy lifestyles. Simulated and observational experiences provide students with opportunities to acquire and apply knowledge necessary for conducting a comprehensive health history of an individual situated within a diverse community. They also provide opportunities to develop prioritized health teaching plans in partnership with that individual.
Taught by: Connolly; Lewis, L; George
Course usually offered in fall term
Prerequisite: NURS 101
Activity: Lecture
1 Course Unit
Notes: Offered in Summer for Accelerated BSN Program

NURS 112 Nutrition: Science & Applications
An overview of the scientific foundations of nutrition. The focus is on the functions, food sources and metabolism of carbohydrate, fat, protein, vitamins and minerals. Effects of deficiency and excess are discussed and dietary recommendations for disease prevention are emphasized. Current issues and controversies are highlighted. Students will analyze their own dietary intakes and develop plans for future actions.
Taught by: DeJonghe; Hayes
One-term course offered either term
Activity: Lecture
1 Course Unit
Notes: For Non-Nursing Majors

NURS 131 Human Anatomy and Physiology - Part A
The structural and functional organization of the human organism is presented, along with the fundamentals of developmental anatomy and embryology. Histologic and gross anatomical features of selected organ systems are related to the physiologic and biochemical mechanisms which enable the human body to maintain homeostasis in an ever-changing environment.
Taught by: Scanga
Course usually offered in spring term
Prerequisites: NURS 61 and NURS 62 (or equivalent College Level Chemistry and Biology)
Activity: Lecture
1.5 Course Unit
Notes: 4 h. lec. 2 h. lab. $100 lab fee

NURS 132 Human Anatomy and Physiology - Part B
The structural and functional organization of the human organism is presented, along with the fundamentals of developmental anatomy and embryology. Histologic and gross anatomical features of each organ system are related to the physiologic and biochemical mechanisms which enable the human body to maintain homeostasis in an ever-changing environment. Basic concepts of pathophysiology are introduced and applied to certain clinical disorders.
Taught by: Scanga
Course usually offered in fall term
Prerequisite: NURS 131
Activity: Lecture
1.5 Course Unit
Notes: 4 h. lec. 2 h. lab. $100 lab fee

NURS 159 Pathways To Practice
Activity: Lecture
1 Course Unit

NURS 160 Physical Assessment
This is a laboratory course designed to help beginning nursing students to develop competence in the process of physical assessment. Students engage in actual practice of physical assessment with fellow students as their 'patient' subject. A blending of instructor demonstration and supervision of physical examination practice sessions is used in the learning laboratory setting. Students prepare via self-learning activities with a variety of supplied resources (readings, videotapes, computer programs) and have the opportunity to refine their skill though faculty-supervised practice sessions. Procedural skills that correlate with the presentations of physiologic system assessment are included.
Course usually offered summer term only
Prerequisite: Matriculation in the Accelerated BSN Nursing Program
Activity: Lecture
1 Course Unit
Notes: For Students in Accelerated BSN Nursing Program Only
NURS 162 Pathophysiology, Pharmacology, and Therapeutics
Pathophysiologic concepts and processes are introduced with major emphasis on commonly occurring acute and chronic illnesses and their therapeutic interventions. Major classes of drugs that are used to support organ function are explored. The physiological and pathophysiological rationale for each drug indication, mechanisms of drug action, individualized dosing implications, and adverse drug events will be explored for prototypical agents used in the selected cases. The course will enhance the student's comprehension of the scientific complexity of therapeutic interventions in various conditions and will build upon the foundational sciences.
Taught by: Boullata
Course usually offered in fall term
Prerequisite: NURS 215
Activity: Lecture
1.5 Course Unit
Notes: For Students in Accelerated BSN Nursing Program Only

NURS 163 Integrated Anatomy, Physiology, and Physical Assessment I
This is the first part of a two-semester course designed to provide a comprehensive study of the structure and function of the human body along with essential embryology and maturational physiology. Histological and gross anatomical features of selected organ systems are related to the physiologic and biochemical mechanisms that enable the human body to maintain homeostasis. Within each system, deviations from normal are considered to situate the student's understanding of health problems and to foster an appreciation for the complexity of the human organism. Integrated into each topic are the correlated physical assessment parameters and related procedural skills. Laboratories, exercises, and case study analysis provide a contextual base to acquire and use domain-specific knowledge of concern to the practice of nursing.
Taught by: Scanga; Quigley
Course usually offered in spring term
Prerequisite: NURS 061; NURS 062; NURS 063; (or equivalent Science Sequence Courses)
Activity: Lecture
2 Course Units
Notes: 2.0 course units

NURS 164 Integrated Human Anatomy, Physiology & Physical Assessment II
This is the second part of a two-semester course designed to provide a comprehensive study of the structure and function of the human body along with essential embryology and maturational physiology. Histological and gross anatomical features of selected organ systems are related to the physiologic and biochemical mechanisms that enable the human body to maintain homeostasis. Within each system, deviations from normal are considered to situate the student's understanding of health problems and to foster an appreciation for the complexity of the human organism. Integrated laboratories and case studies provide a contextual base to acquire and use domain-specific knowledge that includes physical assessment, and procedural.
Taught by: Scanga; Quigley
Course usually offered in fall term
Prerequisite: NURS 163
Activity: Lecture
2 Course Units
Notes: 2.0 course units

NURS 165 Integrated Pathophysiology, Pharmacology, and Therapeutics
Pathophysiologic concepts and processes are introduced with major emphasis on commonly occurring acute and chronic illnesses and their therapeutic interventions. Major classes of drugs that are used to support organ function are explored. The physiological and pathophysiological rationale for each drug indication, mechanisms of drug action, individualized dosing implications, and adverse drug events will be explored for prototypical agents used in the selected cases. The course will enhance the student's comprehension of the scientific complexity of therapeutic interventions in various conditions and will build upon the foundational sciences. Additionally, the course will provide the student with sufficient scientific knowledge and skills to prepare administering and monitor drugs and therapies in a safe and effective manner.
Taught by: Boullata
Course usually offered in spring term
Prerequisite: NURS 164 (or Equivalent)
Activity: Lecture
2 Course Units
Notes: 2.0 course units

NURS 215 Nursing of Women and Infants
This course emphasizes the child-bearing cycle, and the related issues of maternal and infant mortality and morbidity. It also explores women and infant's health care and health promotion needs across the lifespan. It provides a global perspective, and uses the United Nations' Pillars of Safe Motherhood and World Health Organization's Millennium Development Goals as the vehicles to enable students to understand the interrelationships among issues of health and health promotion; social, economic, political and environmental contexts; and the care of women across the lifespan. Clinical experiences provide opportunities for students to understand the connections between the local and the global; to use their developing knowledge base to affect the health of women and their infants. Students will have opportunities for hospital-based care of child-bearing women and their infants. In addition, community-based experiences with individual women and with groups of women across the life cycle will be provided in order to enhance teaching, interviewing, and assessment skills.
Taught by: Guidera; O'Hare; Hill-O'Neill
Course usually offered in spring term
Prerequisite: NURS 101; NURS 102; NURS 103; (Traditional) or NURS 106 (Accelerated)
Activity: Lecture
1.5 Course Unit
NURS 225 Pediatric Nursing
This course considers how nursing influences the health and healing capacities of infants, children, adolescents and their families. It focuses on the knowledge and skill acquisition needed to care for these patients at particular moments, across the continuum of care, and through transitions in an illness experience. It addresses pediatric nursing phenomena of concern and major final common pathways of pediatric illness from infancy through adolescence using a using a developmental and systems approach. Emphasis is placed on family-centered care through transitions in the illness and recovery phases. The course emphasizes clinical reasoning; family centered strategies for optimizing health and maintaining individuality; promoting optimal developmental, physiological, and psychological functioning; and enhancing strengths within the context of family. Clinical experiences at various children's hospitals and simulation experiences provide sufficient opportunities for clinical reasoning, clinical care and knowledge integration.
Taught by: Hickerson
One-term course offered either term
Prerequisite: NURS 215
Corequisite: NURS 235
Activity: Lecture
1.5 Course Unit
Notes: Clinical 12 hours weekly and 2 hours Simulated Laboratory Weekly

NURS 230 Statistics for Research and Measurement
This course examines statistical methods used by scientists in the analysis of research data. The fundamental theorem for this course is the "square root law" (central limit theorem). Students become literate in statistical terminology and symbols and knowledgeable of assumptions for statistical tests. Fundamental statistics include basic theorems and principles, sample, population and data distributions, measures of central tendency, correlational techniques, and commonly used parametric and nonparametric statistical tests. Parameters for inferential and descriptive statistics are examined as the basis for explaining the results from research studies. Students apply chance models in estimating confidence intervals of percentages and means, and in hypothesis testing. This content is taught in the context of nursing research and measurement of nursing phenomena. Examination of research publications enable students to apply their knowledge to reading and understanding data analyses used in studies. Students evaluate tables and graphs as ways to summarize research findings. Course content prepares students to examine statistical and clinical significance of research findings.
Taught by: Tulman
Course usually offered in fall term
Activity: Lecture
1 Course Unit

NURS 235 Psychiatric Nursing
This course examines how nursing influences the health and healing capacities of individuals and families experiencing severe psychiatric distress. It focuses on the knowledge and skill acquisition needed to care for these patients at particular moments, across the continuum of care, and through transitions in an illness experience. The course addresses nursing phenomena of concern related the meanings of an illness experience, the development of healing relationships with or within individuals, families, and groups, and on the advanced communication strategies needed to engage individual and families in mental health promotion strategies. It also provides the tools to enable students to construct effective treatment groups with patients; work groups with disciplinary and inter-professional colleagues; and to understand the healing dimensions of environments. Clinical and simulation experiences provide sufficient opportunities for clinical reasoning, clinical care and clinically situated knowledge integration.
One-term course offered either term
Prerequisite: NURS 215
Corequisite: NURS 225
Activity: Lecture
1.5 Course Unit
Notes: Clinical 12 hours weekly and 2 hours Simulated Laboratory Weekly

NURS 245 Nursing of Young and Middle Aged Adults
This course considers how nursing influences the health and healing capacities of young and middle aged adults who experience functional status impairments as a result of serious illness or injury. It focuses on the knowledge and skill acquisition needed to care for these patients at particular moments, across the continuum of care, and through transitions in an illness experience. It addresses nursing phenomena of concern, including risk factors for illness or injury, strategies to overcome barriers and support personal health resources, alleviate suffering and reduce the impact of illness or injury on the functioning of the person. Content and clinical experiences integrate developmental and role issues; policy, cultural and ethical considerations. Clinical experiences in acute care hospital units and simulation experiences provide opportunities for clinical reasoning, clinical care, and knowledge integration.
Taught by: Walsh-Brennan
One-term course offered either term
Prerequisite: NURS 215
Corequisite: NURS 255
Activity: Lecture
1.5 Course Unit
Notes: Clinical 12 hours weekly and 2 hours Simulated Laboratory Weekly
NURS 255 Nursing of Older Adults
This course considers how nursing influences the health and healing capacities of older adults. It focuses on the knowledge and skill acquisition needed to care for these patients at particular moments, across the continuum of care, and through transitions in an illness experience. It addresses nursing phenomena of concern including the unique set of principles and body of knowledge and skills necessary to the practice of nursing with older adults. Students are provided with the theoretical background necessary to understand health system issues affecting older adults. Students will attain the knowledge necessary to complete a comprehensive assessment of the older adult’s physical, functional, psychosocial, and cognitive capacities. Common problems associated with cardiovascular, respiratory, neurological, musculoskeletal, sensory, and genitourinary systems that affect older adults will be discussed. In addition, principles of continuity of care, rehabilitation, nutritional and pharmacodynamic changes, cultural diversity and ethics will be integrated throughout the course. Clinical experiences in acute care hospitals and simulation experiences provide sufficient opportunities for clinical reasoning, clinical care, and knowledge integration. Special emphasis is placed on transitional care for older adults across the health care continuum.
Taught by: Matura
One-term course offered either term
Prerequisite: NURS 215
Corequisite: NURS 245
Activity: Lecture
1.5 Course Unit
Notes: Clinical 12 hours weekly and 2 hours Simulated Laboratory Weekly

NURS 299 Independent Study in Nursing
An opportunity to develop and implement an individual plan of study under faculty guidance.
One-term course offered either term
Prerequisites: Permission of instructor and NURS 106
Activity: Independent Study
1 Course Unit

NURS 303 Contemporary Issues in Human Sexuality and Health
Course content emphasizes theories of sexual development and factors influencing sexual behavior within the continuum of health and illness. Common sexual practices of people are studied within the context of lifestyle and situational life crises. Concepts of normal sexual function and dysfunction are examined. Contemporary sexual issues are explored.
Taught by: Stevens
Course usually offered in spring term
Also Offered As: GSWS 303, NURS 503
Activity: Lecture
1 Course Unit

NURS 304 Contemporary Issues in Global Women’s Health
This undergraduate elective course will provide an introduction to contemporary issues in global women’s health and multiple theoretical perspectives related to global women’s health. This course will examine and analyze various women’s health issues across the globe within historical, social, cultural, economic, political and environmental contexts. This course will have particular emphasis on intensive analyses of gender equity and cultural sensitivity issues in providing appropriate and adequate care for women across the globe.
Taught by: Im
Course usually offered in spring term
Prerequisite: Nursing Students must have completed NURS 215
Activity: Lecture
1 Course Unit
Notes: Freshmen and Sophomores need Instructor Permission

NURS 305 Narrative Matters in Health and Illness Experiences
This course emphasizes the uses of narrative and memoir to consider major themes and events related to the experience of health and illness in the United States as well as the carative role, as either family member or health professional and crafting policy.
Taught by: Connolly, C
Activity: Seminar
1 Course Unit
Notes: Foundational Course for History, Health, and Humanities Minor

NURS 312 Nutritional Aspects of Disease
This course provides an advanced understanding of the role of nutrition in integrated biological systems. Students will develop a rigorous comprehension of major clinical disorders, including the underlying pathophysiology and conditions that are affected by nutrition and how optimization of nutritional variables may modulate these processes. A critical overview of the role of nutrition in disease prevention, management and treatment, and in health maintenance will be emphasized throughout the course.
Taught by: Hayes, M
Course usually offered in spring term
Prerequisite: NURS 112
Activity: Lecture
1 Course Unit

NURS 313 Obesity and Society
This course will examine obesity from scientific, cultural, psychological, and economic perspectives. The complex matrix of factors that contribute to obesity and established treatment options will be explored. This course satisfies the Society & Social Structures Sector for Nursing Class of 2012 and Beyond.
Taught by: Compher
Course usually offered in fall term
Also Offered As: NURS 513
Activity: Lecture
1 Course Unit
NURS 315 Sociocultural Influences on Health
This course is intended for students interested in U.S/Global Healthcare. It includes lectures, discussions, readings, and written assignments focused on various social, cultural, and economic factors that impact the health and illness perceptions and behaviors of various ethnic and minority groups. In particular, it focuses on how culture affects health and disease, and how health and disease affect culture. This course takes a critical approach to knowledge development by scrutinizing values, theories, assumptions, and practices cross-culturally. It relies upon a range of interdisciplinary approaches to analyze how disease is diagnosed, treated, and experienced differently in various cultural contexts. At the same time, students will have the opportunity to examine and critique cultural assumptions and theories, the shifting nature of cultures, the situational use of cultural traditions, and the ethnocentrism of contemporary Western health care. Special attention is given to the influence of race, class, gender, religious, and spiritual ideas about health and illness.
Taught by: Wall
Course usually offered in spring term
Also Offered As: NURS 515
Activity: Lecture
1 Course Unit
Notes: Foundational Course for Minor in Multicultural/Global Health Care

NURS 316 International Nutrition: Political Economy of World Hunger
A detailed consideration of the nature, consequences, and causes of hunger and undernutrition internationally. Approaches are explored to bringing about change, and to formulating and implementing policies and programs at international, national, and local levels, designed to alleviate hunger and under-nutrition.
Taught by: Chrzan
Course usually offered in spring term
Also Offered As: NURS 516
Prerequisites: Junior-year or higher; at least one background course in nutrition, anthropology, sociology or economics
Activity: Lecture
1 Course Unit

NURS 318 Race, Gender, Class and the History of American Health Care
This multidisciplinary course surveys the history of American health care through the multiple perspectives of race, gender, and class, and grounds the discussions in contemporary health issues. It emphasizes the links between the past and present, using not only primary documents but materials from disciplines such as literature, art, sociology, and feminist studies that relate both closely and tangentially to the health professions and health care issues. Discussions will surround gender, class-based, ethnic, and racial ideas about the construction of disease, health and illness; the development of health care institutions; the interplay between religion and science; the experiences of patients and providers; and the response to disasters and epidemics. Skills for document analysis and critique are built into the course as is the contextual foundation for understanding the history of health care. This course satisfies both the Society & Social Structures and the Histories & Traditions sectors for the Nursing Class of 2012 and beyond.
Taught by: Fairman
Course usually offered in fall term
Also Offered As: GSWS 318
Activity: Seminar
1 Course Unit
Notes: For Benjamin Franklin Scholars Nursing Honors Students.

NURS 319 Etiology and Treatment of Contemporary Chronic Diseases in America: Focus on Obesity and Cancer
This course will focus on two of the major public health problems in the United States: obesity and cancer. These diseases will be considered from a variety of perspectives: epidemiological, environmental, physiological and behavioral. In addition, the course will focus on the range of interventions being developed to treat as well as prevent both diseases.
Taught by: Glanz; Jacobs, L.; Sarwer
Course usually offered in spring term
Also Offered As: NURS 519
Activity: Lecture
1 Course Unit

NURS 324 Children's Health in the United States, 1800-2000
This course explores the impact of historical ideas, events, and actors pertaining to the history of children's health care in the United States. Emphasis is placed on tracing the origins and evolution of issues that have salience for twenty-first century children's health care policy and the delivery of care. This course satisfies the History & Traditions Sector for Nursing Class of 2012 and Beyond.
Taught by: Connolly
Course usually offered in fall term
Also Offered As: GSWS 324
Activity: Seminar
1 Course Unit
Notes: For Benjamin Franklin Scholars Nursing Honors Students

NURS 330 Theoretical Foundations of Health Care Ethics
The theoretical foundations of health care ethics including definitions of ethics, history of bioethics and nursing ethics, and the influence of religion, psychology of moral development and philosophy in the development of ethical theory. Nursing code of ethics, changing ideas in ethics, and discussion of the developing profession of nursing are included.
Taught by: Perlman; Ulrich
One-term course offered either term
Activity: Lecture
1 Course Unit

NURS 331 Forensic Mental Health
Forensic mental health is the interface between the law and mental health. This course examines the components of human behavior that bring people into a judicial setting. Content will cover: criminal personalities, forensic interview, and the role of forensic psychiatry. Domestic violence offenders, sex offenders, stalkers, gang members, and offenders who commit homicide will be discussed. Definitions and dynamics of criminal motherhood and the psychodynamics of violent juvenile offenders will be presented. Use of the internet by offenders will also be discussed. This course also offers a field experience in which student’s interview incarcerated individuals. As of Spring 2016, students in the College of Arts and Sciences are not permitted to enroll in this course.
Taught by: Brown, K.; Sabella
Course usually offered in fall term
Also Offered As: NURS 531
Activity: Lecture
1 Course Unit
NURS 332 Forensic Science I
This course discusses the interface of law and science. Forensic science is the application of scientific principles in the legal arena. This course examines the contribution of forensic science to criminal and civil investigation. Crime scene analysis is accomplished via disciplines within forensic science. The role of the medical examiner, the structure and function of crime laboratories, death investigation and the role of health care personnel in forensic cases is discussed. As of Spring 2016, students in the College of Arts and Sciences are not permitted to enroll in this course.
Taught by: Cronin, G.
Course usually offered in spring term
Also Offered As: NURS 534
Activity: Lecture
1 Course Unit

NURS 333 Victimology
This course examines the wide range of victimization experiences from the perspective of the victim, their families and society. Crimes to be studied include workplace violence, corporate crime, robbery, burglary, assault, rape, stalking, domestic violence, homicide, suicide, elderly abuse and child sexual abuse and exploitation. The role of the medical examiner, health care providers and the FBI as they relate to victims of crime will be discussed. Emphasis will be given to exploring the elements of each crime and response patterns to victimizations. Services available to victims of crime will be discussed. As of Spring 2016, students in the College of Arts and Sciences are not permitted to enroll in this course.
Taught by: Cronin G
One-term course offered either term
Also Offered As: NURS 533
Activity: Lecture
1 Course Unit

NURS 334 Public Policy and the Nation's Health
This course examines health care and social policy from domestic and international perspectives. It is designed to engage undergraduate students in critical thinking about health policy issues as they affect our health care, employment, taxes, and social investments. The current national debate on health care reform is used as a frame of reference for examining the strengths and weaknesses of health care services in the U.S. from the perspectives of patients/families, health professionals, health services providers, insurers, employers, and public policy makers, and the pros and cons of a range of prescriptions for system improvement from across the political spectrum. About a third of the course focuses more specifically on global public health challenges and the policy strategies for reducing health disparities worldwide.
Taught by: Sochalski
Course usually offered in spring term
Also Offered As: NURS 540
Activity: Lecture
1 Course Unit

NURS 335 Global Food Security for Ten Billion
This is an interdisciplinary course on the problems of food demand and consumption, production and supply in our increasingly globalized and urbanizing world. Special attention will be given to the intersections of current technologies of food production, current nutritional problems, environmental change and resource degradation, and the changing quality of human social life under globalization. Where and how will sufficient nutritious food be produced sustainably and how can the politics and economics of equitable distribution in such large urban populations be achieved?
Taught by: Spooner; Compher; Muecke; Chrzan
Course usually offered in spring term
Also Offered As: ANTH 335, ANTH 635
Activity: Lecture
1 Course Unit
Notes: Cross Currents Course

NURS 336 Current Topics in Pain
This course focuses on biopsychosocial aspects of the pain experience and interpatient differences and how these form the basis for understanding pain perception, physiological and behavioral reactions and response to pain interventions. Content includes an integrated overview of the neurobiology of pain, measurement pain, pharmacological and nonpharmacological approaches for acute and chronic pain syndromes, health policy and care delivery models for improving pain assessment and management. Peripheral processing, neuroanatomical pathways and central integrating mechanisms involved in nociception and pain are examined. The roles of individual biochemical mediators, neurotransmitters and neuromodulators are examined and linked to the effectiveness of pharmacological and alternative methods for pain control. The challenges of pain assessment and pain management in special clinical populations are considered. Relevant topics of special interest to course participants will be introduced for class discussion in the form of student presentations.
Taught by: Polomano
Course usually offered in fall term
Prerequisite: Junior or senior status in the nursing curriculum or by permission of the instructor
Activity: Lecture
1 Course Unit
NURS 338 "Sweet Little Old Ladies and Sandwiched Daughters": Social Images and Issues in our Aging Society

This course is an intensive and focused introduction to social gerontology as a trans-disciplinary lens through which to examine aspects of social structure, actions, and consequences in an aging society. A variety of sources are employed to introduce students from any field focused on human behavior and interaction to classical notions of social gerontology and current scholarly inquiry in gerontology. Field work in the tradition of thick thick description creates a mechanism to engage students in newly gerontological understandings of their life worlds and daily interactions. Weekly field work, observing aspects of age and representations of aging and being old in every day experiences forms, is juxtaposed against close critical readings of classical works in social gerontology and current research literature as well as viewings of film and readings of popular literature as the basis for student analysis. Student participation in the seminar demands careful scrutiny and critical synthesis of disparate intellectual, cultural, and social perspectives using readings and field work and creation of oral and written arguments that extend understandings of the issues at hand in new and substantive ways. Emphasis is placed on analysis of field work and literature through a series of media reports and a final term paper. Creative approaches to identifying literature, analyzing field work and representing critique are encouraged. This course satisfies the Society & Social Structures Sector for Nursing Class of 2012 and Beyond.

Taught by: Kagan
Course offered spring; even-numbered years
Also Offered As: GSWS 338, HSOC 338
Activity: Seminar
1 Course Unit
Notes: Third or fourth year undergraduate students in any major BFS, JWS, and NUHP students

NURS 339 "Aging, Beauty, and Sexuality": Psychological Gerontology in the 21st Century

This honors course examines the psychological gerontology of advancing age and identity in the 21st century. Examination emphasizes gendered notions of beauty and sexuality in ageing and the life span to foster discourse around historical notions and images of beauty and ugliness in late life in contrast to contemporary messages of attractiveness and age represented by both women and men. The course is designed to create intellectual foundations as place from which to critique socially mediated and personally conveyed images and messages from a variety of media and their influence on intrapersonal and interpersonal constructions and social processes. Contemporary and historical ideas encompassing stereotypical and idealized views of the older person are employed to reflect dialogue around readings and field work. Classical and contemporary scholarship from gerontology, anthropology, biomedicine and surgery, nursing, and marketing among other disciplines as well as select lay literature are critiqued and compared with interpretation of field work to build understandings of diverse individual, familial, and cultural impressions of aging and identity. Skills for participant observer field work in the tradition of thick description are built to allow reflection and analysis of discourse about aging, beauty, sexuality, and other relevant aspects of human identity. This course satisfies the Society & Social Structures Sector for Nursing Class of 2012 and Beyond.

Taught by: Kagan
Course offered spring; odd-numbered years
Also Offered As: GSWS 339
Activity: Seminar
1 Course Unit
Notes: Third or fourth year undergraduate students in any major BFS, JWS, and NUHP students

NURS 343 Global Engagement Seminar Environmental Health Issues

Cross Listed with NURS 543
Also Offered As: NURS 543
Prerequisites: General college-level chemistry and biology knowledge (e.g. CHEM/ BIOL 101, 102) to understand the science underlying environmental health topics or special permission
Activity: Seminar
1 Course Unit
Notes: This course will be a broad overview on current environmental health issues that contribute to significant global morbidity and mortality due to increased urbanization and growth in the economy. The course will cover basic principles of environmental epidemiology, toxicology, health effects of environmental exposures, risk assessment, as well as environmental policy and ethics. The class will have two portions. The first part of the class will be taught lectures, case studies, discussions on campus and a local field trip in the Philadelphia area. The second part of the course will involve a field trip to China during the early summer to help students gain a global perspective on environmental health concerns.

NURS 344 Etiology and Treatment of Contemporary Chronic Diseases in America: Focus on Obesity and Cancer

This course will focus on two of the major public health problems in the United States - obesity and cancer. These diseases will be considered from a variety of perspectives: epidemiological, environmental, physiological and behavioral. In addition, the course will focus on the range of interventions being developed to treat as well as prevent both diseases.

Taught by: Glanz; Sarwer; Jacobs, L.
Course usually offered in spring term
Also Offered As: NURS 544
Activity: Lecture
1 Course Unit

NURS 354 Case Study - Addressing the Social Determinants of Health: Community Engagement Immersion

Prerequisite: Completion of sophomore year nursing requirements
Activity: Lecture
1 Course Unit
Notes: This case study offers students experiential learning to develop an in depth understanding of social determinants of health in vulnerable, underserved populations and to collaboratively design and refine existing health promotion programs based on the needs of the community site. Grounded on an approach that builds upon the strengths of communities, this course emphasizes the development of techniques to lead effective, collaborative, health-focused interventions for underserved populations. Students are required to draw on skills and knowledge obtained from previous classes related to social determinants of health and community engagement and will engage in specific creative, innovative community based programs developed for populations across the life span. These culturally relevant programs, which have been shown to positively impact communities, create opportunities for students to address the social determinants of health, build engagement and leadership skills and increase program success and sustainability.
NURS 355 Case Study: Self-care of Chronic Illness
This case study introduces the role of self-care by patients with chronic illness. We will discuss the history, definitions, predictors, and outcomes of self-care in various chronically ill populations. A focus of discussion will be an in depth exploration of the factors that influence self-care. Understanding these factors will prepare nurses for their role in promoting patient self-care. Fieldwork experiences will enable students to gain practical experience in engaging chronically ill individuals in self-care.

Taught by: Riegel
Course usually offered in spring term
Prerequisite: NURS 215
Activity: Lecture
1 Course Unit
Notes: 2 hour seminar; 1 hour fieldwork / week

NURS 356 Case Study: Culture of Birth
This course will explore the cultural context of birth and the activities of women and professionals and/or attendants in meeting the health care needs of pregnant women. The history of caring for women at birth, international health care, cultural mores/societal values, place of birth, psychosocial factors, ethical decision-making and the role of technology are content areas that will be discussed.

Taught by: McCool
Course usually offered in spring term
Prerequisites: NURS 215, 225 or Permission of Instructor
Activity: Lecture
1 Course Unit

NURS 358 Case Study: Nurses and the Child Welfare System
Building on knowledge and skill acquired through undergraduate nursing courses, this case study offers nursing majors an in depth and interprofessional opportunity to study research, policy, and practice-based issues in children and families involved with the child welfare system. Special emphasis is placed on the role of the nurse in the child welfare system. Fieldwork experiences will enable students to gain practical experience regarding the needs of children and families with an emphasis on a consideration of how to achieve partnership and create alliances with parents and youngsters.

Taught by: Connolly
Course usually offered in fall term
Prerequisite: NURS 165; NURS 215
Activity: Lecture
1 Course Unit

NURS 359 Case Study: Quality Care Challenges in an Evolving Health Care Market
Quality care is an issue for consumers, providers, purchasers, and policy makers. This case study examines the multiple challenges that surround the quality of health care in the evolving United States health care marketplace. Through classroom discussion and special project experience, the student will become familiar with the concept of health care quality and approaches to the measurement and management of quality. Using Donabedian's construct of structure, process and outcomes, strategies to improve quality while containing or reducing costs are reviewed, including the contributions of clinical practice guidelines. The evolving dominant structures for providing health care services, managed care and integrated delivery systems, and their approaches to quality management and reporting will be explored.

Taught by: Pinola; Sparrow
Course usually offered in spring term
Prerequisites: NURS 104, 106
Activity: Lecture
1 Course Unit

NURS 360 Case Study: Nursing Practice with HIV+ Patients
This course is directed at the need to increase nursing majors knowledge and clinical expertise in the care of persons with HIV/AIDS. Hands on clinical practice with nurses who are AIDS experts will be combined with seminars that provide epidemiologic, clinical assessment, infection control, symptom management, patient teaching, psychosocial, ethical, cultural, political, and policy information.

Taught by: Vincent
Course usually offered in fall term
Prerequisites: NURS 104, 106
Activity: Lecture
1 Course Unit

NURS 361 Case Study: Breast Feeding & Human Lactation
Human milk is recognized universally as the optimal diet for newborn infants. The health benefits of breastfeeding are so significant that a National Health Objective set forth by the Surgeon General of the United States for the year 2010 is to increase the proportion of mothers who breastfeed their babies in the postpartum period. Through classroom and clinical experiences, this course will provide an in depth examination of the anatomy and physiology of lactation, essential aspects of establishing and maintaining lactation, and the nurses' role in counseling the breastfeeding family. Emphasis will be placed on current research findings in the content area.

Taught by: Spatz
Course usually offered in fall term
Prerequisites: NURS 104, 106
Activity: Lecture
1 Course Unit
NURS 363 Case Study: Aggressive Behavior in Healthcare: Assessment Prevention and Treatment
The escalating incidence and prevalence of aggression in the health care setting requires that providers acquire a new set of pragmatic competencies for managing its complex sequelae. This course presents theoretical frameworks for understanding, predicting, preventing and responding to aggressive behaviors across the life span. Historical, bio-behavioral, social, and cultural explanations for aggression will be synthesized and analyzed within the context of multiple points of entry into the health care system across clinical settings. Personal self-awareness, debriefing, and stress management techniques exemplify techniques to prevent untoward consequences in providers. This course also uses exemplars and a range of experiential learning strategies, including skill development, situation analysis, concept mapping, unfolding case studies and cooperative learning, to examine the assessment, prevention, treatment, and response to aggressive behavior in patients and management of its consequences in self and others.
Taught by: Coleman
Course usually offered in spring term
Prerequisites: NURS 104, 106
Activity: Lecture
1 Course Unit

NURS 364 Case Study: Cancer
This elective case study offers students the opportunity to learn about the etiology, diagnosis, and management of cancer across the lifespan. Building on existing clinical knowledge and skills, students will explore cancer care from the perspectives of prevention, early detection, treatment, survivorship, and death. Observational clinical experiences and selected case studies will enhance students’ understanding of patients’ and families’ cancer experience.
Taught by: Hollis
Course usually offered in spring term
Prerequisites: NURS 104, 106
Activity: Lecture
1 Course Unit

NURS 365 Case Study: Case Analysis in Clinical Nutrition
This course is designed for present and future nurse professionals who wish to increase their knowledge of nutrition and expertise and application of knowledge to achieve optimal health of clients and themselves. Principles of medical nutrition therapy in health care delivery are emphasized in periods of physiologic stress and metabolic alterations. Individual nutrient requirements are considered from pathophysiologic and iatrogenic influences on nutritional status. Nutritional considerations for disease states will be explored through epidemiological, prevalence, incidence, treatment and research data. Understanding application of medical nutrition therapy are included through case analysis and field experiences
Taught by: Dolan
Course usually offered in spring term
Prerequisites: NURS 104, 106
Activity: Lecture
1 Course Unit

NURS 366 Case Study: Living with Dementia
Living with Dementia provides a two fold experience: guided observation of an individual with dementia and a seminar series on dementia - neuropathology, assessment, care and treatment. Students will interact with a person with AD and his/her caregiver. The goal is to understand the demented individual’s functional abilities and impact of environment on performance and behavior. A further goal is to develop an appreciation of the primary caregiver’s role and the strengths and limitations of community support systems. Each team of two to three will be assigned a family unit for study. In so far as possible, teams will be interdisciplinary.
Taught by: Strumpf; Kagan; Cotter
Course not offered every year
Also Offered As: NURS 566
Prerequisites: NURS 104, 106 or Permission from Instructor
Activity: Lecture
1 Course Unit

NURS 367 Case Study: Principles of Palliative Care
This course prepares students to collaborate effectively with an interdisciplinary team in assessing patients and families, and planning and evaluating palliative and end of life care for diverse populations with progressive illness in multiple health care settings. Course content and assignments focus on the nurse’s role in addressing the complex assessment and responses to the psychosocial and spiritual concerns of patients and caregivers across the trajectory of advanced illness.
Taught by: Ersek
Course usually offered in fall term
Also Offered As: NURS 557
Prerequisites: NURS 104, NURS 106
Activity: Lecture
1 Course Unit

NURS 368 Case Study: Home Health Care
This course examines the major aspects of home-based care across patients’ life spans from acute to long term care. New trends, advances, and issues in home management of complex conditions, innovative delivery systems and legal, ethical and policy consideration will be explored.
Taught by: Doyle
Course usually offered in fall term
Also Offered As: NURS 550
Prerequisites: NURS 104, NURS 106
Activity: Lecture
1 Course Unit

NURS 375 Nutrition Throughout The Life Cycle
Understanding and meeting nutritional needs from conception through adulthood will be addressed. Nutrition-related concerns at each stage of the lifecycle, including impact of lifestyle, education, economics and food behavior will be explored.
Taught by: Berman-Levine
Course offered fall; odd-numbered years
Prerequisites: NURS 54, or NURS 112, comparable nutrition course, or approved introductory course
Activity: Lecture
1 Course Unit
NURS 376 Issues in Nutrition, Exercise, and Fitness
An examination of the scientific basis for the relationship between nutrition, exercise and fitness. The principles of exercise science and their interaction with nutrition are explored in depth. The physiological and biochemical effects of training are examined in relation to sports performance and prevention of the chronic diseases prevalent in developed countries.
Taught by: Compher; Dougherty
Course usually offered in spring term
Activity: Lecture
1 Course Unit

NURS 380 Nursing in the Community
This course considers how nursing influences the health and healing capacities of both communities as a whole (populations) and of groups, families, and individuals living within particular communities locally and globally. It addresses the complexity of nursing practice using a public health paradigm. It requires students to draw from prior class and clinical knowledge and skills and apply this practice base to communities across care settings, ages, and cultures with different experiences of equity and access to care. It provides the tools needed to engage in collaborative community work and to give voice to the community’s strengths, needs, and goals. It also moves students from an individual and family focus to a population focus for health assessment and intervention. Students consider the science, policies, and resources that support public health, and community based and community-oriented care. Clinical and simulated experiences in community settings provide sufficient opportunities for clinical reasoning, clinical care and knowledge integration in community settings. Students will have opportunities to care for patients and populations within selected communities.
Course usually offered in fall term
Prerequisite: NURS 225; NURS 235; NURS 245; NURS 255
Activity: Lecture
2 Course Units
Notes: Clinical 16 hours Weekly and 2 hours Simulated Laboratory Weekly
Also Offered Summer Session (12 Weeks)

NURS 386 Nursing Honors Research Project
This course is an advanced seminar for research and scholarship to be taken by honors students in nursing. Enrollment is concurrent with implementation of the individual student’s honors project. Practical considerations in carrying out such a project, including scholarly approach and scientific integrity as well as scholarly writing and dissemination will be discussed and illustrated, using exemplars and student projects. The various phases of students’ projects will be used as launching points for discussions and to complement students’ work with their faculty supervisors. Paths and planning for careers in nursing and related disciplines and the idea of scholarship and research trajectories will be developed throughout the course.
Taught by: Kagan, McCauley, K
Course not offered every year
Prerequisites: NURS 260 or NURS 637, NURS 385H
Activity: Seminar
1 Course Unit
Notes: Enrollment in Nursing Undergraduate Honors Program Required

NURS 389 Research/Inquiry-Based Service Residency
This course is designed to facilitate students’ intellectual curiosity and independence in exploring the research process relevant to an area of interest. Students expand their research knowledge base provided in NURS 230 and NURS 547 through a structured individualized faculty mentored experience based on specific learning objectives. Students identify a faculty advisor and, in collaboration with the advisor, define learning objectives to guide a plan of study. All research or inquiry residencies are under the guidance of a faculty member in the School of Nursing, but students may also interact with affiliated investigators and clinicians who contribute to and enrich the course. The residency offers students opportunities to experience at any level systematic methods for research, or service-based clinical inquiry or quality improvement. This mentored residency can be fulfilled by one of the following options: * Research-based practicum in basic science, clinical research, nursing history, healthcare policy, ethics, or informatics. * Inquiry-based Service practicum such as conducting quality improvement procedures or program evaluations in an affiliated healthcare institution. * Taking one of the University’s Academically Based Community Service (ABCS) courses with prior approval by the Steering Committee. * Individualized study abroad experience with prior approval by the Steering Committee.
Taught by: Curley, Leary, M.
One-term course offered either term
Prerequisite: NURS 547
Activity: Lecture
0.5 Course Units
Notes: 0.5 course units
NURS 390 Leadership in the Complex Healthcare System
This two-part course provides the didactic and clinical experiences in increasingly complex nursing care situations and environments which facilitate the students’ transition to independent practice. In the lecture component, the focus is on the integration of knowledge and skill for nursing practice and develops the ability of students to see nursing practice as part of a complex system. It examines systems thinking and complexity, development of a leadership role and skills, inter-professional communication and teamwork, and leading change in healthcare organizations. This course also examines the nurse’s role in improvement science and patient care delivery, focusing on quality improvement processes, patient safety, nurse sensitive process and outcome metrics with micro-systems. This course also allows students to develop the capacity for clinical expertise, leadership, and for translating the science of the profession into practice. Students also are assigned to a seminar component that is correlated with their selected site for the specialty clinical practicum. This aspect of the course allows the student to develop additional expertise in a specialty area of practice and to develop competences specific to that population of patients. These seminar components are adult health and illness; adult critical care, obstetrics/ labor & delivery, psychiatric/mental health, and pediatrics. Advanced simulation experiences and extensive clinical practice in an area of the students’ choice provide multiple opportunities to synthesize the multidimensional aspects of nursing, and provide the environment which facilitates transition to professional nursing practice. Students select from a variety of settings in which to refine their practice skills. Principles of leadership, accountability and change will be applied to clinical practice as the student begins to operationalize the professional nursing role. Emphasis is placed on the nurse as a knowledgeable provider of health care who is both a change agent and advocate.
One-term course offered either term
Prerequisite: NURS 380
Activity: Lecture
3 Course Units
Notes: Clinical 16 hours Weekly and 2 hours Simulated Laboratory Weekly

NURS 399 Faculty Directed Research Practicum
One-term course offered either term
Prerequisites: Permission of instructor and completion of a research course (NURS 260 or NURS 637)
Activity: Independent Study
1 Course Unit

NURS 400 Advances In Health Systems Research And Analysis
Capstone Course for NURS/WH Joint Degree Students.
Taught by: Sochalski; McHugh, M
Course offered spring; odd-numbered years
Activity: Seminar
1 Course Unit
Notes: by Permission Only

NURS 500 Introduction to Principles and Methods of Epidemiology
This course provides an introduction to epidemiologic methods and overview of the role of epidemiology in studies of disease etiology and in the planning, delivery and evaluation of health services. The population-based approach to the collection and analysis of health data will be emphasized throughout the course. Through textbook reading, problems sets, class discussion and review of the recent literature, students will become acquainted with the basic designs of epidemiologic studies in theory and in practice. Students will develop the basic skills necessary to use epidemiologic knowledge and methods as the basis for scientific public health practice.
Taught by: Schmitz
Course usually offered in spring term
Also Offered As: PUBH 502
Prerequisite: Elementary statistics
Activity: Lecture
1 Course Unit

NURS 503 Contemporary Issues in Human Sexuality and Health
Emphasizes the theories of sexual development and sexual behavior within the continuum of health and disease. Common sexual practices of people are studied in relation to life-style and/or situational life crisis. Contemporary issues in sexuality and health will be examined. This course satisfies the Society & Social Structures Sector for Nursing Class of 2012 and Beyond.
Taught by: Guidera; Villari
Course usually offered in spring term
Also Offered As: GSWS 303, NURS 303
Activity: Lecture
1 Course Unit
Notes: Junior and Senior undergraduates. Open to all graduate students

NURS 509 The Medically Fragile Child
This course is designed to assist prospective practitioners develop advanced skills in identifying the needs and interventions for medically fragile neonates, children and their families.
Taught by: Deatrick
Course usually offered summer term only
Activity: Lecture
1 Course Unit
Notes: Summer Session II

NURS 511 Loss, Grief and Bereavement
Loss, grief and bereavement are pervasive aspects of the human experience. The content of this course provides a basis both for personal development and professional growth. Through a series of seminars, key issues surrounding loss, death, dying, grief and bereavement will be examined.
Taught by: Sabella
Course usually offered summer term only
Activity: Lecture
1 Course Unit
Notes: Summer Session II
NURS 513 Obesity and Society
This course will examine obesity from scientific, cultural, psychological, and economic perspectives. The complex matrix of factors that contribute to obesity and established treatment options will be explored. This course satisfies the Society & Social Structures Sector for Nursing Class of 2012 and Beyond.
Taught by: Compher
Course usually offered in fall term
Also Offered As: NURS 313
Prerequisite: Undegraduates by permission of instructor
Activity: Lecture
1 Course Unit

NURS 515 Sociocultural Influences on Health
This course is intended for students interested in U.S./Global Healthcare. It includes lectures, discussions, readings, and written assignments focused on various social, cultural, and economic factors that impact the health and illness perceptions and behaviors of various ethnic and minority groups. In particular, it focuses on how culture affects health and disease, and how health and disease affect culture. This course takes a critical approach to knowledge development by scrutinizing values, theories, assumptions, and practices cross culturally. It relies upon a range of interdisciplinary approaches to analyze how disease is diagnosed, treated, and experienced differently in various cultural contexts. At the same time, students will have the opportunity to examine and critique cultural assumptions and theories, the shifting nature of cultures, the situational use of cultural traditions, and the ethnocentrism of contemporary Western health care. Special attention is given to the influence of race, class, gender, religious, and spiritual ideas about health and illness.
Taught by: Wall
Course usually offered in spring term
Also Offered As: NURS 315
Activity: Lecture
1 Course Unit

NURS 516 International Nutrition: Political Economy of World Hunger
A detailed consideration of the nature, consequences, and causes of hunger and undernutrition internationally. Approaches are explored to bringing about change, and to formulating and implementing policies and programs at international, national, and local levels, designed to alleviate hunger and undernutrition. This course satisfies the Society & Social Structures Sector for Nursing Class of 2012 and Beyond.
Taught by: Chrzan
Course usually offered in spring term
Also Offered As: NURS 316
Activity: Lecture
1 Course Unit
Notes: Graduate Students Only

NURS 517 Advanced Nutrition and Metabolism
Essentials of nutritional biochemistry from the molecular level to the level of the whole human organism. Nutrient functions and inter-relationships are explored with attention to the association between nutrients and disease risk. Topics include energy metabolism and regulation of fat storage, new functions of vitamins and minerals, gene nutrient interactions and current research topics.
Taught by: Compher
Course usually offered in spring term
Prerequisite: Nurs 54 or Nurs 112 (Students with extensive background in life sciences by permission of faculty)
Activity: Lecture
1 Course Unit

NURS 518 Nursing and the Gendering of Health Care in the United States and Internationally, 1860-2000
This course examines changing ideas about the nature of health and illness; changing forms of health care delivery; changing experiences of women as providers and patients; changing role expectations and realities for nurses; changing midwifery practice; and changing segmentation of the health care labor market by gender, class and race. It takes a gender perspective on all topics considered in the course. A comparative approach is used as national and international literature is considered. This focus is presented as one way of understanding the complex interrelationships among gender, class, and race in health care systems of the United States and countries abroad.
Taught by: Wall
Course usually offered in spring term
Also Offered As: NURS 319
Activity: Lecture
1 Course Unit

NURS 519 Etiology and Treatment of Contemporary Chronic Diseases in America: Focus on Obesity and Cancer
This course will focus on two of the major public health problems in the United States-obesity and cancer. These diseases will be considered from a variety of perspectives: epidemiological, environmental, physiological and behavioral. In addition, the course will focus on the range of interventions being developed to treat as well as prevent both diseases.
Taught by: Glanz; Jacobs, L.; Sarwer
Course usually offered in fall term
Also Offered As: NURS 319
Activity: Lecture
1 Course Unit

NURS 520 Current Topics in Nutrition
The objective of the course is to integrate the nutrition knowledge obtained from previous course work in nutrition and provide the student the opportunity to explore, analyze and formulate implications of the research and related literature on a self-selected topic under the guidance of the faculty coordinator. Current topics and controversies in nutrition will be discussed weekly. Readings will be assigned in coordination with each discussion topic and students will be required to seek out other sources of information to add to the class discussion. Topics will change from year to year to reflect the most recent interests and issues.
Taught by: Compher
Course not offered every year
Activity: Seminar
0.5 Course Units

NURS 521 Advanced Nutrition: Molecular Basis of Nutrition
Prerequisite: NURS 065 or 112
Activity: Lecture
1 Course Unit
Notes: Essentials of nutritional biochemistry of macronutrient (protein, carbohydrate,lipid) metabolism from the molecular level to the level of the whole human organism. Linkages between energy and nitrogen balance and states of health and disease are examined. Topics include energy metabolic pathways, nutrient transportation, nutrient catabolism, nutrient anabolism, body composition, and biomarkers.
NURS 524 Advanced Human Nutrition and Micronutrient Metabolism
Prerequisite: NURS 605 or NURS 112 or Special Permission
Activity: Lecture
1 Course Unit
Notes: Essentials of vitamin and mineral digestion, absorption, metabolism, and function in humans during states of health and disease are examined. Linkages between key vitamins and their function in biological systems, such as bone health, energy metabolism, hematopoetic function, and immune function, are explored in depth. Topics include pertinent research methodologies, biomarkers, deficiency and toxicity states, and requirements across the life cycle.

NURS 525 Ethical Aspects of Health and Technology
Interdisciplinary approach to the study of the interface between ethics and law in the provision of health and illness care. This course draws upon the disciplines of philosophy, law, biomedical engineering and nursing in examining such concepts as the use/nonuse of biomedical technology, who and how one decides what shall be done for a given “patient,” and the “rights” and responsibilities (accountability) of all persons involved in health/illness care decisions. The interplay of ethical theory, personal value systems, law and technology will be stressed throughout. Lectures, seminars and case studies will be used. This course satisfies the Society & Social Structures Sector for Nursing Class of 2012 and Beyond.
Taught by: Ulrich
Course usually offered in spring term
Activity: Lecture
1 Course Unit

NURS 526 Child and Adolescent Mental Health
This course is designed to prepare advanced practice registered nurses to address mental health concerns of children, adolescents and their families from a bio-psycho-socio-cultural perspective. Prevention, assessment, and treatment of psychiatric disorders affecting children and adolescents in a variety of settings will be presented in the context of mental health, school and primary health care delivery systems. Students will explore both pharmacologic and nonpharmacologic treatment strategies, as well as methods to identify and implement evidence-based practice in child and adolescent populations. Mental health policy, as well as the unique needs of special populations (e.g., youth in the juvenile justice system) will also be discussed.
Taught by: Brawner
Course usually offered in fall term
Prerequisite: Matriculation in a MSN Program or permission of instructors
Activity: Lecture
1 Course Unit
Notes: Priority will be given to Psychiatric Mental Health NP students

NURS 531 Forensic Mental Health
Forensic mental health is the interface between the law and mental health. This course examines the components of human behavior that bring people into a judicial setting. Content will cover: criminal personalities, forensic interview, and the role of forensic psychiatry. Domestic violence offenders, sex offenders, stalkers, gang members, and offenders who commit homicide will be discussed. Definitions and dynamics of criminal motherhood and the psychodynamics of violent juvenile offenders will be presented. Use of the internet by offenders will also be discussed. This course also offers a field experience in which student’s interview incarcerated individuals. As of Spring 2016, students in the College of Arts and Sciences are not permitted to enroll in this course.
Taught by: Brown, K.
Course usually offered in fall term
Also Offered As: NURS 331
Activity: Lecture
1 Course Unit

NURS 532 Cognitive Behavior Strategies in Health Care
Cognitive therapy will be studied as it has been adapted to treat a broad spectrum of clinical disorders including depression, anxiety, phobias, substance, obesity, marital problems, sexual dysfunction, and psychosomatic disorders. Students will have an opportunity to study and observe the crucial link between thoughts and emotions and the sense of competency patients can develop through self-help techniques. The course utilizes didactic, experiential and observational techniques.
Taught by: Kuehlwein
Course usually offered in spring term
Activity: Lecture
1 Course Unit

NURS 533 Victimology
This course examines the wide range of victimization experiences from the perspective of the victim, their families and society. Crimes to be studied include workplace violence, corporate crime, robbery, burglary, assault, rape, stalking, domestic violence, homicide, suicide, elderly abuse and child sexual abuse and exploitation. The role of the medical examiner, health care providers and the FBI as they relate to victims of crime will be discussed. Emphasis will be given to exploring the elements of each crime and response patterns to victimizations. Services available to victims of crime will be discussed. As of Spring 2016, students in the College of Arts and Sciences are not permitted to enroll in this course.
Taught by: Cronin, G.
One-term course offered either term
Also Offered As: NURS 333
Activity: Lecture
1 Course Unit
Notes: Offered Fall, Spring Summer I
NURS 534 Forensic Science I
This course discusses the interface of law and science. Forensic science is the application of scientific principles in the legal arena. This course examines the contribution of forensic science to criminal and civil investigation. Crime scene analysis is accomplished via disciplines within forensic science. The role of the medical examiner, the structure and function of crime laboratories, death investigation and the role of healthcare personnel in forensic cases is discussed. As of Spring 2016, students in the College of Arts and Sciences are not permitted to enroll in this course.
Taught by: Cronin, G.
Course usually offered in spring term
Also Offered As: NURS 332
Activity: Lecture
1 Course Unit

NURS 535 Comparing Health Care Systems in an Intercultural Context: Study Abroad
This course offers students an opportunity to: 1) expand their knowledge base in health care systems; 2) develop intercultural competency skills and 3) shape a conceptual framework for improving the quality of health care for the individual, the family, the community and society at large. Emphasizes the relational, contextual nature of health care and the inseparability of the notions of the health of individuals and the health of family, society, and culture. Includes field experience.
Taught by: Kagan, Stringer; Muecke
Course usually offered in spring term
Prerequisite: Permission of instructor
Activity: Lecture
1 Course Unit
Notes: Seminar held in Spring, study abroad field experience held intra-session

NURS 540 Current Issues in Health and Social Policy
Analysis of key contemporary issues in health and social policy that will provide students with a deeper understanding of the design and structure of the U.S. health care system, the policy initiatives that have shaped it, and the roles of the government, the private sector, and consumers and advocacy groups in setting the policy agenda. Seminars will examine the origins of each issue, the policies enacted and their effects, both intended and unintended, and will propose and debate the merits of alternative policy solutions. The role of health services and policy research in informing the policy debate and directions will be highlighted. This course satisfies the Society & Social Structures Sector for Nursing Class of 2012 and Beyond.
Taught by: Sochalski; McHugh, M
Course usually offered summer term only
Also Offered As: NURS 334
Activity: Lecture
1 Course Unit

NURS 543 Global Engagement Seminar Environmental Health Issues
Cross Listed with NURS 343
Also Offered As: NURS 343
Prerequisites: General college-level chemistry and biology knowledge (e.g. CHEM/ BIOL 101, 102) to understand the science underlying environmental health topics or special permission
Activity: Seminar
1 Course Unit
Notes: This course will be a broad overview on current environmental health issues that contribute to significant global morbidity and mortality due to increased urbanization and growth in the economy. The course will cover basic principles of environmental epidemiology, toxicology, health effects of environmental exposures, risk assessment, as well as environmental policy and ethics. The class will have two portions. The first part of the class will be taught lectures, case studies, discussions on campus and a local field trip in the Philadelphia area. The second part of the course will involve a field trip to China during the early summer to help students gain a global perspective on environmental health concerns.

NURS 544 Etiology and Treatment of Contemporary Chronic Diseases in America: Focus on Obesity and Cancer
This course will focus on two of the major public health problems in the United States - obesity and cancer. These diseases will be considered from a variety of perspectives: epidemiological, environmental, physiological and behavioral. In addition, the course will focus on the range of interventions being developed to treat as well as prevent both diseases.
Taught by: Glanz; Sarwer; Jacobs, L.
Course usually offered in spring term
Also Offered As: NURS 344
Activity: Lecture
1 Course Unit

NURS 545 Maternal and Infant Care in the Americas
This clinical elective will provide an intensive historical, sociopolitical, and cultural perspective of health and health care delivery in the Americas with a special emphasis on Latin America and the Caribbean. Classroom, direct clinical care and field experiences are designed to provide students with a broad view of the history and culture system of the country of focus. The delivery of health care to women and children will be explored from a sociopolitical, cultural and historical context. Service learning experiences are an integral component of this course. The course includes 5 seminars on campus and 10-14 days on site in the country of focus. The country of focus may vary each semester.
Taught by: Guidera; Durain
Course usually offered in spring term
Activity: Lecture
1 Course Unit
Notes: Registration By Permission of Instructor
NURS 547 Scientific Inquiry for Evidence-based Practice
This course is designed to advance students' understanding of the research process, methods of scientific inquiry, and analytical techniques. Students acquire knowledge of systematic approaches used by scientists to design and conduct studies. Course content prepares students to appraise quantitative and qualitative research, and evaluate the scientific merit and clinical significance of research for translation into practice. Evidence-based guidelines are examined and rated for strength of evidence and expert consensus using evidence grading systems and defined criteria. Students engage in a variety of creative learning experiences to facilitate appreciative inquiry, clinical reasoning, and evidence-based practice. Quality improvement, comparative effectiveness analyses, information science, and electronic health systems technology demonstrate the capacity for measurement and surveillance of nursing-sensitive and other outcomes used to evaluate quality nursing care and test interventions. Ethical, legal and health policy implications for research are explored. This course serves as the basis for scientific inquiry about human experiences to address important problems that require solutions and to expand the research and the evidence base for professional nursing practice.
Taught by: Spatz; Kutney-Lee; Polomano
One-term course offered either term
Prerequisite: NURS 230
Activity: Lecture
1 Course Unit

NURS 548 Negotiations in Healthcare
This course examines the process that leads to change in health care settings and situations. Students will develop skills that lead to effective negotiations in interpersonal and organizational settings. Included in the discussion are: concepts of organizational structure and power, negotiating in difficult situations, and the role of the health care professional in negotiation and change. The course also examines techniques leading to successful implementation of negotiated change in the practice setting. This course satisfies the Society & Social Structures Sector for Nursing Class of 2012 and Beyond.
Taught by: Burke, K.;
Course usually offered in fall term
Prerequisite: Undergraduates must have permission of instructor
Activity: Lecture
1 Course Unit

NURS 550 Home Health Care Concepts: Mgmt. & Delivery of Community-Based Care
This course examines the major aspects of home-based care across patients' life spans from acute to long term care. New trends, advances, and issues in home management of complex conditions, innovative delivery systems and legal, ethical and policy consideration will be explored.
Taught by: Doyle
Course usually offered in fall term
Also Offered As: NURS 368
Activity: Lecture
1 Course Unit

NURS 551 Applied Health Informatics
Catalogue Description: This course is designed to address issues related to the impact of information technology on health care practitioners and consumers of all ages. Students will learn about and gain experience with practical applications of information technology (Access, handheld devices, telehealth, Internet resources) that improve the quality of health care communication and delivery and facilitate health care research. Class projects include working with clinical databases and evidence-based information sources.
Taught by: Bowles
Course offered fall; even-numbered years
Prerequisites: Experience in using the Internet to retrieve information. Basic knowledge of Microsoft Access is expected.
Activity: Lecture
1 Course Unit

NURS 552 Health Care and Social Policy
This course is an area study or survey of social policy issues in contemporary health care. Topics include social contexts of health care and health policy; the organization and financing of health services; the health professions; health and illness over the life cycle; achieving equitable access to health services; the interface between health and social services. Health problems of national significance will be addressed including infant mortality, teenage pregnancy, AIDS, the chronically mentally ill and homeless, health impaired elderly.
Taught by: Aiken
Course usually offered in fall term
Activity: Lecture
0.5 Course Units

NURS 553 Innov & Applied Tech II
Course usually offered in spring term
Activity: Lecture
0.5 Course Units

NURS 555 Women and Incarceration
This elective course will afford students the opportunity to develop and implement health education workshops for incarcerated women in the Philadelphia jail system. Students will explore the social and historical framework and trends in the incarceration of women, as well as the needs of this population, and will identify specific areas that need to be addressed by particular disciplines or professions. Students will have direct contact with the jail system, its staff, and female inmates.
Course usually offered in fall term
Also Offered As: GSWS 555
Activity: Lecture
1 Course Unit
NURS 557 Principles of Palliative Care
This course examines national and global perspectives and clinical issues in the delivery of palliative care with diverse populations in multiple health care settings. Students focus on the care of persons with life-threatening, progressive illness, emphasizing respect for patients’ and families’ beliefs, values, and choices. Students also explore psychosocial and spiritual dimensions of palliative care. Historical, sociocultural, economic, legal, and ethical trends in palliative care are discussed. Factors affecting health care systems and societal attitudes are considered in evaluating the delivery of care during advanced illness and at the end of life. Students engage in the critical analysis of literature, research, and observational experiences concerning biopsychosocial needs of patients and families. Students acquire competencies in patient/family assessment, communication, decision-making, and interdisciplinary collaboration in palliative care. This course satisfies the Society & Social Structures Sector for Nursing Class of 2012 and Beyond. Taught by: Ersek
Course usually offered in fall term
Also Offered As: NURS 367
Prerequisite: Undergraduate Students Need Permission
Activity: Lecture
1 Course Unit
Notes: Undergraduates Need Permission

NURS 562 Case Study in Complementary and Alternative Medicine
This course will examine the use of complementary and alternative medicine (CAM) in health promotion and disease prevention, as well as in acute and chronic health conditions, through evidence-based research and practice. Implications of CAM on culture, health disparities, society, economics, safety, legal, ethical, and health policy issues will be explored and discussed.
Taught by: Cuellar
Course offered spring; odd-numbered years
Activity: Lecture
1 Course Unit
Notes: Undergrads Need Permission

NURS 566 Living with Dementia
Living with Dementia provides a two fold experience: guided observation of an individual with dementia and a seminar series on dementia - neuropathology, assessment, care and treatment. Students will interact with a person with AD and his/her caregiver. The goal is to understand the demented individual’s functional abilities and impact of environment on performance and behavior. A further goal is to develop an appreciation of the primary caregiver’s role and the strengths and limitations of community support systems. Each team of two to three will be assigned a family unit for study. In so far as possible, teams will be interdisciplinary.
Taught by: Strumpf; Cotter
Course not offered every year
Also Offered As: NURS 366
Activity: Lecture
1 Course Unit

NURS 567 An Evidence-based Approach to Managing Symptoms in Advanced Illness
This course uses an evidence-based approach towards systematic assessment and management of common symptoms and symptom clusters accompanying progressive, life-limiting illnesses within a framework of nationally recognized standards and guidelines for palliative and end-of-life care. Students are prepared to apply principles of palliative management to diverse patient populations across clinical settings including acute, primary, long-term, and community care. Refer to course syllabus or email course faculty for respective requirements.
Taught by: Meghani; Ersek
Course usually offered in spring term
Prerequisites: Junior and Senior undergraduate students may be admitted with course faculty permission
Activity: Lecture
1 Course Unit

NURS 570 Introduction to Public Health
This course will provide a foundational overview of the field of public health and grounding in the public health paradigm. Content will include the history of public health, an introduction to the basic public health sciences including behavioral and social sciences, biostatistics, epidemiology, environmental public health, policy and management and prevention of chronic and infectious diseases and injuries, future directions for public health and an introduction to issues in international health, ethics, context analysis (specifically the notion of urban health), health promotion and disease prevention paradigms.
Taught by: Buttenheim; Nguyen
Course usually offered in fall term
Also Offered As: PUBH 500
Prerequisite: Undergrads Need Permission
Activity: Lecture
1 Course Unit

NURS 575 Health, Sustain & Design
Activity: Lecture
1 Course Unit

NURS 577 Advanced Practice Issues for Palliative Care Nurses
This course provides an in-depth examination of 1) key practice, policy, and ethical issues affecting the delivery of palliative care and 2) the responsibilities of advanced practice nurses (APRN) providing care to patients with progressive, life-limiting illness and their families. Learning experiences will focus on conducting patient/family conferences; examining selected ethical issues in palliative care; analyzing organizational, economic and health policy issues that affect the delivery of hospice and palliative care; exploring current and emerging models of palliative care delivery; and creating approaches to enhancing continuity of palliative care across settings. Students will choose assignments to meet their professional goals.
Taught by: Ersek; Meghani; Polomano
Course usually offered summer term only
Prerequisite: NURS 557
Activity: Lecture
1 Course Unit
Notes: Undergraduates Need Permission
NURS 580 Pharmacology of Anesthesia and Accessory Drugs I
This course explores the various routes of anesthetic administration addressing the potential benefits and risk of each. Special emphasis is placed on specific anesthetic agents and their appropriate use. The responses and common complications associated with these agents are discussed.
Taught by: Magro; Lynn
Course usually offered in fall term
Prerequisite: NURS 617
Activity: Lecture
1 Course Unit

NURS 587 Advanced Leadership Skills in Community Health
Grounded in a social justice perspective, this course aims to provide the student with a foundational overview of the field of community health and leadership skills in public health advocacy. The course encourages critical thinking about health outcomes framed by the broad context of the political and social environment. This course analyzes the range of roles and functions carried out by leaders in healthcare advocacy for marginalized communities; integrates knowledge of health policy and the key influence of government and financing on health outcomes; explores community-based participatory research and interventions as tools for change; and discuss ways to develop respectful partnerships with community organizations. An assets-based approach that draws upon the strengths of communities and their leaders provides a foundation for community-engagement skill building. The course emphasizes the development of skills and techniques to lead effective, collaborative, health-focused interventions for disenfranchised groups, including residents of urban neighborhoods.
Taught by: Margo; Klusaritz; Lipman
Course usually offered in spring term
Also Offered As: PUBH 588
Prerequisite: Enrollment in a Masters or Doctoral program
Activity: Lecture
1 Course Unit
Notes: Undergraduates with permission of the instructor

NURS 588 The Politics of Women's Health Care
This course will utilize a multidisciplinary approach to address the field of women's health care. The constructs of women's health care will be examined from a clinical, as well as sociological, anthropological and political point of view. Topics will reflect the historical movement of women's health care from an obstetrical/gynecological view to one that encompasses the entire life span and life needs of women. The emphasis of the course will be to undertake a critical exploration of the diversity diversity of women's health care needs and the past and current approaches to this care. Issues will be addressed from both a national and global perspective, with a particular focus on the relationship between women's equality/inequality status and state of health. This course satisfies the Society & Social Structures Sector for Nursing Class of 2012 and Beyond.
Taught by: McCool; Durain; Lewis, L.
Course usually offered in spring term
Also Offered As: GSWS 588
Activity: Lecture
1 Course Unit

NURS 600 Principles and Practice of Transformative Nursing Education
This course is designed to provide expert advanced practice nurses and midwives, currently holding faculty positons, with a theory and practice base to promote excellence in classroom teaching. The focus of the course is theories and principles of teaching and learning related to adult learning. Personal and educational philosophies and their relationship to the learner are explored. Basic components of curriculum development are integral to the course. A designated mentor teacher at the home university with a Masters or Doctorate degree, nominated by the student and approved by the Course Director, works in partnership with the student and Penn faculty.
Taught by: McHugh; Keim; Klenke-Borgmann
Course usually offered in fall term
Prerequisites: Baccalaureate in Nursing plus a Master's Degree in Nursing or in a Health Related Area. Current Master or Doctoral Students with permission of the Program Director and the Course Director.
Activity: Lecture
1 Course Unit

NURS 601 Integrating Classroom and Clinical Pedagogies in Nursing Education
This course builds on the knowledge attained in NURS 600 as well as the knowledge and skills of the expert clinician. The focus of the course is clinical teaching for the advanced practitioner, perceptor preparation and issues related to establishing and maintaining clinical sites. Academic responsibilities of faculty members, ethical and legal issues in education and educational effects of professional trends, health care policies and rapidly changing environments are also explored.
Taught by: McHugh; Keim; Klenke-Borgmann
Course usually offered in spring term
Prerequisite: NURS 600
Activity: Lecture
2 Course Units

NURS 604 Chronic Illness in the Community: Lifespan Approach
This course focuses on theory and research from the behavioral and nursing sciences on the psychological and social consequences of on-going illness. In addition, the health policy issues engendered by these problems will be addressed.
Taught by: Shaughnessy, Buzby, Murphy
Course usually offered summer term only
Prerequisite: Primary Care Majors or instructor permission
Activity: Lecture
1 Course Unit

NURS 605 Biochemical and Physiological Aspects of Metabolism and Human Disease
Selected aspects of genetics, biochemistry, physiology and pharmacology are presented and applied to nursing care. Embryonic, histologic, and gross anatomical features of certain organ systems are functionally related to biochemical and physiological mechanisms essential for the maintenance of a stable internal environment. Special emphasis is placed upon integrating functions of the nervous and endocrine systems. Certain deviations from normal metabolism, structure and function are detailed.
Taught by: Lafferty; Malseed, Z.; Tkacs
Course usually offered in fall term
Activity: Lecture
1 Course Unit
Notes: Summer I
NURS 607 Advanced Physiology and Pathophysiology
This course will integrate advanced physiology with pathophysiology and clinical implications across the lifespan for advanced nursing practice. Organ systems function and dysfunction from the level of the cell through integrated organ levels will be presented, and the genetic basis of disease will be discussed. Recent scientific advances will be discussed with application to new approaches to disease and symptom management. The interrelationships between basic physiology, clinical pathophysiology, and genetics are emphasized through lecture and case studies.
Taught by: Tkacs
Course usually offered in fall term
Prerequisites: Completion of undergraduate courses that include Biochemistry, Nutrition, Anatomy and Physiology or permission of the instructor.
Activity: Lecture
1 Course Unit

NURS 608 Advanced Pharmacology and Therapeutics for Nursing Practice
Advanced principles of clinical pharmacology and therapeutics are applied to the nursing care of individuals across the life-stage spectrum. It focuses on the content and knowledge employed by the advanced practice registered nurse in the management of various conditions and disease states. The course builds on the pharmacology knowledge base acquired in the baccalaureate nursing program. The advanced pharmacology and therapeutics of several common diseases or conditions found in the acute care and primary care setting is presented. This is supplemented with pharmacotherapy modules to meet program specific needs.
Taught by: Boulatta; Carey; Manning
One-term course offered either term
Prerequisite: NURS 607 or NURS 685
Activity: Lecture
1 Course Unit

NURS 610 Concepts in Healthcare Economics
This course examines health care from an economic perspective tailored for the nurse manager and executive. Emphasis is on the allocation of health care resource policies in the United States with examination of different health care programs. Within the health care industry, focus is on public and private health care funding in addition to the role of managed care systems with relation to financing and delivery of health services. This course satisfies the Society & Social Structures Sector for Nursing Class of 2012 and Beyond.
Taught by: Piper, A
Course usually offered in spring term
Activity: Lecture
0.5 Course Units

NURS 612 Principles and Practice of Healthcare Quality Improvement
Healthcare delivery is complex and constantly changing. A primary mission of leading healthcare organizations is to advance the quality of patient care by striving to deliver care that is safe, effective, efficient, timely, cost-effective, and patient-centered (Institute of Medicine). The goal of this interprofessional course is to provide students with a broad overview of the principles and tools of quality improvement and patient safety in healthcare as well address the knowledge, skills and attitudes as defined by the Quality and Safety Education for Nurses (QSEN) guidelines. It will provide a foundation for students or practicing clinicians who are interested in quality improvement and patient safety research, administration, or clinical applications. Content will address the history of the quality improvement process in healthcare, quality databases and improvement process tools and programs. Through the use of case studies and exercises students will become familiar with the use of several quality improvement programs and tools. For example, the Plan-Do-Study-Act (PDSA) cycle, Six Sigma and the Toyota Production System known as Lean Production processes will be addressed. Students can use this course to identify the tools and design the methods that they plan to employ in a quality improvement or patient safety project in their area of interest.
Taught by: Myers, J.; Burke, K.
Course usually offered in fall term
Also Offered As: HPR 504
Activity: Lecture
1 Course Unit

NURS 617 Principles of Nurse Anesthesia Practice I
This course explores the various routes of anesthetic administration addressing the potential benefits and risk of each. Special emphasis is placed on the monitoring of patients during the intra-operative phase. The responses to the common complications that occur during the intra-operative phase are discussed utilizing a case study approach.
Taught by: Magro; Lynn
Course usually offered summer term only
Activity: Lecture
1 Course Unit
Notes: 12-Week Summer Session

NURS 618 Principles of Nurse Anesthesia Practice II
This course explores the indications, contraindications and considerations regarding the administration of regional, epidural and spinal anesthesia. Anatomical and physiological considerations regarding the administration, monitoring and reversing of anesthetic agents are reviewed. Common side effects and adverse effects are discussed and the effective treatments of each are explained. Factors leading to substance abuse are identified and discussed. Opportunities to practice spinal needle placement and administration of anesthetics are provided in the simulation laboratory.
Taught by: Magro; Lynn
Course usually offered in spring term
Prerequisite: NURS 617
Activity: Lecture
1 Course Unit
NURS 619 Principles of Nurse Anesthesia Practice III
This course explores the special considerations of pediatric, obstetric, and geriatric patients undergoing anesthesia. The pre-anesthesia assessment of these patients is discussed with particular emphasis on the commonly occurring complications and how to anticipate and manage them. Monitoring for anesthetic effect, hemodynamic effect and potential adverse reactions is reviewed using a case study approach.
Taught by: Magro; Lynn; Winner
Course usually offered summer term only
Prerequisite: NURS 618
Activity: Lecture
1 Course Unit
Notes: 12-Week Summer Session

NURS 620 Principles of Nurse Anesthesia Practice IV
This course provides a systems approach to examining specialty surgical procedures and the anesthesia requirements for each. Analysis of the pre-anesthesia assessment, the intraoperative monitoring and the post-anesthesia care required for patients undergoing the surgical procedure will be presented. Population specific considerations will be emphasized.
Taught by: Magro; Lynn
Course usually offered in fall term
Prerequisite: NURS 619
Activity: Lecture
1 Course Unit

NURS 621 Principles of Nurse Anesthesia Practice V
This course provides a systems approach to examining specialty surgical procedures and the anesthesia requirements for each. Analysis of the pre-anesthesia assessment, the intraoperative monitoring and the post-anesthesia care required for patients undergoing the surgical procedure will be presented. Population specific considerations will be emphasized.
Taught by: Magro; Lynn
Course usually offered in spring term
Prerequisite: NURS 620
Activity: Lecture
1 Course Unit

NURS 622 Pathogenesis of Mental Disorders Across the Lifespan
The conceptual and practice application of brain-behavior relationships for individuals with mental health and psychiatric conditions is developed in this course. Students learn interview and differential diagnostic skills to screen for neuropsychological etiologies of mental disorders such as schizophrenia, bipolar disorders, mood disorders and anxiety disorders. The course reviews specific theories of etiology and diagnostic classifications found in the Diagnostic and Statistical Manual of Mental Disorders-Fourth Edition- Text Revision (DSM IV- TR). Students develop the ability to make critical decisions as they learn finer points of differential diagnosing of mental disorders using a case based method of learning, allowing students to focus on specific populations such as aged, adults, adolescents, and children.
Taught by: Hanrahan; Tkacs
Course usually offered in fall term
Activity: Lecture
1 Course Unit

NURS 625 Clinical Modalities Across the Life Cycle in Advanced Practice
Psychiatric Mental Health Nursing
Crisis intervention, brief psycho-therapy, group processes and practices, milieu therapy, and intervention with families are examined as they relate to nursing practice in mental health.
Taught by: Coleman, C.
Course usually offered summer term only
Activity: Lecture
1 Course Unit

NURS 626 Family and Organizational Systems Across the Life Span
This course presents Bowen Family Systems Theory as it applies to families over the life and organizations over time. This is a theoretical course whose purpose is to provide the student with a broad, systemic perspective on human functioning. The course begins with a detailed presentation of Systems Theory, from both a family and organizational perspective. As presented there is a continual compare and contrast to other dominant theories of human functioning. It then applies the concepts of Systems Theory to the understanding and assessment of the stages of the normal family life cycle from a multi-generational, multi-cultural perspective. This is followed by discussions of the theory's application to the emotional problems of children, adolescents, adults and their families. Likewise, application to organizational behavior is made, including health care organizations. Relevant research is discussed throughout.
Taught by: Pollack, F.
Course usually offered summer term only
Activity: Lecture
1 Course Unit
Notes: Summer Session I

NURS 628 Mental Health and Aging
An examination of the psycho-socio-cultural processes which influence the behavior patterns, coping, and adaptation of older adults. The course emphasizes strategies to promote mental health as well as assessment, presentation, and intervention in the major acute and chronic psychiatric disorders affecting the older adult.
Taught by: Cacchione; Evans
Course usually offered in spring term
Activity: Lecture
1 Course Unit

NURS 629 Bas Prin Nurse Anethesia
Course usually offered in fall term
Activity: Lecture
1 Course Unit

NURS 637 Introduction to Research Methods and Design
The relationships among nursing theory, research and practice will be examined. An emphasis will be placed on research competencies for advanced practice nurses (APNs), including understanding nursing research methods and strategies in order to evaluate research results for applicability to practice and to design projects for evaluating outcomes of practice. An understanding of statistical techniques will be integrated into the course and build on the required undergraduate statistics course. Published nursing research studies will be evaluated for scientific merit and clinical feasibility, with a focus on evidence-based practice.
Taught by: Tulman; Polomano; Spatz; Hatfield
One-term course offered either term
Prerequisites: Undergraduate Statistics Class. Must hold an RN license.
Activity: Lecture
1 Course Unit
Notes: Also offered in 6 week Summer Session I
NURS 640 Global Health and Health Policy
This participatory interdisciplinary seminar course examines contemporary issues in public health policy and global health. The organizing framework is social determinants of health. We consider evidence that inequalities in education, income, and occupation influence health status, and the policy dilemma that broad interventions to improve population health may increase health disparities. We critically examine whether prevention is always better than cure, and what modern medicine has to offer in terms of health. We explore the public policy process in health using the "tobacco wars" as a case example, of how politics, policy, law, commercial interests, and research intersect to affect the public’s health. We examine whether global health is in a state of decline, and the extent to which failures in public health, public policy, and foreign policy have contributed to increasing threats to world health. Likewise we will examine the potential for greater integration of health into foreign policy to create global infrastructure upon which to advance health. We will examine the global health workforce and the impact of widespread global migration of health professionals on receiving and sending countries. There are no prerequisites. The course is designed for graduate students in the social and behavioral sciences, health professions, public health, business and law. Advanced undergraduate students will be admitted with permission.
Taught by: Aiken; Voet; McLaughlin
Course not offered every year
Also Offered As: PUBH 551, SOCI 640, SWRK 793
Activity: Lecture
1 Course Unit

NURS 641 Autism Spectrum Disorder: Prevalence, Etiology, Screening and Assessment
Through classroom and clinical experiences, this course provides an overview of the public health problem of autism spectrum disorder (ASD). Content addresses the natural history, etiology, rising prevalence, risk factors, and core features. Changes in prevalence statistics and possible causes are outlined. These subjects are described in general terms for an overall picture of the disorder. Taking a developmental approach, students begin case management and follow a family through screening, diagnosis and treatment planning. Key information is elaborated through case studies. The course highlights the important and evolving role of nurses in the care of people with ASD. Content is supported by the scientific literature. Students' clinical experiences start the identification of and collaborative work with a family that has a young child with ASD. The student follows that family and the child through diagnosis, treatments and long term planning. This case approach allows the student to work with the same family over the entire post-masters program to learn the value of interdisciplinary, contiguous care.
Taught by: Pinto-Martin; Souders
Course usually offered in fall term
Prerequisites: Post-BSN students only.
Activity: Lecture
1 Course Unit
Notes: Junior and senior undergraduate students may be admitted with course faculty permission.

NURS 642 Health and Behavioral Care Planning and Intervention for Autism Spectrum Disorder
Through classroom and clinical experiences, this course focuses on the application of various treatment approaches to the management of acute and chronic problems of autism spectrum disorder. Approaches to behavioral, psychological and medical co-morbidities are explored, practiced and evaluated. Students' clinical experiences build on the previous semester and continue with the application of class instruction to patient and family care. The student works closely with behaviorists, psychologists and occupational therapists to integrate nursing care planning with other services. This case approach continues, and exposure to a second family is added to expand learning opportunities and develop nursing services.
Taught by: Pinto-Martin; Souders
Course usually offered in spring term
Prerequisite: NURS 641
Activity: Lecture
1 Course Unit

NURS 643 Leadership, Advocacy, and the Practice of Integrated Nursing Care of ASD
Emphasis is on the synthesis of course content practice. Through classroom and clinical experiences, students critically examine the role of nursing in the life-long care of people with ASD, and identify ways to expand the scope of nursing care for this vulnerable population. Students explore the availability of services in the community and discuss approaches to patient advocacy. Students have opportunities to select an area of specialization to develop specific practice expertise. Such areas are Diagnosis and Referral Practices (e.g. ADOS Training), Behavioral Therapy Training (e.g. Applied Behavioral Analysis), and clinical research. Practical issues of collaboration and reimbursement for services are explored. Students' clinical experiences are designed to facilitate scholarship, independence and advanced specialization in a chosen component of ASD care, for example, behavioral analysis, screening and/or diagnosis, or an agenda for research. Students identify and implement an independent project.
Taught by: Pinto-Martin; Souders
Course usually offered summer term only
Prerequisite: NURS 642
Activity: Lecture
1 Course Unit
Notes: Spring and/or Summer Offering

NURS 644 Health Care in an Aging Society
Individual and societal influences on the care of older adults are examined in detail within the context of an emerging health care system. Normal changes in physical and psychological health are explored in depth. Significant issues affecting care of older adults and their families at the global and national level are discussed.
Taught by: Bradway;
Course usually offered in spring term
Activity: Lecture
1 Course Unit
NURS 645 Psychopharmacology Across the Lifespan
This course focuses on the development of knowledge and skills related to the use of psychopharmacologic agents to treat mental illness by the advanced practice nurse. Using a case study method to encourage the application of knowledge to clinical practice, the course addresses culturally diverse client populations, across the lifespan, who present with a range of symptom manifestations, at all levels of severity. The course emphasizes evidence-based practice, research-based clinical decision making and a wholistic approach to integrating the science and biology of the mind with social and behavioral interventions. The case base method allows students to focus on specific populations such as older adults, adults, adolescents, and children.
Taught by: Hanrahan
Course usually offered in spring term
Prerequisite: NURS 622
Activity: Lecture
1 Course Unit

NURS 646 Primary Care: Diagnosis and Management of Adults Across the Lifespan
This course focuses on development of critical thinking skills to address health care problems of adults across the lifespan, with an emphasis on middle-aged and older adults, develop differential problem solving skills and determine appropriate management interventions. The management of common acute and chronic health conditions will include evidence based primary preventions, drug and treatment therapeutics, and referral to other health care providers. Students have the opportunity to build on previously acquired skills and to apply concepts of primary care to manage the health problems of adults across the lifespan.
Taught by: Bradway; Cotter
Course usually offered in fall term
Prerequisite: NURS 657
Activity: Lecture
1 Course Unit

NURS 647 Primary Care Clinical Practicum: Diagnosis and Management of Adults across the Lifespan
Management and evaluation of primary care problems of middle-aged and older adults in a variety of ambulatory and occupational settings. Opportunity to implement the role of the nurse practitioner with middle-aged and older adults and their families in the community. Interdisciplinary experiences will be pursued & collaborative practice emphasized. Students are expected to assess and begin to manage common chronic health problems in consultation with the appropriate provider of care. The initiation of health promotion & health maintenance activities with individuals and groups is stressed. Includes 16 hours a week of clinical experience with a preceptor.
Taught by: Cross; O'Sullivan
Course usually offered in fall term
Prerequisite: NURS 657
Corequisite: NURS 646
Activity: Clinic
1 Course Unit

NURS 648 Primary Care: Complex Diagnosis and Management of Adults across the Lifespan
This course will build on concepts presented in the Diagnosis and Management of Adults across the Lifespan (NURS 646) course. The focus is on refining health assessment skills, interpreting findings, developing and implementing appropriate plans of care to meet common health maintenance needs of adults and to promote the health of adults with more complex health problems with an emphasis on the frail adult. The student will gain increased expertise in communication skills, health assessment skills, interpreting findings, epidemiological concepts and developing and implementing plans of care. The emphasis will be placed upon managing an aging population with complex, chronic healthcare needs and promoting healthy behaviors across the lifespan.
Taught by: Cotter
Course usually offered in spring term
Prerequisites: NURS 646, 647
Activity: Lecture
1 Course Unit

NURS 649 Primary Care Clinical Practicum: Complex Diagnosis and Management of Adults across the Lifespan
The focus of this course is the application of concepts presented in the Complex Diagnosis and Management of Adults Across the Lifespan (NURS 648) including initial workups of new patients, and the evaluation and management of patients with self-limiting acute problems, or stable chronic illnesses. Students will gain increased clinical expertise in a variety of community-based clinical settings including but not limited to health maintenance organizations, community clinics, long term care, assisted living, continuing care retirement communities, occupational health settings, and private practice. The student will gain increased expertise in communication skills, health assessment skills, interpreting findings, applying epidemiological concepts and developing and implementing plans of care for adults across the lifespan with health maintenance needs, and/or common acute and chronic health problems.
Taught by: Cotter; Taylor
Course usually offered in spring term
Prerequisites: NURS 646, 647
Corequisite: NURS 648
Activity: Clinic
1 Course Unit

NURS 650 Systems Thinking in Patient Safety
This blended online/in-classroom graduate level course integrates principles of systems thinking with foundational concepts in patient safety. Utilizing complexity theories, students assess healthcare practices and identify factors that contribute to medical errors and impact patient safety. Using a clinical microsystem framework, learners assess a potential patient safety issue and create preventive systems. Lessons learned from the science of safety are utilized in developing strategies to enhance safe system redesign. Core competencies for all healthcare professionals are emphasized, content is applicable for all healthcare providers including, but not limited to, nurses, pharmacists, physicians, social workers and healthcare administrators, and may be taken as an elective by non-majors.
Taught by: Keim; Burke, K.
Course usually offered in spring term
Also Offered As: HPR 650
Activity: Lecture
1 Course Unit
NURS 651 Nursing Informatics
This course is designed to introduce the student to fundamental concepts and issues surrounding technology and information management in today's rapidly changing health care environment. Emphasis will be placed on defining informatics and the models and theories used in its development. To prepare the student to take a leadership role in information system design and selection the class will study the process of information systems analysis, implementation and evaluation involving functional, organizational and human aspects.
Taught by: Bowles; Maffei
Course usually offered summer term only
Prerequisite: Basic Computer Skills
Activity: Online Course
1 Course Unit

NURS 652 Applied Healthcare Accounting and Business Planning
This course focuses on the management of financial resources in the healthcare industry particularly in inpatient and ambulatory care settings. Specific emphasis is on applied accounting, budgeting, capital planning, nursing staffing/scheduling and variance analysis. Additionally, students will apply concepts in developing a business/program plan including completion of an environmental scan, cost-benefit analysis and marketing plan. Students will engage in strategic planning, stakeholder analysis and benchmarking efforts.
Taught by: Keim; Fuir
Course usually offered in spring term
Activity: Lecture
1 Course Unit

NURS 655 Nursing Administration Practicum
This administrative practicum will be individually tailored to meet each student's career goals. Students will be placed with an expert role model who in most instances will be a practicing nurse executive. The setting may vary according to the student's interests and objectives. Examples include acute care, home care, long term care, occupational health, community based clinics, consulting groups and political/legislative experiences.
Taught by: Keim, DiMichele
One-term course offered either term
Prerequisite: NURS 699
Activity: Clinic
1 Course Unit

NURS 656 Professional Role Issues for Nurse Practitioners
This course is intended for students planning a career that involves primary health care delivery. It includes lectures, discussions, readings, and projects focused on health, social, economic and professional factors influencing health care delivery in the community.
Taught by: O'Sullivan; Bryan
Course usually offered in fall term
Corequisite: NURS 657
Activity: Lecture
1 Course Unit

NURS 657 Advanced Physical Assessment and Clinical Decision Making
This is a laboratory/clinical course designed to help prospective nurse practitioners develop advanced clinical assessment skills. Provider-patient interaction, data collection, and hypothesis formulation are emphasized. All participants engage in actual practice with fellow students, and/or models, and consenting patients.
Taught by: Buzby; Reger; Sherry
Course usually offered in fall term
Activity: Laboratory
1 Course Unit

NURS 658 Clinical Management of Primary Care with Young Families
Assessment and treatment of the young child in ambulatory care settings is the focus of this developmentally organized course. This course provides the nurse practitioner student with the necessary knowledge and experience to assist individuals with the most common health problems, including acute episodic illness as well as stable chronic disease. The concepts of health promotion and health maintenance are integrated throughout the curriculum. Using a developmental framework, the maturational tasks and problems of children and their families in relation to illness and health are explored.
Taught by: O'Sullivan
One-term course offered either term
Prerequisites: NURS 656, 657
Corequisite: NURS 659
Activity: Lecture
1 Course Unit

NURS 659 Clinical Practicum: Primary Care with Young Families
Management and evaluation of primary care problems of children in a variety of ambulatory settings. Opportunity to implement the role of nurse practitioner with children and their families in the community occurs under the guidance of faculty and experienced preceptors. The initiation of health promotion and health maintenance activities with individuals and groups is stressed. Collaborative, interdisciplinary practice is emphasized as students assess and manage common problems in consultation with an appropriate provider of care. 20 hours a week of clinical experience with a preceptor is arranged.
Taught by: O'Sullivan
One-term course offered either term
Prerequisites: NURS 656, 657
Corequisite: NURS 658
Activity: Clinic
1 Course Unit

NURS 660 Clinical Practice with Select Populations: Adolescents
Focus on assessment and treatment of adolescents in a variety of settings. Didactic emphasis is on the special needs encountered among adolescents. This course adds to the student's previous knowledge and skill in the delivery of primary care. Working with this specific population the student gains necessary knowledge and experience in assisting individuals with most common health problems, including acute episodic illness and stable chronic disease, as well as health promotion needs.
Taught by: O'Sullivan
Course usually offered summer term only
Prerequisites: NURS 656, 657, 658, 659
Activity: Clinic
1 Course Unit
Notes: Summer Session I
NURS 661 Clinical Management of Primary Care with Adults
Assessment and treatment of younger adults in ambulatory care settings is the focus of this clinical course. The course provides the nurse practitioner student with the necessary knowledge and experience to assist individuals with most common health problems, including acute episodic illness. The concepts of health promotion and health maintenance are integrated throughout the curriculum. Using a developmental framework, maturational tasks and problems of the adult and family in relation to illness and health are explored.
Taught by: O'Sullivan
Course usually offered summer term only
Prerequisites: NURS 607; NURS 637
Activity: Clinic
1 Course Unit
Notes: Summer Session II

NURS 663 Advanced Concepts in Primary Care
In conjunction with the development of advanced clinical skills, students focus on advanced practice role development and the study of issues in health service delivery related to the practice of primary health care. Economics, case management and cultural/ethical aspects of care are discussed.
Taught by: O'Sullivan
Course usually offered summer term only
Prerequisite: NURS 660 or NURS 661
Activity: Clinic
1 Course Unit
Notes: Summer Session II

NURS 664 Advanced Practice Nursing for Oncology Care
Students are introduced to cancer epidemiology and pathophysiology, cancer genetics, prevention, risk assessment and reduction for specific cancers, screening techniques, diagnostic procedures and criteria, and local and systemic therapies used to treat cancer. The influence of individual characteristics on health promotion, health behaviors, population cancer risk, and cancer detection are explored in the context of biological, psychological, socioeconomic and sociocultural factors across age groups from adolescents to older adults. Evidence-based practice guidelines and research are applied to promote healthy lifestyles, monitor cancer risk, address psychosocial issues, facilitate access to care, and reduce health care disparities for populations at risk and diagnosed with cancer, and cancer survivors.
Taught by: Hollis; Polomano
Course usually offered in fall term
Prerequisite: NURS 607; NURS 637
Activity: Online Course
1 Course Unit
Notes: Summer 12 Week Session; Permission to take this course as an elective must be approved by the course faculty.

NURS 666 Effects of Cancer and Cancer Therapy
Principles of cancer treatment, associated responses and symptom management are presented. Emphasis is on the development of advanced clinical decision making skills in identifying multiple alterations resulting from cancer and cancer therapy.
Taught by: Walker; Prechtl-Dunphy
Course usually offered in spring term
Prerequisites: NURS 646, 664
Corequisite: NURS 667
Activity: Online Course
1 Course Unit

NURS 667 Oncology Nursing: Assessment, Diagnosis, & Cancer Management
Emphasis is on the application of critical thinking and diagnostic reasoning skills in advanced clinical decision making. Students assess, diagnose, and manage the care of oncology patients with a variety of cancers. The delivery of care and evaluation of role effectiveness within the health care system are examined.
Taught by: Polomano; Walker; Prechtl-Dunphy
Course usually offered in spring term
Prerequisites: NURS 664, NURS 666
Corequisite: NURS 666
Activity: Online Course
1 Course Unit
Notes: $60 Lab Fee

NURS 670 Principles of Adult Gerontology Acute Care I
This didactic course examines the epidemiologic, assessment, diagnostic, management and evaluation of acutely or critically ill adults across the adult-older adult age spectrum. Students explore the dynamic interplay between the pathophysiologic basis of disease and the psychosocial and socio-cultural responses to acute and critical illness and injury as they develop clinical decision-making skills. An evidence-based approach to nursing and medical management including pharmacologic and non-pharmacologic modalities is emphasized. Cardiovascular and pulmonary systems, infectious and prevention issues commonly encountered by adults are covered. Particular focus is placed on specific issues related to the older adult such as frailty, dehydration, loss of functional mobility, falls, and other geriatric syndromes.
Taught by: Pawlow; Elgart; Becker; Doherty
Course usually offered in fall term
Activity: Lecture
1 Course Unit

NURS 671 Principles of Adult Gerontology Acute Care II
In this didactic course, students learn to integrate their advanced pharmacology and pathophysiology background with their understanding of acute illness and injury. The focus is on the evidence-based management of patients with neurologic, gastrointestinal, renal, oncologic, and metabolic health problems. Students develop skills to create a differential diagnosis when an adult/older adult presents with a constellation of symptoms. Common and atypical presentations of illness and disease are explored. Focus is placed on holistic care including the psychosocial, cultural, and spiritual aspects of patients’ response to their illness or injury. Epidemiology, assessment, diagnosis, management, and advanced clinical decision making based on current clinical research are emphasized.
Taught by: Pawlow; Elgart; Becker; Doherty
Course usually offered in spring term
Activity: Lecture
1 Course Unit
NURS 672 Principles of Adult Gerontology Acute Care III
This didactic course examines issues related to the epidemiology, assessment, diagnosis, management and evaluation of acute, critical and complex chronically ill adults across the adult-older adult age continuum. Students explore the dynamic interplay between the pathophysiologic basis of disease and the psychosocial and socio-cultural responses to illness and injury across the adult age continuum as they develop clinical decision-making skills. An evidence-based approach to nursing and medical management including pharmacologic and non-pharmacologic modalities is emphasized. Content focuses on special adult and older adult patient populations with commonly encountered health problems.
Taught by: Pawlow; Elgart; Becker; Doherty
Course usually offered summer term only
Activity: Lecture
1 Course Unit

NURS 673 Advanced Clinical Decisions in Adult Gerontology Acute Care
This didactic and fieldwork course focuses on development of a systematic approach to advanced physical assessment, the use and interpretation of diagnostic technologies and development of diagnostic reasoning as it applies to patient management of the adult-older adult acutely ill or injured patient. Emphasis is placed on development of competence to perform a comprehensive history and physical examination, incorporating the analysis of biotechnological data trends. Building fundamental skills in developing differential diagnoses and clinical decision making for acutely ill patients across the adult age continuum is a focus of this course.
Taught by: Pawlow; Griffith; Becker
Course usually offered in fall term
Prerequisites: NURS 607, 657
Corequisite: NURS 670
Activity: Seminar
1 Course Unit

NURS 674 Adult Gerontology Acute Care NP: Professional Role and Clinical Practicum I
This didactic and clinical fieldwork course explores issues relevant to the role of the Adult Gerontology Acute Care Nurse Practitioner within the complex U.S. health care system. Role development, reimbursement issues, provision of quality and ethical care and evidence-based nursing and medical interventions are introduced and discussed in the classroom. Clinical fieldwork focuses on assessment of complex acute, critical and chronically-ill patients for urgent and emergent conditions, using both physiologically and technologically derived data, to evaluate for physiologic instability and potential life-threatening conditions, development of differential diagnoses, application of diagnostic reasoning and formulation, implementation, evaluation and modification of individualized plans of care including pharmacological and non-pharmacological modalities. Development of advanced clinical competencies and clinical decision making abilities about adults across the age continuum is emphasized.
Taught by: Becker; Griffith
Course usually offered in spring term
Prerequisite: NURS 673
Activity: Lecture
1 Course Unit

NURS 675 Adult Gerontology Acute Care NP: Professional Role and Clinical Practicum II
This didactic and fieldwork course focuses on the role of the Adult Gerontology Acute Care Nurse Practitioner and the expansion of advanced clinical competencies and clinical decision making abilities. Clinical experiences in acute care settings provide the student with opportunities to refine history and physical examination techniques, diagnostic reasoning, formulation, implementation, evaluation and modification of individualized management plans. Specific attention is given to the unique presentation of syndromes and constellation of symptoms that may be typical or atypical presentation of complex acute, critical and chronic illness in adults and older adults. Facilitating transition of patients at varying life stages through the complex health care system is encouraged exploring the multiple governmental, social and personal resources available to acutely ill adults across the age continuum. The application of advanced nursing, medical and biopsychosocial knowledge in the management of patients and the collaboration between the nurse practitioner and the patient, family and interprofessional healthcare team are emphasized.
Taught by: Becker; Griffith; Doherty
Course usually offered summer term only
Prerequisites: NURS 670, 671, 672, 673, 674
Activity: Lecture
1 Course Unit
Notes: Summer I II - 12 Week Course

NURS 677 Environmental Toxicology: Risk Assessment and Health Effects
This course presents general principals of toxicology and the disposition of toxins in the body. Case studies of the effects of environmental and occupational toxins on individuals will be analyzed. This course is designed for students who desire a strong foundation in toxicological concepts and principals and provides an overview of major toxins in our environment and their association with human health.
Taught by: Liu
Course usually offered in fall term
Also Offered As: PUBH 530
Activity: Lecture
1 Course Unit
Notes: Undergraduates Need Permission

NURS 681 Applied Physiology for Nurse Anesthetists I
This course provides an in-depth analysis of the anatomy, physiology and patho-physiology of the respiratory and cardiovascular systems and related anesthesia implications. The concepts of ventilation and perfusion as they relate to oxygen and anesthetic delivery and metabolism are examined. The effects of compromised cardiac and pulmonary function and their implications for the patient and anesthesia plan are reviewed. The impact of anesthesia on the structure and function of the heart as a pump as well as the characteristics of systemic circulation will be explored. The effect of surgery and anesthesia on the respiratory and cardiovascular systems will be emphasized.
Taught by: Magro; Lynn; Tkacs
Course usually offered summer term only
Activity: Lecture
1 Course Unit
Notes: 12 Week Summer Session
NURS 682 Applied Physiology for Nurse Anesthetists II
This course provides an in-depth analysis of the anatomy, physiology and pathophysiology of the hepatic, renal, nervous, hormonal, immunologic and hematological systems and related anesthesia implications. The focus of discussion will be on the special considerations when delivering anesthetic agents to patients. Emphasis will be placed on the assessment of the patient with common disorders of these systems. Nurse anesthesia care related to patients undergoing surgeries involving each system will be discussed.
Taught by: Magro; Lynn; Libonati
Course usually offered in fall term
Prerequisite: NURS 681
Corequisite: NURS 607
Activity: Lecture
1 Course Unit

NURS 683 Applied Science Related to Anesthesia
This course is an in-depth analysis of the chemical and physical principles as they apply to nurse anesthesia practice. Aspects of organic and biochemistry including the chemical structures of compounds and its significance in pharmacology will be explored. Applications of the laws of physics as they pertain to nurse anesthesia practice will be reviewed with specific examples. Emphasis on the dynamics of the anesthesia delivery system and related equipment will be presented.
Taught by: Magro; Lynn; Scanga
Course usually offered in spring term
Prerequisites: NURS 607, 681, 682
Activity: Lecture
1 Course Unit

NURS 685 Advanced Developmental Physiology and Pathophysiology
This course will address advanced human embryology, physiology and pathophysiology. Biochemical genetics and the genetic basis of disease will be discussed. Normal fetal development and physiology of organ systems will be used as the foundation for understanding the pathophysiology of disease across the lifespan.
Taught by: Trimarchi; Marino
Course usually offered in fall term
Prerequisite: Undergraduate course in Anatomy & Physiology
Activity: Lecture
1 Course Unit

NURS 686 Well Woman Health Care
This course focuses on the management and evaluation of physical, emotional, socio-cultural and educational needs of gynecologic primary health care of women from adolescence through post-menopausal years. The content is directed at expanding the expertise of the student in in meeting the primary women's health care needs in contemporary society. Social influences that have an impact on women's lives are also explored.
Taught by: Durain; Grube; Nagtalon-Ramos
Course usually offered in fall term
Also Offered As: NURS 736, NURS 781
Prerequisite: NURS 657
Activity: Lecture
1 Course Unit

NURS 688 Complementary/Alternative Therapies in Women's Health
The dramatic rise in the use of complementary and alternative medicine (CAM) by the American public requires that the contemporary health care practitioner have an awareness of CAM therapies and modalities currently available. The end result of this course will not be proficiency in the practice of any of these modalities in particular, but rather a basic understanding of each approach to common conditions and their potential contribution to health and well-being. The focus of the CAM modalities discussed in this course will center on their use in women's health care provision.
Taught by: Grube
Course usually offered in fall term
Activity: Lecture
1 Course Unit

NURS 690 Family Focused Primary Care of the Middle-Aged and Older Adult
This course focuses on primary care problems encountered by middle-aged and older adults and their families. Students have the opportunity to build on previously acquired skills and to apply concepts of primary care to manage the complex health problems of middle-aged and older adults.
Taught by: O’Sullivan
Course usually offered in spring term
Prerequisites: NURS 656, 657
Corequisite: NURS 691
Activity: Lecture
1 Course Unit

NURS 691 Clinical Practicum: Family Focused Primary Care of the Middle-Aged and Older Adult
The focus of this course is the evaluation and management of primary care problems in middle-aged and older adults. Students will have an opportunity to implement the role of the nurse practitioner in the clinical setting. Interdisciplinary collaborative experiences will be essential to the clinical practicum. The initiation of health promotion and health maintenance activities with individuals, groups and families is stressed.
Students are expected to assess and manage common chronic health problems in the clinical setting.
Taught by: O’Sullivan
Course usually offered in spring term
Prerequisites: NURS 656, 657
Corequisite: NURS 690
Activity: Clinic
1 Course Unit

NURS 693 Professional Issues in Midwifery
In-depth discussion of current issues facing the profession of nurse-midwifery which impact on professional education, certification, and practice. Includes ethical, legal, and political aspects of nurse-midwifery practice.
Taught by: McCool; Reale; Guidera
Course usually offered in fall term
Prerequisites: NURS 787, 788
Corequisite: NURS 786
Activity: Lecture
1 Course Unit
NURS 697 Leadership in Advanced Oncology Nursing Practice
Students explore the diagnosis and treatment of common cancers in a multidisciplinary approach. The broad array of bio-medical and psychosocial issues that result from the disease itself across the illness continuum are studied. Quality of life, rehabilitation and palliative care issues related to cancer care are addressed. Additionally, students complete an administrative practicum with a nursing leader in an oncology specialty area within a healthcare organization.
Taught by: Keim; Prechtl Dunphy; Sherry; Walker
Course usually offered summer term only
Prerequisites: NURS 666 and all requisite nursing courses in the Nursing & Healthcare Administration (NADM) program. May be taken concomitantly with NURS 699 or at the discretion of the NADM Program Director.
Activity: Field Work
1 Course Unit

NURS 698 Practicum: Quality Improvement in Healthcare
Building on coursework that provided a broad overview of the principles and tools of quality improvement and patient safety in healthcare, students will apply this knowledge through completion of a mentored quality improvement project in a healthcare organization. In collaboration with faculty and health organization preceptors, students will identify a quality improvement opportunity and develop specific project objectives including, but not limited to, the use of appropriate tools, identification of measureable aims and evaluation methods, sustainable recommendations for process improvement and a comprehensive report of findings and recommendations. This course is part of the Quality Improvement and Safety Processes in Healthcare Minor and should be completed by the student as the capstone course in that minor; students engage in 192 hours of on-site project work.
Taught by: Piper; Keim
Course usually offered in spring term
Prerequisites: NURS 650, NURS 537, NURS 612
Activity: Field Work
1 Course Unit
Notes: Summer and Fall Placement

NURS 699 Advanced Roles in Administrative Nursing Practice
Offered at the end of the Nursing and Health Care Administration or Health Care Leadership programs, this course prepares the graduate for entry into a myriad of administrative or leadership roles. Students will explore role responsibilities for various levels of management positions; health care consultants; health policy advocates; global health leaders; staff development directors; and administrators in non-traditional settings i.e., journal editors, professional associations etc.
Taught by: Rich; Keim
Course usually offered summer term only
Prerequisites: For Students of the Nursing Administration and Healthcare Leadership Only
Activity: Lecture
1 Course Unit

NURS 705 Advanced Practice Nursing Practice: Psychiatric Mental Health NP I
Supervised advanced psychiatric mental health nursing practice with children, adolescents and their families, or adults and/or older adults and their families in a variety of settings, depending on the subspecialty option selected. Focus is on clinical assessment/diagnosis and decision-making. A minimum of 16 hours of practice and 3 hours of small group supervision is required.
Taught by: Leahy; Mulligan; Josey
Course usually offered in fall term
Activity: Seminar
1 Course Unit

NURS 706 Advanced Practice Nursing Practice: Psychiatric Mental Health NP II
Supervised advanced psychiatric mental health nursing practice with children, adolescents and their families, or adults and/or older adults and their families in a variety of settings, depending on the subspecialty option selected. Refinement and development of clinical intervention with an increasingly diverse caseload. A minimum of 16 hours of practice and 3 hours of small group supervision is required.
Taught by: Leahy; Mulligan; Josey
Course usually offered in spring term
Activity: Seminar
1 Course Unit

NURS 707 Advanced Practice Nursing Practice: Psychiatric Mental Health NP III
Supervised advanced psychiatric mental health nursing practice with children, adolescents and their families, or adults and/or older adults and their families in a variety of settings, depending on the subspecialty option selected. Outcome evaluation, termination and professional role development. A minimum of 16 hours of practice and 3 hours of small group supervision is required.
Taught by: Leahy; Mulligan; Josey
Course usually offered summer term only
Activity: Seminar
1 Course Unit
Notes: Summer Session I

NURS 708 Public Policy Leadership in the American Public/Private System of Health Care
This course will explore the philosophy and growth of public policy that has directed the American Health Care System in its ever expanding movement toward universal health care for all citizens. Analysis of health policy and systems content will assist the students to identify the knowledge and skills needed for the health or human service provider to assume leadership roles in the formulation of public policy for change; this includes system restructuring, service delivery and funding of health care. Emphasis will be on the effect of policy on the individual/family user of health care services rather than the effect on professional health care providers or health care delivery systems. Special attention will be given to the effect of policy on populations, both urban and rural, living near and below the poverty level.
Taught by: Durain
Course usually offered in spring term
Activity: Lecture
1 Course Unit
NURS 714 Management of Critically Ill Children with Acute and Chronic Conditions: Nursing of Critically Ill Children Advanced Clinical
This clinical course is designed with emphasis on continued development of advanced clinical decision-making skills in the care of critically ill children. Emphasis is placed on knowledge and skills that allow the advanced practitioner to efficiently and effectively manage children who are dependent upon or assisted by technological devices to carry out life processes.
Taught by: Verger; Bartke
Course usually offered summer term only
Prerequisites: NURS 712, 713
Activity: Lecture
1 Course Unit
Notes: Summer Session II

NURS 715 Common Management Issues of Children with Acute and Chronic Conditions: Pediatric Oncology
This course examines the unique contribution made by nurses with advanced clinical skills in the care of children with oncologic and hematologic disorders, and their families, from the time of diagnosis throughout the treatment period and beyond. The course provides the student with the most recent advances in knowledge about cancer in childhood. While the focus is on oncology, hematologic disorders as well as AIDS will be discussed. Recent methods of treatment and the nursing management of children and their families will be addressed.
Taught by: Hobbie
Course usually offered in fall term
Activity: Lecture
1 Course Unit

NURS 720 Nursing of Children Theory I: Child and Family Development
This course focuses on developmental theories and concepts that form the basis for nursing assessment and intervention with children and families. Emphasis is given to current research and issues in child and family development and functioning.
Taught by: Deatrick; Murphy, K
Course usually offered in fall term
Activity: Lecture
1 Course Unit

NURS 721 Advanced Physical Assessment and Clinical Decision Making: Nursing of Children Clinical I
This clinical course is designed to help prospective advanced practice nurses develop advanced skills in physical and developmental assessment of children in a variety of well-child, clinic and hospital settings. Data collection, data interpretation, and hypothesis formulations are emphasized for the purpose of clinical decision making. The role of the advanced practice nurse in assessment of primary health care issues and health promotion is incorporated throughout the course. Collaboration as an integral part of assessment will be an ongoing focus.
Taught by: Lipman; Reilly, L.
Course usually offered in fall term
Corequisite: NURS 685
Activity: Lecture
1 Course Unit

NURS 731 High-Risk Neonate, Theory
This course focuses on the care of high-risk neonates within the context of the family unit. The biological and psychosocial aspects are studied as a basis for nursing practice. Emphasis is placed on the role of the Advanced Practice nurse in improving services to high-risk neonates with the purpose of decreasing mortality and morbidity rates and improving the quality of life of high-risk newborns and infants.
Taught by: Verger; Steele
Course usually offered in spring term
Prerequisites: NURS 684, 720, 721
Corequisite: NURS 733
Activity: Lecture
1 Course Unit
Notes: Summer Session I

NURS 733 Clinical Practicum for the High Risk Neonate
This clinical course focuses on the care of the high risk infant within the context of the family unit. Clinical experiences provide students with opportunities to expand their skills in managing the care of infants, both acutely ill and growing neonates. Students continue their experiences with neonatal nurse practitioners to examine role issues of these individuals.
Taught by: Verger; Steele
Course usually offered in spring term
Prerequisites: NURS 684, 720, 721
Corequisite: NURS 731
Activity: Lecture
1 Course Unit

NURS 734 Intermediate Principles of Pediatric Acute Care
This course focuses on evidenced based care for infants, children, and adolescents with complex acute and chronic health conditions. Emphasis is placed on developing a framework for practice based on a synthesis of knowledge from biological, behavioral, and nursing sciences through the process of advanced clinical decision making. The student gains the necessary clinical management skills to provide specialized patient centered care across the entire pediatric age spectrum from complex chronic illness to physiologic deterioration and life threatening instability with emphasis on the patient and family as a full partner in decision making.
Taught by: Murphy, K.; Verger
Course usually offered in spring term
Prerequisite: NURS 720; NURS 721; NURS 685 or NURS 607
Corequisite: NURS 735
Activity: Lecture
1 Course Unit
NURS 735 Pediatric Acute Care Nurse Practitioner: Professional Role and Intermediate Clinical Practice
This course focuses on the implementation of the professional role of the Pediatric Acute Care Nurse Practitioner (PNP-AC). Particular emphasis is placed on the role components of the nurse practitioner in pediatric acute care. Applications of nursing, biological and behavioral science are emphasized in the advanced clinical assessment, clinical decision making and management skills needed to care for complex, unstable acutely and chronically ill children and their families. The role of the advanced practice nurse in promoting optimal child/family outcomes is emphasized.
Taught by: Verger; Lipman; Schucker; Campisciano
Course usually offered in spring term
Prerequisite: NURS 720; NURS 721; NURS 685 or NURS 607
Corequisite: NURS 734
Activity: Lecture
1 Course Unit

NURS 736 Advanced Principles of Pediatric Acute Care
This course expands the student’s understanding evidenced based care for infants, children, and adolescents with complex acute and chronic health conditions. Emphasis is placed on advancing a framework for practice based on a synthesis of knowledge from biological, behavioral, and nursing sciences through clinical decision making. The student continues to gain the necessary clinical management skills to provide specialized patient centered care across the entire pediatric age spectrum from complex chronic illness to physiologic deterioration and life threatening instability with emphasis on the patient and family as a full partner in decision making.
Taught by: Murphy, K; Verger; Lipman
Course usually offered summer term only
Prerequisite: NURS 734; NURS 735
Corequisite: NURS 737
Activity: Lecture
1 Course Unit

NURS 737 Pediatric Acute Care Nurse Practitioner: Professional Role and Advanced Clinical Practice
This course focuses on the implementation of the professional role of the Pediatric Acute Care Nurse Practitioner (PNP-AC). This course adds to the students’ previous knowledge and skills and prepares them to deliver care to children of any age who require frequent monitoring and intervention. Applications of nursing, biological and behavioral science are emphasized in the advanced clinical assessment, clinical decision making and management skills needed to care for complex, unstable acutely and chronically ill children and their families.
Taught by: Verger; Lipman; Schucker; Campisciano
Course usually offered summer term only
Prerequisite: NURS 734; NURS 735
Corequisite: NURS 736
Activity: Lecture
1 Course Unit

NURS 740 Advanced Practice Concepts for the Childbearing Family
The seminar will provide students with the skills necessary to provide primary health care to high risk infants in ambulatory settings. Course material will include detailed physical assessment skills of the infant through the first year of life. The clinical component will include home visits and experience in the ambulatory and long term care settings.
Taught by: Steele
Course usually offered in fall term
Activity: Lecture
1 Course Unit

NURS 741 Management of Children with Acute and Chronic Conditions: Nursing of Children in the Community Advanced Clinical
This clinical course focuses on the implementation of the role of the advanced practice nurse with particular emphasis on providing continuity of care for children with specialized health needs across their transitions in sites of care delivery and throughout phases in the cycle of their illnesses. Application of nursing, biological and behavioral science is emphasized in the community aspects of clinical assessment and management of children with health care needs and their families.
Taught by: Deatrick; Lipman; Murphy, K.
Course usually offered summer term only
Prerequisites: NURS 724, 725
Activity: Lecture
1 Course Unit
Notes: Summer Session II

NURS 743 Fetal Evaluation
This course focuses on identifying at risk and high risk maternal fetal dyads, developing knowledge relating to assessment of fetal well being, and understanding the implications of obstetric, non obstetric, and fetal complications on the management of the high risk pregnancy. Additionally the course provides an understanding of the scientific basis for new technologies used to evaluate at risk and high risk populations. Information about the physics of ultrasound, pulse echo imaging, and doppler techniques will be provided. Students must be able to practice ultrasound skills while in this course.
Taught by: Stringer
Course usually offered in spring term
Prerequisite: NURS 607
Activity: Lecture
1 Course Unit

NURS 746 Evidence-Based Practice for Nurse Anesthetists I
This course examines the evidence-based research to determine whether the procedures and techniques performed by nurse anesthetists are supported by the literature. Population specific topics of concern to nurse anesthetists are discussed. Student led seminars will guide the classroom discussions.
Taught by: Magro; Lynn; Gidaro
Course usually offered summer term only
Activity: Lecture
1 Course Unit
Notes: 12 Week Summer Session

NURS 747 Evidence-Based Practice for Nurse Anesthetists II
This course examines the evidence-based research to determine whether the procedures and techniques performed by nurse anesthetists are supported by the literature. Population specific topics of concern to nurse anesthetists are discussed. Student led seminars will guide the classroom discussions.
Taught by: Magro; Lynn; Gidaro
Course usually offered in fall term
Prerequisite: NURS 746
Activity: Lecture
1 Course Unit
NURS 748 Leadership Development in Healthcare
This course will provide the conceptual and theoretical framework for examining the concept of leadership within the contexts of health systems, health professionals and health policy. It will focus on characteristics of personal and professional leadership, change theory, and the application of critical thinking to the analysis of work environments, systems and the politics of health.
Taught by: Fidyk
Activity: Lecture
1 Course Unit

NURS 749 History, Health and Social Policy
This course explores the impact of historical ideas, events, and actors on current issues in health and illness care. Topics include the movement from hospitals to health care systems; the changing definitions of professionalism and professional practice patterns; and the ways historical context shapes definitions of leadership roles and theoretical knowledge.
Taught by: D’Antonio
Course usually offered in spring term
Activity: Lecture
1 Course Unit

NURS 750 Inquiry and Nursing
This course introduces students to the process of intellectual inquiry. It explores the intellectual foundations of scholarly disciplines in general and the discipline of nursing in particular. Emphasis is placed on the process of knowledge development, with particular emphasis on historical, philosophical, positivist, and gendered and phenomenological ways of knowing. Emphasis is also placed on having students develop their particular intellectual approach to disciplinary inquiry and on formulating ideas for publications and presentations.
Taught by: Richmond
Course usually offered in fall term
Activity: Lecture
1 Course Unit
Notes: For doctoral students in nursing

NURS 752 Issues of Nursing Leadership in Planning and Policy Making
A critical examination of the role of nursing leadership in light of current health care issues. Among the topics to be considered are: identification of leadership behaviors and characteristics that influence organizations and individuals; processes required to influence the improvement of health; theoretical models of planned change; and different views of futurist models.
Taught by: McCausland; O’Sullivan
Course usually offered in fall term
Activity: Lecture
1 Course Unit
Notes: For doctoral students in nursing

NURS 753 Evolving Nursing Science
A consideration of contemporary nursing research as it pertains to the current state of the art and directions for future study. Advanced analysis of methodology, assumptions, and theoretical structures that underpin the work.
Taught by: Sommers; Riegel
Course usually offered in spring term
Prerequisite: NURS 750
Activity: Lecture
1 Course Unit
Notes: For doctoral students in nursing

NURS 754 Quantitative Research Design and Methods
This one semester survey course provides an overview of quantitative clinical research design and methods. Ethical and legal considerations in human subjects research, access to patient populations, sampling designs and power analysis, experimental and non-experimental designs, measurement of variables, data collection techniques, and data management are included. This course is intended for doctoral students in the health sciences.
Taught by: Pinto-Martin; Meghani
Course usually offered in spring term
Prerequisites: Students must have completed at least one doctoral-level statistics course. The current doctoral recommendations include: SOCI 535; SOCI 536; STAT 500; STAT 501; PUBH 501; EPID 524; EPID 525.
Please contact course faculty for permission for courses taken outside of the above recommendations
Activity: Lecture
1 Course Unit
Notes: For doctoral students in nursing

NURS 755 Application of Statistics to Nursing Research II
Integration of non-experimental quantitative research designs and methodologies, including common statistical techniques for analyzing resulting data. Statistical techniques examined include: factor analysis, multiple regression, canonical correlation, causal modeling, and logistic regression. Power analysis of statistical tests to estimate sample size discussed. Data analysis practice using computer software integrated throughout course.
Taught by: Tulman
Course usually offered in fall term
Prerequisite: NURS 754
Activity: Lecture
1 Course Unit
Notes: For doctoral students in nursing

NURS 756 Nurse Anesthesia Res I
Activity: Lecture
1 Course Unit

NURS 764 Advanced Technologies & Clinical Decisions in Acute Care
This fieldwork course focuses on development of a systematic approach to advanced physical assessment, the use of diagnostic technologies and the development of a diagnostic reasoning as it applies to patient management of the acutely ill and injured. Emphasis is placed on development of competence to perform a comprehensive history and decision making for the management of acutely ill patients.
Taught by: Becker; Griffith; Bartke
Course usually offered in fall term
Prerequisites: NURS 607, 657
Activity: Lecture
1 Course Unit

NURS 768 Role of the Clinical Nurse Specialist
This clinical course provides students the opportunity to apply CNS theory to practice and enables students to develop strategies to overcome barriers to safe, quality healthcare delivery. Students acquire knowledge and skills characteristic of CNS practice particularly as it relates to clinical judgment, facilitation of learning, advocacy and moral agency, caring practice and response to diversity.
Taught by: Becker; Pawlow; Fisher
Course usually offered in fall term
Activity: Lecture
1 Course Unit
NURS 769 Clinical Nurse Specialist Clinical I
This clinical course provides students the opportunity to apply CNS theory to practice and enables students to develop strategies to overcome barriers to safe, quality healthcare delivery. Students acquire knowledge and skills characteristic of CNS practice particularly as it relates to clinical judgment, facilitation of learning, advocacy and moral agency, caring practice and response to diversity.
Taught by: Becker; Dubendorf; Muller
One-term course offered either term
Prerequisite: NURS 657
Corequisite: NURS 768
Activity: Lecture
1 Course Unit

NURS 770 Clinical Nurse Specialist Clinical II
This clinical course focuses on the application of CNS theory to practice. Students focus on furthering the development of the knowledge and skills related to the core competencies of the CNS. Strategies to improve provider and system issues related to the provision of care to the population of interest are developed, implemented and evaluated. Developing leadership in the development of system-wide or healthcare policy is promoted. Advocating for the individual, family, caregiver and population of interest needs within the context of clinical practice and policy making is encouraged.
Taught by: Becker; Dubendorf; Muller
Course usually offered summer term only
Prerequisites: NURS 657, NURS 768, NURS 769
Activity: Lecture
1 Course Unit
Notes: Also Offered in Summer 12 Week Session

NURS 775 Post-Masters Psychiatric Mental Health NP Clinical Practicum & Seminar
This clinical course prepares individuals who have completed a Psychiatric Mental Health Clinical Nurse Specialist or an Adult Psychiatric Mental Health Nurse Practitioner program to meet the clinical requirements for certification as a Family Psychiatric Mental Health Nurse Practitioner. This clinical practicum and seminar will complement previous education in advanced practice Psychiatric Mental Health nursing. The focus of the course is on skill development in therapeutic relationships with clients, interviewing, assessing client strengths and needs for mental health services, selecting and implementing interventions including psychopharmacologic agents, and maintaining a role in mental health setting which allows active collaboration with other health professionals. A minimum of 16 precepted practicum hours per week is required in a selected community or institutional setting and a minimum of 250 total precepted clinical hours during the semester is required. In addition, there will be on-campus seminars and individual and group supervision conference calls throughout the semester.
Taught by: Cacchione; Josey; Mulligan; Leahy
Course usually offered summer term only
Prerequisites: Masters degree in Psychiatric Mental Health Advanced Practice Nursing and approval of Program Director
Activity: Seminar
1 Course Unit
Notes: By Permission Only

NURS 776 High Risk Neonate Theory II
This course examines specific pathophysiological mechanisms which may result in body system failure. Strategies for clinical management are examined based on a synthesis of biological, behavioral, medical, pharmacological, and nursing knowledge. Theoretical analysis of the roles of the advanced practitioner with critically ill patients is emphasized.
Taught by: Verger; Steele
Course usually offered summer term only
Prerequisites: NURS 731, 733
Corequisite: NURS 777
Activity: Lecture
1 Course Unit

NURS 777 High Risk Neonatal Clinical II
This clinical course is designed with emphasis on continued development of advanced clinical skills in the care of critically ill children. Emphasis is placed on integration of the roles of the advanced practitioner. This course adds to the student’s previous knowledge and skills in advanced practice and prepares them to manage care of critically ill children.
Taught by: Verger; Steele
Course usually offered summer term only
Prerequisites: NURS 731, 733
Corequisite: NURS 776
Activity: Lecture
1 Course Unit

NURS 778 High Risk Neonatal Clinical III
This clinical course is designed with emphasis on continued development of advanced clinical decision-making skills in the care of critically ill children. Emphasis is placed on knowledge and skills that allow the advanced practitioner to efficiently and effectively manage children who are dependent upon or assisted by technological devices to carry out life processes.
Taught by: Verger; Steele
Course usually offered summer term only
Prerequisites: NURS 777, 777
Activity: Lecture
1 Course Unit

NURS 780 Health Care of Women and Primary Care
The focus of this course is a clinical approach to primary care problems commonly encountered by women in an ambulatory setting. This course provides the women’s health care nurse practitioner and midwifery student student with the knowledge and problem solving approach to assist individuals with the most common health problems, including acute episodic illness as well as stable chronic disease. The concepts of health promotion and health maintenance are integrated throughout the curriculum.
Taught by: Grube; Nagtalon-Ramos
Course usually offered summer term only
Corequisite: NURS 657
Activity: Lecture
1 Course Unit
**NURS 781 Well Women Health Care, Theory**
This course focuses on the management and evaluation of physical, emotional, socio-cultural and educational needs of gynecologic primary health care of women from adolescence through post-menopausal years. The content is directed at expanding the expertise of the student in meeting the primary women's health care needs in contemporary society. Social influences that have an impact on women's lives are also explored. Taught by: Durain; Grube; Nagtalon-Ramos
Course usually offered in fall term
Also Offered As: NURS 686
Prerequisites: NURS 607, 657, 780
Corequisite: NURS 782
Activity: Lecture
1 Course Unit

**NURS 782 Well Women Health Care, Clinical**
This clinical course further prepares students in understanding and developing the Women's Health Care Nurse Practitioner and Nurse-Midwifery roles. This clinical course focuses on the management and evaluation of physical, emotional, socio-cultural and educational needs of gynecologic primary health care needs of women from adolescence through post-menopausal years. Emphasis is placed on promoting and maintaining wellness, clinical decision making, systematic health interview, physical assessment, interpretation of laboratory findings, and diagnosis and treatment of gynecological problems. Taught by: Durain; Grube; Nagtalon-Ramos
Course usually offered in fall term
Prerequisites: NURS 607, 657, 780
Corequisite: NURS 781
Activity: Lecture
1 Course Unit

**NURS 783 Health Care of Childbearing Women, Theory**
The antepartum course builds upon the well-woman health care course. The focus is management of prenatal care for the childbearing family. Conceptual threads of public policy and ethics are integrated within the content to help students to identify broader implications for prenatal care. Content includes theory and practice related to nurse-midwifery/nurse practitioner management of the normal pregnant woman, and nurse-midwifery/nurse practitioner management and strategies to reduce selected obstetric complications. Taught by: Trout; Lewis, J.; Grube
Course usually offered in spring term
Prerequisites: NURS 781, 782
Corequisite: NURS 784
Activity: Lecture
1 Course Unit

**NURS 784 Health Care of Childbearing Women, Clinical**
This course focuses on the management and evaluation of the childbearing women and their families in primary care settings. The course presents the opportunity to implement the role of the Nurse Practitioner with the childbearing woman and her family. The focus is on comprehensive physical, psychosocial and educational management of women and their families during pregnancy and postpartum. Taught by: Trout; Lewis, J.; Grube
Course usually offered in spring term
Prerequisites: NURS 781, 782
Corequisite: NURS 783
Activity: Lecture
1 Course Unit

**NURS 785 Integration I**
Intensive integration of theory and clinical practice in women's health care with emphasis on ambulatory care. Clinical practice in all areas of ambulatory women's health care, teaching rounds, case presentations, and seminars with professional colleagues. Taught by: Stringer; McCool; Reale; Nagtalon-Ramos
Course usually offered summer term only
Prerequisites: NURS 783, 784
Activity: Clinic
1 Course Unit

**NURS 786 Integration II: Midwifery Integration**
Intensive integration of theory and clinical practice in women's health care with emphasis on intrapartum, postpartum, and newborn care. Clinical practice during the intrapartum and postpartum, teaching rounds, case presentations, and seminars with professional colleagues. Taught by: McCool; Reale
Course usually offered in fall term
Prerequisites: NURS 783, 784
Corequisite: NURS 785
Activity: Clinic
1 Course Unit

**NURS 787 Intrapartum / Postpartum / Newborn Care, Theory**
Anatomy and physiology relevant to the care of the women and their families during the intrapartum, postpartum and newborn periods. Includes management of selected obstetrical emergencies and medical complications. Taught by: McCool; Reale; Stringer
Course usually offered summer term only
Prerequisites: NURS 783, 784
Corequisite: NURS 788
Activity: Lecture
1 Course Unit

**NURS 788 Intrapartum / Postpartum / Newborn Care, Clinical**
Clinical care and management of women, newborns and their families during the intrapartum, postpartum and newborn periods. Includes management of selected obstetrical emergencies and medical complications. Clinical assignments related to module objectives. Taught by: McCool; Reale
Course usually offered summer term only
Activity: Lecture
1 Course Unit

**NURS 791 Clinical Fieldwork in Nurse Anesthesia Practice I**
This course provides students the opportunity to integrate theory into practice within the clinical setting. The focus is on the development of diagnostic, therapeutic, ethical and cultural judgments with the perioperative patient. Students progress from the care of healthy patients undergoing minimally invasive surgical procedures to the more complex patient with multiple health issues. The student begins to develop an advanced practice nursing role that integrates role theory, nursing theory, and research knowledge through weekly seminars. Scope of practice, role development and nursing interventions will be introduced and explored in the classroom, and principles will be applied in the clinical practicum. Taught by: Magro; Lynn; Briel
Course usually offered in fall term
Activity: Seminar
1 Course Unit
NURS 792 Clinical Fieldwork in Nurse Anesthesia Practice II
This course provides the opportunity for students to integrate theoretical knowledge and research finding into practice within the clinical setting. Students progress by providing anesthesia care for patients with more complex health problems. Techniques for managing the acute pain of clients are emphasized. Anesthetic requirements as dictated by patient assessment including the surgical procedure are studied in greater depth. The student now possesses the ability to combine theories and skills in selected clinical situations. The guidance of CRNA faculty preceptors contributes to the development of the student’s critical thinking.
Taught by: Magro; Lynn; Briel
Course usually offered in spring term
Prerequisite: NURS 791
Activity: Seminar
2 Course Units

NURS 793 Clinical Fieldwork in Nurse Anesthesia Practice III
This course focuses on the delivery of anesthesia care within advanced nursing practice in a broad range of clinical situations for patients with multiple, complex health problems. Through refinement of assessment and management skills, critical thinking is further developed. Students progress by providing anesthesia care for special populations of patients with simple and complex health problems. The guidance of CRNA faculty preceptors contributes to the development of the student’s critical thinking. Collaborative practice within a care team model is emphasized and with supervision, the student assumes more overall responsibility for the quality of care for the patients throughout the perioperative experience.
Taught by: Magro; Lynn; Briel
Course usually offered summer term only
Prerequisite: NURS 792
Activity: Seminar
2 Course Units
Notes: 12 Week Summer Session

NURS 794 Nurse Anesthesia Residency I
This course is the first of two residencies that provide the nurse anesthetist student the opportunity to attain competencies within the Certified Registered Nurse Anesthesia (CRNA) scope of practice. Throughout the residency, the nurse anesthesia resident will utilize appropriate clinical judgment to manage the complex medical, physical and psychosocial needs of clients in the perioperative phases. Further refinement of the patient assessment, anesthesia administration, and critical thinking skills is emphasized. Students progress by providing anesthesia care for patients throughout the continuum of health care services. The guidance of CRNA faculty preceptors contributes to the development of the independence of the CRNA student. Collaborative practice within a care team model is emphasized and the student assumes more overall responsibility for the quality of care for the patients throughout the perioperative experience, with clinical support as required.
Taught by: Magro; Lynn; Briel
Course usually offered in fall term
Prerequisite: NURS 793
Activity: Seminar
2 Course Units

NURS 795 Nurse Anesthesia Residency II
This course is the second of two residencies that provide the nurse anesthetist student the opportunity to attain competencies within the Certified Registered Nurse Anesthesia (CRNA) scope of practice. Throughout the residency, the nurse anesthesia resident will utilize appropriate clinical judgment to manage the complex medical, physical and psychosocial needs of clients in the perioperative phases. Further refinement of the patient assessment, anesthesia administration, and critical thinking skills is emphasized. Students progress by providing anesthesia care for patients throughout the continuum of health care services. The guidance of CRNA faculty preceptors contributes to the development of the independence of the CRNA student. Collaborative practice within a care team model is emphasized and the student assumes more overall responsibility for the quality of care for the patients throughout the perioperative experience, with clinical support as required.
Taught by: Magro; Lynn; Briel
Course usually offered in spring term
Prerequisite: NURS 794
Activity: Seminar
2 Course Units

NURS 796 Diagnosis and Management of Adult Gerontology Acute Care Patients I
This on-line, didactic course is designed for the practicing nurse practitioner or clinical nurse specialist who seeks to gain additional knowledge and skills related to the care of adult gerontology acutely ill patients with a specific focus on cardiovascular and pulmonary systems, thoracic issues, infectious processes, wound healing and diabetes. Particular focus is placed on specific issues related to the older adult such as frailty, dehydration, loss of functional mobility, falls, and other geriatric syndromes. The basics of ECG, CXR and PFT interpretation, ABG analysis and ventilator modes are highlighted. This course examines the epidemiologic, assessment, diagnostic, management and evaluation of acutely or critically ill adults across the adult-older adult age spectrum. An evidence-based approach to nursing and medical management including pharmacologic and non-pharmacologic modalities is emphasized.
Taught by: Becker
Course usually offered in fall term
Activity: Lecture
1 Course Unit
Notes: For Streamlined Adult Gero Program Students Only

NURS 797 Diagnosis and Management of Adult Gerontology Acute Care Patients II
This online didactic course, designed for the practicing nurse practitioners or clinical nurse specialists seeking to gain knowledge and skills relative to care of adult gerontology acute care patients, focuses on the medical and surgical issues of the neurological, renal, gastrointestinal, hematological, oncologic and orthopedic systems. This course examines the epidemiology, assessment, diagnosis, management and evaluation of acutely or critically ill adults across the adult-older adult age spectrum. An evidence-based, interprofessional team approach to the nursing and medical management of patients is emphasized.
Taught by: Becker
Course usually offered in spring term
Activity: Lecture
1 Course Unit
Notes: For Streamlined Adult Gero Program Students Only
NURS 798 Adult Gerontology Acute Care NP: Professional Role & Clinical Practicum for Primary Care Prepared Providers
This online didactic course and accompanying clinical fieldwork focuses on issues essential to the implementation of the role of the Adult Gerontology Acute Care Nurse Practitioner. Clinical fieldwork focuses on the unique assessment, diagnosis, management and evaluation of acutely, critically and complex chronically-ill adults, across the adult age continuum, experiencing acute, urgent and emergent conditions, using both physiologically and technologically derived data. Evaluating for physiologic instability and potential life-threatening conditions is emphasized. Attention is given to the typical and atypical presentation of syndromes and constellation of symptoms exhibited by adults and older adults experiencing complex acute, critical and complex chronic illness. Issues related to the transition of patients through the health care system are explored. Collaboration between the nurse practitioner, patient, family and interprofessional healthcare team are encouraged.
Taught by: Becker
One-term course offered either term
Prerequisite: NURS 796 completion
Activity: Seminar
1 Course Unit
Notes: For Streamlined Adult Gero Program Students Only

NURS 799 MSN Clinical Remediation
Students whose clinical performance would benefit from additional clinical exposure in order to demonstrate the expected competencies are, with course faculty and faculty advisor approval, eligible to register for NURS 799. This experience will be allotted no more than one credit unit and must be completed in a time frame not to exceed one academic semester. A course may be remediated only one time.
Course not offered every year
Activity: Clinic
1 Course Unit

NURS 800 Dissertation Seminar I
Advanced study and research in nursing leading to the completion of the dissertation proposal.
Taught by: Bowles, K.; Lake
Course usually offered in fall term
Prerequisites: NURS 750, 753, 754, 813, 2 semesters of Statistics, plus six concentration courses
Activity: Seminar
1 Course Unit
Notes: For doctoral students in nursing

NURS 803 Clinical Scholars in the Discipline of Nursing
This 2-semester course is designed to enhance the understanding of the practice of nursing as an intellectual discipline for doctoral students who have limited clinical practice experience prior to pursuing the PhD. It consists of individualized clinical experiences that are integrally related to the student’s area of research interest and which are facilitated by clinician guides in a variety of settings. Students actively participate in seminars that focus on examining the health needs of individuals and vulnerable patients, the praxis of nursing and its place within the complex health care delivery system, health policy and society at large. Research informing practice and practice informing research are highlighted using the clinical practice experiences as case exemplars. NURS 803 is a course designed specifically for two groups of PhD students: the Hillman Scholars in Nursing Innovation and post-baccalaureate students completing an MS in passing who have limited clinical experience as a professional nurse. This course is designed to expose students to carefully selected clinical experiences that provide opportunities to build a clinical appreciation of the practice of nursing as an intellectual discipline, to gain an enhanced understanding of the health care delivery system, and to examine the intersection of research, policy, and practice at the frontlines of nursing practice. To this end, this course combines the clinical experiences with a weekly seminar facilitated to dissect common issues experienced by vulnerable patients and families across care settings and specialties, to critically examine the contributions of nursing science to that care, and to examine how the health care system contributes or detracts from optimal care.
Taught by: Clinican Educators from the Standing Faculty
Two terms. student must enter first term.
Prerequisite: Selection as a Hillman Scholar in Nursing Innovation or at the recommendation of the student’s PhD academic advisor
Activity: Seminar
2 Course Units
Notes: First Fall-Spring post-BSN semesters in the PhD program for Hillman Scholars

NURS 811 Historical Thought in Nursing
A seminar open to enrolled doctoral students who plan to conduct historical research as some aspect of their program. Meets for one semester on a schedule determined by participants and faculty.
Taught by: Fairman
Course usually offered in spring term
Activity: Seminar
1 Course Unit
Notes: For doctoral students in nursing

NURS 813 Qualitative Paradigm Empirical Nursing Research
Study of selected qualitative paradigm empirical research approaches, including design and methodology. Critique of selected qualitative research reports from the literature of nursing and related disciplines. Fieldwork exercise and research proposal required.
Taught by: Deatrick
Course usually offered in fall term
Prerequisite: NURS 750
Activity: Seminar
1 Course Unit
Notes: For doctoral students in nursing
NURS 814 Doctoral Seminar: Ethics and Nursing
A critical review of the theoretical and empirical literature dealing with bioethics, nursing ethics, moral development, women’s ethics and specific ethical concerns in health and illness care. Students will study topics related to their own interests/needs, guided by the instructor in relation to the discipline of ethics.
Taught by: Deatrick
Course offered spring; odd-numbered years
Activity: Seminar
1 Course Unit
Notes: For doctoral students in nursing

NURS 817 Theoretical Perspectives of Growth and Development: A Health Care Perspective
This seminar will explore issues related to the theoretical perspectives of growth and development during childhood. Areas of emphasis will include: methodological issues related to research of childhood growth and development, the analysis of developmental data, and measurement issues common to research of development. Included in the discussion will be an analysis of theories in relationship to research of childhood development. The seminar will conclude with an agenda for future directions of research of growth and development.
Taught by: Medoff-Cooper; Deatrick; Lipman; O’Sullivan
Course usually offered in fall term
Activity: Seminar
1 Course Unit

NURS 818 Families and Research
This seminar will explore issues related to research of families. Included in the ongoing discussion will be an analysis of nursing and other theories in relationship to research of families. Methodological issues related to research of families will be discussed, as will the analysis of family data and measurement issues common to research of families. The seminar will conclude with an agenda for future directions to research of families.
Taught by: Deatrick
Course offered spring; even-numbered years
Activity: Seminar
1 Course Unit
Notes: For doctoral students in nursing

NURS 819 Seminar on the Social History of Nursing
This course will involve a guided review of the pertinent literature relating to the history of technology in 20th century America. The focus will include a critical examination and review of the social origins and implications of technological development and diffusion in healthcare. Various theoretical frameworks in the history of technology will be closely examined in attempt to assist the student in the development of their own framework.
Taught by: Fairman
Activity: Seminar
1 Course Unit
Notes: For doctoral students in nursing

NURS 821 Proseminar in Health Outcomes Research
This the first of a two-course sequence designed for doctoral students interested in conducting health outcomes research. The first course (821) focuses on conceptual, methodological, statistical, feasibility and data issues central to the conduct of health outcomes research; the second course (822) focuses on applying health outcomes research through the development and implementation of a research project. In the first course Penn faculty researchers will use their ongoing studies to illustrate how study design, sampling, measurement, and advanced statistical techniques can be employed to address the various challenges inherent in health outcomes research. In the second course, students will design and implement a health outcomes research project.
Taught by: Lake; Aiken
Course offered spring; odd-numbered years
Also Offered As: SOCI 821
Prerequisites: Prior coursework at undergraduate or masters level in statistics and quantitative methods.
Activity: Seminar
1 Course Unit

NURS 822 Applications of Health Outcome Research
This the second of a two-course sequence designed for doctoral students interested in conducting health outcomes research. The first course (821) focuses on conceptual, methodological, statistical, feasibility and data issues central to the conduct of health outcomes research; the second course (822) focuses on applying health outcomes research through the development and implementation of a research project. In the first course Penn faculty researchers will use their ongoing studies to illustrate how sampling, study design, measurement, and advanced statistical techniques can be employed to address the various challenges inherent in health outcomes research. In the second course, students will design and implement a health outcomes research project.
Taught by: Aiken
One-term course offered either term
Also Offered As: SOCI 822
Prerequisites: Prior coursework at undergraduate or masters level in statistics and quantitative methods, Nursing 821/Sociology 821 is preferred
Activity: Seminar
1 Course Unit
NURS 823 Designing Interventions to Promote Health and Reduce Health Disparities
Advanced analysis, design and evaluation of interventions to promote health and reduce health disparities with a focus on underserved vulnerable minority or ethnic populations, through culturally competent research, education and clinical practice. Areas to be evaluated include:

- Health disparities as it relates to health promotion and disease prevention behavioral intervention research in vulnerable communities
- Concepts of marginalization, race, ethnicity, class, gender and culture as it relates to health disparities
- Social-psychological theoretical and research approaches related to developing culturally congruent health promotion interventions to reduce health disparities for vulnerable populations
- The use of elicitation, focus groups and ethnographic techniques to tailor health behavior theory to meet the needs of the population
- Culturally competent research methodologies, involving education and/or clinical practice, e.g. culturally competent measures, recruitment, retention, and informed consent in hard to reach populations
- Community participatory research as a strategy for working with the community to build research partnership and build capacity for sustained health promotion initiatives
- Health promotion intervention strategies for reducing health disparities in vulnerable communities
- Strategies to evaluate the effectiveness of interventions using randomized controlled trials (RCTs) in community and clinical settings
- Strategies for tailoring successful evidenced-based health promotion interventions to a variety of different populations for use in clinical trials and community settings
- Examine approaches for the translating and disseminating evidenced-based intervention research

Taught by: Jemmott; Teitelman
Course offered spring; odd-numbered years
Also Offered As: PUBH 539
Activity: Seminar
1 Course Unit
Notes: Doctoral Students Only

NURS 824 Health Equity: Conceptual, Linguistic, Methodological, and Ethical Issues
The course focuses on advanced analysis and evaluation of theories, concepts, and methods related to health equity. Topic areas include models and frameworks of health equity; linguistic choices related to equity, disparity, and vulnerability; role of economics, class, gender, sex, sexuality, race, and ethnicity; health equity in special populations; and issues in health policy, research ethics, and research methods. Emphasis is on advanced discourse and analysis of health equity theory and research.

Taught by: Sommers
Course offered fall; odd-numbered years
Activity: Seminar
1 Course Unit
Notes: For Doctoral Students Only

NURS 825 Proseminar on Integrative Science in Aging
Taught by: Cacchione; Ersek
Course usually offered in spring term
Activity: Seminar
1 Course Unit
Notes: For Doctoral Students Only

NURS 826 Advanced Qualitative Research Methods
The course extends beginning qualitative research methods skills to a more advanced level. Students planning a dissertation or career focus in qualitative or mixed methods may use the course to refine interest and skill. The focus of the course centers on interactionist perspectives and collective analysis though methods tangential to these perspectives. Standpoint and participatory methods and analysis may be considered given sufficient student interest. Students are actively involved in selection and critique of seminal and critical readings. Students must have at their disposal a suitable dataset with commensurate permissions or have plans to collect qualitative data amenable to analysis during the course term. This data base can be from previous research proposals and fieldwork can be used as the building blocks for the course assignment(s). The course will focus on data collection, analyses, interpretation, and presentation of results. Skill building will center on collection and management of data; analytic technique including comparative, narrative, and text analysis; development and management of coding schemas; abstraction and development of situation specific theory; and dissemination and diffusion of findings, theories, and relevance to similar phenomena and use in practice.

Taught by: Kagan
Course usually offered in spring term
Activity: Seminar
1 Course Unit
Notes: For Doctoral Students Only

NURS 827 Self-Care of Chronic Illness
This course introduces the history, definitions, predictors, measurement, and outcomes of self-care in chronic illness. Historical, classic and current literature from various disciplines will be studied to give students a broadened perspective of the self-care construct and the issues that patients face when dealing with chronic illness.

Taught by: Riegel
Course not offered every year
Activity: Seminar
1 Course Unit
Notes: For PhD Students Only
NURS 828 Response to Chronic Illness: Theory and Research
Millions of people of all ages live with chronic illness(es). A diagnosis of a chronic illness is a life-changing event, causing disruption and a sense of loss for many. Common early responses are stress, anxiety, depression, fear, and anger. Over time, with support and experience with the illness, many adjust. But, others report persistent feelings of loss due to physical, emotional, spiritual/existential, social, occupational, and/or financial influences of chronic illness. Those who adjust the best typically find a way to return a sense of normalcy to their lives. Loved ones and caregivers are equally affected by chronic illness and much has been written in recent years about caregiver burden. However, some individuals (caregivers and patients) report positive responses to illness, including a deepened purpose for living and a reordering of life priorities. The focus of this course is on individual responses to chronic illness - the person diagnosed and his/her loved ones. This course is intended to complement N818, which focuses on families and dyads dealing with chronic illness. In this course we will explore the major theoretical perspectives that underlie this field. The literature describing common responses of both those diagnosed and their loved ones as well as the social and cultural context that helps explain the responses of individuals facing chronic illness will be examined. Methods used to study chronic illness will be explored in depth.

Taught by: Riegel
Course usually offered in fall term
Prerequisite: Permission of faculty
Activity: Seminar
1 Course Unit

NURS 829 Measurement of Physiologic Variables Related to Health Outcome Disparity
This graduate course is an advanced exploration of biometric methods (branch of science that includes the measurement of physiological variables and parameters) and their use in quantitative research. A particular focus will be on biological measures that can be used as outcome variables to evaluate interventions to promote health and health equity, and reduce health outcome disparities in vulnerable or marginalized populations. Areas to be evaluated include: * Measurement theory and instrument science as they relate to biological signals; role of biometrics in health outcome disparities research * Ethical considerations and how they relate to biometrics; mitigating perceived threats (profiling, stereotyping); the role of human subjects considerations; the responsible conduct of research * Derivation and types of biologic signals; time-based characteristics * Accuracy and precision of biologic measures; random and non-random error; application and exemplars of strategies to determine accuracy and precision * Role of biological rhythms in biometric measurement; analysis of multiple data points and repeated measures of biological variables * Methods relative to vulnerable women, children, and families: genetics; environmental contaminants; digital image analysis; hormones, metabolites; drugs and alcohol

Taught by: Sommers
Course offered fall; even-numbered years
Activity: Seminar
1 Course Unit

Notes: For Pre-Doctoral and Post-Doctoral students interested in describing health disparities and developing and testing interventions in vulnerable women, children, and families.

NURS 830 Conducting Research in Global Women's Health
An introduction to theoretical and methodological issues as they relate to conducting research in global women's health. Advanced analysis of historical, social, cultural, economic, political, technological and geographical contexts as they influence the health of girls and women across the lifespan and their relation to health care systems as both clients and providers. This includes contextual issues that constrain the provision & receipt of adequate healthcare. A critical examination of theoretical and methodological issues pertaining to research on women and girls conducted around the world across disciplines. A focused and intensive exploration of place as it pertains to women and girls formal and informal structures of health care delivery as those needing and/or seeking health care, and as those providing health care to others. Students will examine the multiple dimensions and qualities of these endeavors (e.g. activity, power, control, visibility, value, and remuneration) and the intersection of gender and health - locally, globally and across borders. Students will focus their examination on the implications of seeking and providing health care for women's and girls' health and well-being. By examining issues in local and global contexts and across geographical boundaries, students will have the opportunity to challenge gendered, class, political, and cultural assumptions related to women's health.

Taught by: Teitelman
Course usually offered in fall term
Also Offered As: GSWS 830
Prerequisites: Completion of course in global health (this may include a reputable online course eg: Coursera), or equivalent background (eg. global health field experience). Permission of Instructor.
Activity: Seminar
1 Course Unit

Notes: For graduate and professional students from any field with an interest in global women's health; Masters students by permission of instructor.

NURS 831 Advanced Topics in Health Informatics
This course is designed to survey a broad range of advanced topics in the field of health informatics. Course faculty and invited speakers will provide the content for weekly meetings conducted in a blended environment (both on-line and in the classroom). Each week, students will listen to a lecture and then participate in a group discussion. Approximately half of these lecture/discussion sessions will take place in a "live" classroom, while the remainder will be available asynchronously in an online setting (i.e. using Blackboard). There will be no textbook, however each speaker will provide links to web-based resources that provide either background information or further elaboration of their topic. A group of students (depending upon size of class, probably 2-3 per topic) will take the lead for each topic, communicating with the speaker and facilitating the class discussion. As a final project, these student groups will also develop a more complete web resource for their selected topic.

Taught by: Bowles
Course usually offered in spring term
Prerequisites: NURS 651, NURS 551, SYS 528, or permission of instructor
Activity: Lecture
1 Course Unit
NURS 832 Laboratory Based Biological Measures
This graduate course is an advanced, mentored exploration of biological measurement techniques used in nursing research. This course will provide an opportunity to gain a broad-based understanding of laboratory methodology, biomarkers, and translational research. Concepts of biological sample processing, storage, quality assurance and control and analysis will be covered. Laboratory measurements with a focus on genetic regulation of biomarkers related to stress, pain, and sleep/fatigue will be covered.
Taught by: Libonati; Muthukumaran
Course usually offered in fall term
Prerequisites: Biology, Chemistry, Physiology, and Permission of Instructor
Activity: Seminar
1 Course Unit
Notes: For Doctoral and Post-Doctoral students interested in biobehavioral research laboratory techniques.

NURS 833 Measurement of Health-Related Behavior and Determinants
Taught by: Karen Glanz
Activity: Seminar
1 Course Unit
Notes: This one semester seminar will provide a detailed overview of measurement of health-related behaviors and determinants of behavior. The course will cover characteristics of measures, data collection, and how to apply the science of measurement to specific health research questions. The course will emphasize the selection of measurement techniques used in nursing research. This one semester seminar will provide a detailed overview of measurement and will include clinical case examples.

NURS 834 Patient-Reported Symptoms & Outcomes for Clinical Research
Patient-reported symptoms and outcomes are central to health science and have assumed increasing importance in the broader research arena. The research goal, conceptual clarity of variables, participant characteristics, instrument psychometrics, degree of coarseness/specificity, and participant burden are all essential to consider in selecting patient-reported symptom and outcome measures. This course focuses on linking study needs, design considerations, theoretical concepts, empirical measures, data collection strategies, and analytic approaches to patient-reported symptoms and outcomes for clinical research. Specific symptoms and outcomes examined in detail may include functional status, quality of life, health status, well-being, sleep, fatigue, weight, pain, shortness of breath, depression, stress, and nausea but each semester will be tailored to the research interests of the seminar participants.
Taught by: Richmond
Course usually offered in fall term
Activity: Seminar
1 Course Unit

NURS 837 Web-based Research Methodology
This doctoral elective course will provide an introduction to Web-based research methods in health-related disciplines. This course will examine research methods that have been adapted to the study of human subjects through the Web. This course will have particular emphasis on quantitative and qualitative empirical methods using the Web as a data collection medium. Another important feature of this course will be intensive analysis of ethical and methodological issues conducting research through the Web. Areas to be analyzed include: types of Web-based research, advantages and disadvantages of Web-based research; vehicles (e.g. funding, mentoring) that have supported Web-based research; human subject protection issues; issues/concerns in recruitment and data collection in Web-based research; and professional vehicles (e.g. scholarly publication, lay publications, speaking forums) that have helped disseminate the knowledge derived from Web-based research.
Taught by: Im
Course usually offered in fall term
Prerequisite: Enrollment in a Doctoral Program
Activity: Seminar
1 Course Unit

NURS 851 Translating Evid To Prac
Activity: Lecture
1 Course Unit

NURS 852 Translating Ev - Prac II
Activity: Lecture
1 Course Unit

NURS 890 Nursing Doctoral Teaching Residency
The purpose of this required one semester teaching residency is to enhance the expertise of students in the role of educator. The residency will be tailored to the student's individual learning needs. At the minimum, students with no or minimal prior teaching experience will gain a beginning level of expertise in course planning, course evaluation, dealing with difficult student situations, test construction, paper assignment construction and grading, content delivery methods, as well as other aspects of the faculty teaching role. Students with more extensive teaching experience will tailor their residences with their residency supervisor to enhance their expertise in these various areas.
Taught by: Designated Member of the School of Nursing Grad Group
Course usually offered in fall term
Activity: Independent Study
1 Course Unit
Notes: For Nursing Doctoral Students Only
NURS 897 Nursing Doctoral Research Residency
The purpose of this required one semester research residency is to enhance student research training early in the doctoral program by providing a mentored research experience. The residency is designed to be a tailored hands-on experience to provide students with exposure and the opportunity to participate in one or more aspects of an ongoing research project. Research residencies are experiential activities designed to meet the student’s individual learning needs. At the minimum, students with no or minimal prior research experience will gain a beginning level of experience on a variety of components of an ongoing research project. Students with more extensive research experience will tailor their residencies with their residency supervisor to enhance their expertise in these various areas.
Taught by: Designated Member of the School of Nursing Grad Group
Course usually offered in fall term
Activity: Independent Study
1 Course Unit
Notes: For Nursing Doctoral Students Only

NURS 900 Directed Study
Must be arranged with the written permission of the sponsoring faculty member prior to registration.
One-term course offered either term
Activity: Independent Study
1 Course Unit

NURS 995 Dissertation
Dissertation General Tuition
One-term course offered either term
Activity: Dissertation
1 Course Unit

Notes: cross listed with LGST 222
1 Course Unit

Operations, Information and Decisions (OIDD)

OIDD 101 An Introduction to Operations, Information and Decisions
OIDD 101 explores a variety of common quantitative modeling problems that arise frequently in business settings, and discusses how they can be formally modeled and solved with a combination of business insight and computer-based tools. The key topics covered include capacity management, service operations, inventory control, structured decision making, constrained optimization and simulation. This course teaches how to model complex business situations and how to master tools to improve business performance. The goal is to provide a set of foundational skills useful for future coursework at Wharton as well as providing an overview of problems and techniques that characterize disciplines that comprise Operations and Information Management.
One-term course offered either term
Activity: Lecture
1 Course Unit

OIDD 105 Developing Tools for Data Access and Analysis (VBA and SQL Programming)
This course provides an introduction to the construction of data analysis tools that are commonly used for business applications, especially in consulting and finance. The course builds on the spreadsheet and analytical skills developed in OPIM101, providing a much more extensive treatment of spreadsheet application development and database management. The first portion of the course will focus on programming in VBA, the embedded programming language in the Microsoft Office suite of applications. This will be supplemented with discussion of industry best practice in software development, such as specification development, interface design, documentation, and testing. The second portion of the class will emphasize data access and analysis utilizing SQL, the industry standard language for interacting with database software.
Activity: Lecture
1 Course Unit

OIDD 210 Management Information Systems
This course provides a broad-based introduction to the management of information technology focusing on three interrelated themes: technology, organization, and strategy. The goal of this course is to equip students with the knowledge and tools to utilize information systems to pursue a firm’s strategic and organizational goals. The course has no prerequisites other than a general interest in the applications of information technology.
One-term course offered either term
Activity: Lecture
1 Course Unit

OIDD 221 Operations Strategy and Process Management
This course examines how organizations can develop and leverage excellence in process management. The first module focuses on operations strategy. In these classes, we examine what constitutes an operations strategy and how organizations can create value by managing complexity, uncertainty, and product development. In the second half of the course, we discuss recent developments in both manufacturing and service industries. Specifically, we examine initiatives in quality, lean manufacturing and enterprise-wide planning systems. The course is recommended for those interested in consulting or operations careers, as well as students with an engineering background who wish to develop a better understanding of managing production processes.
One-term course offered either term
Also Offered As: ESE 522
Activity: Lecture
1 Course Unit
Notes: Cross listed with ESE 522

OIDD 222 Internet Law & Policy
The Internet has become central to business and daily life. This course looks at how courts, legislatures, and regulators confront the major legal issues that the Internet poses. The fundamental challenge is that law comes from governments and other institutions in specific places, but the Internet is global and virtual. Conflicts such as the shutdown of the Napster peer-to-peer file-sharing service and the debate over "network neutrality" regulations for broadband access illustrate the challenge. How does the legal system think about Google, Skype, Twitter, and Facebook? How should it?
One-term course offered either term
Also Offered As: LGST 222
Activity: Lecture
1 Course Unit
Notes: cross listed with LGST 222
OIDD 224 Analytics for Service Operations
This course considers tools and concepts that can generate operational excellence for the production and delivery of services in industries such as banking, transportation, health care, and communications. Since services typically are intangible, not storable or transportable, and often highly variable, the management of their operations is complex and involves distributed operations with a significant amount of customer contact. Therefore, the understanding and effective management of service operations requires specialized analytical tools and customer-centric focus. This course covers a mix of topics with the emphasis on quantitative methods, application of analytics and strategic frameworks. The class will introduce simple models and basic concepts that support analysis of tradeoffs in a variety of common service processes. Students also will have the opportunity to apply the ideas and analytical models developed in the course to a particular service industry. They will do so by conducting a guided, application group project which includes opportunities for in-depth analysis of a particular service process and field work.
Taught by: Faculty
Activity: Lecture
1 Course Unit

OIDD 236 SCALING OPERATIONS IN TECHNOLOGY VENTURES: Linking Strategy and Execution
This course helps students learn to make strategic scaling decisions that are grounded in operational reality. Students will study how to build and evaluate the "operation systems" of the firm to maximize value with the focus on scaling the firm's operations. This involves tailoring the firm's operational competencies, assets, and processes to a specific business strategy. The course will approach the challenge of scaling operations and operations strategy by taking a holistic view that incorporates competitive strategy, financial evaluation, and the customer experience.
Activity: Lecture
1 Course Unit

OIDD 240 Gamification for Business
See course description for LGST 240.
Also Offered As: LGST 240
Activity: Lecture
1 Course Unit

OIDD 241 Risk Analysis and Environmental Management
Taught by: Kunreuther
One-term course offered either term
Also Offered As: BEPP 261, BEPP 761, BEPP 961, ESE 567, OIDD 761
Activity: Lecture
1 Course Unit
Notes: Crosslisted with OIDD 761, BEPP 261, 761, 961, and ESE 567. See description under OIDD 761.

OIDD 263 Environmental & Energy Economics and Policy
This course examines environmental and energy issues from an economist's perspective. Over the last several decades, energy markets have become some of the most dynamic markets of the world economy, as they experienced a shift from heavy regulation to market-driven incentives. First we look at scarcity pricing and market power in electricity and gasoline markets. We then study oil and gas markets, with an emphasis on optimal extraction and pricing, and geopolitical risks that investors in hydrocarbon resources face. We then shift gears to the sources of environmental problems (many of which are energy-related), and policy makers can intervene to solve some of these problems. We talk about the economic rationale for a broad range of possible policies: environmental taxes, subsidies, performance standards and cap-and-trade. In doing so, we discuss fundamental concepts in environmental economics such as externality, valuation of the environment and the challenge of designing international agreements. At the end of the course, there will be special attention for the economics and finance of renewable energy and policies to foster its growth. Finally, we discuss the transportation sector, and analyze heavily debated policies such as fuel-economy standards and subsidies for green vehicles.
Taught by: Arthur van Benthem
Also Offered As: BEPP 263
Activity: Lecture
1 Course Unit

OIDD 290 Decision Processes
This course is an intensive introduction to various scientific perspectives on the processes through which people make decisions. Perspectives covered include cognitive psychology of human problem-solving, judgment and choice, theories of rational judgment and decision, and the mathematical theory of games. Much of the material is technically rigorous. Prior or current enrollment in STAT 101 or the equivalent, although not required, is strongly recommended.
Prerequisites: STAT 101 or equivalent strongly recommended.
Activity: Lecture
1 Course Unit

OIDD 291 Negotiations
Negotiation is the art and the science of creating good agreements between two or more parties. This course develops managerial negotiation skills by mixing lectures and practice, using cases and exercises in which students negotiate with each other. The cases cover a wide range of problems and settings: one-shot deals between individuals, repeated negotiations, negotiations over several issues, and negotiations among several parties (both within and between organizations). Class participation and case studies account for half the course grade. Students will also write about a negotiation experience outside of class.
One-term course offered either term
Also Offered As: LGST 206, MGMT 291, OIDD 691
Activity: Lecture
1 Course Unit
OIDD 292 Adv Topics Negotiation
This course is designed to teach negotiation principles and to enable students to develop their negotiation skills. This course builds upon and assumes familiarity with the negotiation concepts covered in the prerequisite for this course: “Negotiations.” In this course, we extend the study and practice of negotiations, and we develop a deeper understanding of how specific aspects of the negotiation process impact outcomes. Through course lectures, readings, and exercises, students will develop a rich framework for thinking about the negotiation process and acquire tools for guiding the negotiation process. 
Also Offered As: LGST 292, MGMT 292
Activity: Lecture
1 Course Unit

OIDD 298 Study Abroad

OIDD 299 Judg & Dec Making Res Im
This course provides a high-level introduction to the field of judgment and decision making (JDM) and in-depth exposure to the process of doing research in this area. Throughout the semester you will gain hands-on experience with several different JDM research projects. You will be paired with a PhD student or faculty mentor who is working on a variety of different research studies. Each week you will be given assignments that are central to one or more of these studies, and you will be given detailed descriptions of the research projects you are contributing to and how your assignments relate to the successful completion of these projects. To complement your hands-on research experience, throughout the semester you will be assigned readings from the book Nudge by Thaler and Sunstein, which summarizes key recent ideas in the JDM literature. You will also meet as a group for an hour once every three weeks with the class’s faculty supervisor and all of his or her PhD students to discuss the projects you are working on, to discuss the class readings, and to discuss your own research ideas stimulated by getting involved in various projects. Date and time to be mutually agreed upon by supervising faculty and students. the 1CU version of this course will involve approx. 10 hours of research immersion per week and a 10-page paper. The 0.5 CU version of this course will involve approx 5 hours of research immersion per week and a 5-page final paper. Please contact Katy Milkman if you are interested in enrolling in this course: kmilkman@wharton.upenn.edu
Course usually offered in fall term
Activity: Lecture
0.5 Course Units
Notes: Instructor permission required to enroll.

OIDD 311 Business Computer Languages
This course is taught with the more descriptive title of “Scripting for Business Analytics.” “Business Analytics” refers to modeling and analysis undertaken for purposes of management and supporting decision making. The varieties of techniques and methods are numerous and growing, including simple equational models, constrained optimization models, probabilistic models, visualization, data analysis, and much more. Elementary modeling of this sort can be undertaken in Excel and other spreadsheet programs, but ”industrial strength” applications typically use more sophisticated tools, based on scripting languages. Scripting languages are programming languages that are designed to be learned easily and to be used for special purposes, rather than for large-scale application programming. This course focuses on the special purposes associated with business analytics and teaches MATLAB and Python in this context. MATLAB and Python are widely used in practice (both in management and in engineering), as are the business analytic methods covered in the course. Prior programming experience is useful, but not required or presumed for this course.
One-term course offered either term
Activity Lecture
1 Course Unit

OIDD 314 Enabling Technologies
Conducting business in a networked economy invariably involves interplay with technology. The purpose of this course is to improve understanding of technology (what it can or cannot enable) and the business drivers of technology-related decisions in firms. We will be discussing some of the new and most disruptive technologies right now to stimulate thought on new applications for commerce and new ventures, as well as their implications to the tech industry as a whole. Topics include social media, online advertising, big data, and cloud computing. The course will take a layered approach (from network infrastructure) to data infrastructure to applications infrastructure, or about technology (what it can or cannot enable) and the interplay with technology. The purpose of this course is to improve understanding of technology (what it can or cannot enable) and the business drivers of technology-related decisions in firms. We will be discussing some of the new and most disruptive technologies right now to stimulate thought on new applications for commerce and new ventures, as well as their implications to the tech industry as a whole.
Topics include social media, online advertising, big data, and cloud computing. The course will take a layered approach (from network infrastructure) to data infrastructure to applications infrastructure, or data mining. Direct application topics associated with business analytics and teaches MATLAB and Python in this context. MATLAB and Python are widely used in practice (both in management and in engineering), as are the business analytic methods covered in the course. Prior programming experience is useful, but not required or presumed for this course.
One-term course offered either term
Activity Lecture
1 Course Unit
OIDD 315 Data Base Management Systems
Organizations continue to increase their reliance on computerized database management and information retrieval systems. Whether purchasing airplane tickets, managing retail merchandise, processing financial trades or simply sending email, data management defines the modern firm. This course aims to provide students with both a practical and theoretical introduction to the design, implementation, and use of such systems. Students are introduced to the fundamental concepts and principals of data management and gain practical experience by designing and deploying a working system. Throughout the course, case studies are used to illustrate theoretical concepts while acquainting students with innovative commercial uses of these systems.
One-term course offered either term
Activity: Lecture
1 Course Unit

OIDD 316 Systems Analysis, Design, and Implementation
At its surface this course introduces students to the management and technical issues associated with planning and designing large-scale computer systems. It does so in part as an elaboration of Fred Brooks’s observation that “The technology, the surrounding organization, and the traditions of the craft conspire to define certain items of paperwork.” But if that were our only goal, we would soon find ourselves mired in (and probably arguing about) the minutiae of how such paper items ought to be constructed - not a very helpful pedagogical exercise. So then, at a deeper level we seek to understand why the conspiracy endures, and why in spite of it, systems still take too long and cost too much to build as a systems project’s team members struggle to understand one another across disparate discourse communities and world views, differences in experience and training, and over long periods of time. More than anything else, within the context of working with the main tools and techniques of systems analysis and design, this course treats communication, corroboration, and thinking within the boundaries of a technology-oriented project as its primary subjects.
One-term course offered either term
Activity: Lecture
1 Course Unit

OIDD 319 Advanced Decision Systems: Evolutionary Computation
This course is taught with the more descriptive title of "Agents, Games, and Evolution." It explores applications and fundamentals of strategic behavior. Strategic, or game-theoretic, topics arise throughout the social sciences. The topics include—and we discuss—trust, cooperation, market-related phenomena (including price equilibria and distribution of wealth), norms, conventions, commitment, coalition formation, and negotiation. They also include such applied matters as design of logistics systems, auctions, and markets generally (for example, markets for electric power generation). In addressing these topics we focus on the practical problem of finding effective strategies for agents in strategic situations (or games). Our method of exploration will be experimental: we review and discuss experiments, principally computational experiments, on the behavior of boundedly rational agents in strategic (or game-theoretic) situations. Course work includes readings, discussions in class (organized as a seminar), examinations, and a course project on a topic chosen by the participants.
One-term course offered either term
Activity: Seminar
1 Course Unit

OIDD 321 Introduction to Management Science
Understanding how to use data and business analytics can be the key differential for a company’s success or failure. This course is designed to introduce fundamental quantitative decision-making tools for a broad range of managerial decision problems. Topics covered include linear, nonlinear, and discrete optimization, dynamic programming, and simulation. Students will apply these quantitative models in applications of portfolio management, electricity auctions, revenue management for airlines, manufacturing, advertising budget allocation, and healthcare scheduling operations. Emphasis in this course is placed on mathematical modeling of real-world problems and implementation of decision-making tools.
One-term course offered either term
Activity: Lecture
1 Course Unit

OIDD 325 Computer Simulation Models
This course focuses on agent-based computational models in the social sciences, especially in economic, in commercial and in strategic (game-theoretic) contexts. This relatively recent and now rapidly-developing form of computer simulation seeks to explain and predict complex social phenomena "from the ground up", through interactions of comparatively simple agents. The course reviews experimental and theoretical results, and exposes the students to modern development environments for this form of simulation. Students have the opportunity to design and implement agent-based simulations. Programming, however, is not required. This course aims to integrate various topics in agent-based simulation, while developing an appreciation of the problems that are particularly characteristic of this form of simulation so that students will understand its promise and potential.
One-term course offered either term
Also Offered As: PHIL 203
Activity: Lecture
1 Course Unit
OIDD 353 Mathematical Modeling and its Application in Finance
Quantitative methods have become fundamental tools in the analysis and planning of financial operations. There are many reasons for this development: the emergence of a whole range of new complex financial instruments, innovations in securitization, the increased globalization of the financial markets, the proliferation of information technology and the rise of high-frequency traders, etc. In this course, models for hedging, asset allocation, and multi-period portfolio planning are developed, implemented, and tested. In addition, pricing models for options, bonds, mortgage-backed securities, and other derivatives are studied. The models typically require the tools of statistics, optimization, and/or simulation, and they are implemented in spreadsheets or a high-level modeling environment, MATLAB. This course is quantitative and will require extensive computer use. The course is intended for students who have strong interest in finance. The objective is to provide students the necessary practical tools they will require should they choose to join the financial services industry, particularly in roles such as: derivatives, quantitative trading, portfolio management, structuring, financial engineering, risk management, etc. Prospective students should be comfortable with quantitative methods such as basic statistics and the methodologies (mathematical programming and simulation) taught in OIDD612 Business Analytics and OIDD321 Management Science (or equivalent). Students should seek permission from the instructor if the background requirements are not met.
One-term course offered either term
Also Offered As: OIDD 653
Prerequisite: OIDD321 (or a similar optimization class)
Activity: Lecture
1 Course Unit

OIDD 380 Operations Strategy Practicum
This course focuses on the management of operations at manufacturing and service facilities located in Israel that are used either by domestic corporations or by multinational companies. The emphasis is on the evolving patterns of operations strategies adopted by firms for producing products, sourcing manufacturing, distributing products, delivering services and managing product design as well as on programs for enhancing quality, productivity and flexibility and managing technology. We will focus on formulation and execution of such strategies for established Israeli multinationals with world class operations and innovative strategies as well as start-ups and smaller companies that are scaling their global supply chain infrastructure to support growth. The course will consist of a set of site visits that will provide the opportunity to observe company processes directly and in-class sessions which include lectures, case discussions and management speakers who will describe their companies’ current strategy.
Activity: Lecture
1 Course Unit
Notes: This is a Penn Global Seminar. Please contact goabroad@upenn.edu for questions regarding the seminar application process.

OIDD 397 Retail Supply Chain Management
Also Offered As: OIDD 697
Activity: Lecture
0.5 Course Units
Notes: See description under OIDD 697

OIDD 398 Retail Supply Chains
The course will examine how retailers understand their customers’ preferences and respond with appropriate products through effective supply chain management. The course class sections will deal with the following major items: (1) linking finance and operations in retailing, (2) what assortment of products should a retailer carry in each store, (3) optimizing the inventory carried of each SKU in each store, (4) markdown pricing, (5) store execution and (6) supply chain design. In addition, we will consider a broad range of issues facing two retailers, Mothers Work, and Best Buy, when we are visited by current and past senior executives from these firms. The course is highly recommended for students interested in careers in: (1) Retailing and retail supply chains, (2) Businesses like banking, consulting and information technology that provide services to retail firms, (3) Manufacturing companies that sell their products through retail firms. Even if you don't expect to work for a retailer, this course can be useful to you in two ways. First, because retailers are such dominant players in many supply chains today, it is important that the processes they follow be understood by manufacturers and distributors, or by the consultants and bankers that service retailers and their suppliers. Second, the problems retailers face (e.g., making data accessible, interpreting large amounts of data, reducing lead-times, eliciting the best efforts from employees, and so forth), are shared by firms in many other industries. It's easier to understand these issues through case studies in retailing because we all experience the industry as consumers and can readily relate to chronic problems such as stock outs and markdowns.
Also Offered As: OIDD 698
Activity: Lecture
1 Course Unit

OIDD 399 Supervised Study
One-term course offered either term
Activity: Independent Study
1 Course Unit
Notes: Instructor permission required to enroll (except section 002). Wharton Undergraduate students must also receive approval from the Undergraduate Division. Section 002 is the Management and Technology Freshman Seminar; instruction permission is not required for this section and is only open to MT students.

OIDD 410 Decision Support Systems
One-term course offered either term
Also Offered As: OIDD 672
Activity: Lecture
1 Course Unit
Notes: Crosslisted with OIDD 672. See description under OIDD 672.

OIDD 415 Product Design
This course provides tools and methods for creating new products. The course is intended for students with a strong career interest in new product development, entrepreneurship, and/or technology development. The course follows an overall product design methodology, including the identification of customer needs, generation of product concepts, prototyping, and design-for-manufacturing. Weekly student assignments are focused on the design of a new product and culminate in the creation of a prototype, which is launched at an end-of-semester public Design Fair. The course project is a physical good - but most of the tools and methods apply to services and software products. The course is open to any Penn sophomore, junior, senior or graduate student.
Also Offered As: IPD 515, MEAM 415, OIDD 515
Corequisite: Studio Recitation
Activity: Lecture
1 Course Unit
OODD 416 Design and Development of Web-Based Products and Services
In this course, students will study innovation and new product development in the context of Web-based products and services. This course lies at the intersection of product design and information technology; it is intended for students with general interests in the design of new products and/or information technology management. The course builds from a general product design methodology. For example, students begin with opportunity identification and analysis of user needs. However, the course also extends principles and practices used in innovation and new product development to information technologies in general and the Web in particular. For example, design-for-manufacturing is addressed with open-source software and Web services. Robust Engineering and Design of Experiments is applied to paper prototyping and server log analysis. The course is an interdisciplinary, integrative project-based course. Through weekly assignments, students apply the tools and techniques to the design of a new product, culminating in the initial roll-out of a working service. The course is open to juniors and seniors in SEAS or Wharton. Also Offered As: IPD 517
Activity: Lecture
1 Course Unit

OODD 469 Information Strategy and Economics
The course is devoted to the study of the strategic use of information and the related role of information technology. The topics of the course vary year to year, but generally include current issues in selling digital products, intermediation, and disintermediation, designing and competing in electronic markets, outsourcing, and technology project management. Heavy emphasis is placed on utilizing information economics to analyze new and existing businesses in information-intensive industries. Technology skills are not required, although a background in information technology management (equivalent to OPIM210), strategic management or managerial economics is helpful. One-term course offered either term
Activity: Lecture
1 Course Unit

OODD 515 Product Design
This course provides tools and methods for creating new products. The course is intended for students with a strong career interest in new product development, entrepreneurship, and/or technology development. The course follows an overall product design methodology, including the identification of customer needs, generation of product concepts, prototyping, and design-for-manufacturing. Weekly student assignments are focused on the design of a new product and culminate in the creation of a prototype, which is launched at an end-of-semester public Design Fair. The course project is a physical good - but most of the tools and methods apply to services and software products. The course is open to any Penn sophmore, junior, senior or graduate student. Also Offered As: IPD 515, MEAM 415, OIDD 415
Corequisite: Studio Recitation
Activity: Lecture
1 Course Unit

OODD 611 Quality and Productivity
Matching supply with demand is an enormous challenge for firms: excess supply is too costly, inadequate supply irritates customers. In the course, we will explore how firms can better organize their operations so that they more effectively align their supply with the demand for their products and services. Throughout the course, we illustrate mathematical analysis applied to real operational challenges -- we seek rigor and relevance. Our aim is to provide both tactical knowledge and high-level insights needed by general managers and management consultants. We will demonstrate that companies can use (and have used) the principles from this course to significantly enhance their competitiveness. Course usually offered in fall term
Activity: Lecture
0.5 Course Units

OODD 612 Business Analytics
"Managing the Productive Core: Business Analytics" is a course on business analytics tools and their application to management problems. Its main topics are optimization, decision making under uncertainty, and simulation. The emphasis is on business analytics tools that are widely used in diverse industries and functional areas, including operations, finance, accounting, and marketing. Course usually offered in spring term
Activity: Lecture
0.5 Course Units

OODD 613 Managing the Productive Core of the Firm: Information and Business Transformation
Information technology has transformed many industries, including media, financial services, and retailing, among others. These technologies have changed not only how we produce services (e.g., outsourcing and offshoring, and their newest extension, cloud computing) but what services we offer (virtual experiences, online advertising, long tail products and services, and social networking). The purpose of this course is to improve understanding of how information technologies enable transformation of business models within existing organizations as well as the development of completely new business models and new organizational forms. The course will serve as an introductory course on information technologies and will serve as a foundation on which students can explore more advanced technology concepts. Course usually offered in spring term
Activity: Lecture
0.5 Course Units

OODD 614 Innovation
The course is first and foremost an intensive, integrative, project course in which student teams create one or more real businesses. Some businesses spun out of the course and now managed by alumni include Terrapass Inc. and Smatchy Inc. The project experience is and exciting context in which to learn key tools and fundamentals useful in innovation, problem solving, and design. Examples of these tools and fundamentals are: problem definition, identification of opportunities, generating alternatives, selecting among alternatives, principles of data graphics, and managing innovation pipelines. The course requires a commitment of at least 10 hours of work outside of class and comfort working on unstructured, interdisciplinary problems. Students with a strong interest in innovation and entrepreneurship are particularly encouraged to enroll. Please read carefully the syllabus posted on-line before registering for this course. Course usually offered in fall term
Activity: Lecture
0.5 Course Units
**OIDD 615 Operations Strategy**
Operations strategy is about organizing people and resources to gain a competitive advantage in the delivery of products (both goods and services) to customers. This course approaches this challenge primarily from two perspectives: 1) how should a firm design their products so that they can be profitably offered; 2) how can a firm best organize and acquire resources to deliver its portfolio of products to customers. To be able to make intelligent decisions regarding these high-level choices, this course also provides a foundation of analytical methods. These methods give students a conceptual framework for understanding the linkage between how a firm manages its supply and how well that supply matches the firm’s resulting demand. Specific course topics include designing service systems, managing inventory and product variety, capacity planning, approaches to sourcing and supplier management, constructing global supply chains, managing sustainability initiatives, and revenue management. This course emphasizes both quantitative tools and qualitative frameworks. Neither is more important than the other.

Course usually offered in spring term
Activity: Lecture
0.5 Course Units

**OIDD 621 Decision Models and Uncertainty**
The applicability and use of management science models have increased dramatically in recent years due to the extraordinary improvements in computer, information, and communication technologies. Personal computers and friendly interfaces have become effective “delivery vehicles” for powerful decision models that were once the exclusive province of experts. This core course in management science has a twofold purpose. First, it seeks to introduce simple models and ideas that provide powerful (and oftentimes surprising) qualitative insights about a large spectrum of managerial problems. Its main topics include linear and integer programming, decision making under uncertainty, and simulation. Second, it aims to give a feeling for the kinds of problems that can be tackled quantitatively, the methods and software available for doing so and the difficulties involved in gathering the relevant data. The emphasis is on models that are widely used in diverse industries and functions areas, including finance, operations, accounting, and marketing.

Course usually offered in fall term
Activity: Lecture
0.5 Course Units

Notes: Lecture and discussion, with case studies and problem assignments.

**OIDD 632 Operations Management: Supply Chain Management**
Matching supply with demand is a primary challenge for a firm: excess supply is too costly, inadequate supply irritates customers. Matching supply to demand is easiest when a firm has a flexible supply process, but flexibility is generally expensive. In this course we will (1) learn how to assess the appropriate level of supply flexibility for a given industry and (2) explore strategies for economically increasing a firm’s supply flexibility. While tactical models and decisions are part of this course, the emphasis is on the qualitative insights needed by general managers or management consultants. We will demonstrate that companies can use (and have used) the principles from this course to significantly enhance their competitiveness.

Course usually offered in spring term
Activity: Lecture
0.5 Course Units

Notes: Lectures, cases, class discussions.

**OIDD 636 SCALING OPERATIONS: Linking Strategy and Execution**
This course helps students learn to make strategic scaling decisions that are grounded in operational reality. Students will study how to build and evaluate the “operation systems” of the firm to maximize value with the focus on scaling the firm’s operations. This involves tailoring the firm’s operational competencies, assets, and processes to a specific business strategy. The course will approach the challenge of scaling operations and operations strategy by taking a holistic view that incorporates competitive strategy, financial evaluation, and the customer experience.

Prerequisites: OIDD 611, OIDD 612, STAT 613 or those who have a solid understanding of elementary probability and statistics.

Activity: Lecture
0.5 Course Units

**OIDD 640 Digital Game Design Techniques for Business: Rules, Incentives, Applications**
Why can’t work be fun? Leading firms are engaging in the practice of gamification, using the techniques of digital game designers to serve objectives as varied as marketing, human resources management, productivity enhancement, training, innovation, and customer engagement. This course will examine the mechanism of gamification and provide an understanding of their effective use in the modern firm.

Cross-listed with LGST 640. The course will draw upon interdisciplinary source material as well as real-world case studies and production game environments to identify effective analytical models, strategies, techniques, and metrics for the application of games to business. It will also identify a number of significant pitfalls to the successful implementation of gamification techniques, notably legal and ethical issues, the difficulty of making things fun, and the problems with implementing radical change in established firms. The course will include both in-person meetings and web-based online sessions.

Taught by: Werbach, Hunter

One-term course offered either term

Also Offered As: LGST 640

Prerequisite: none

Activity: Lecture

1 Course Unit

**OIDD 642 Analytics for Services**
This course covers a range of analytical methods that are useful tools for capacity management in services, and it will provide you with insights into the economics of a range of services businesses including (i) High-level planning models that account for multiple dimensions of service capacity, (ii) Low-level models of system congestion that capture the relationship between capacity choices, quality of service and, in some cases, system revenue, (iii) Statistical estimation and forecasting models to characterize key measures of future supply and demand.

Prerequisites: Students who have already taken OIDD 611, OIDD 612, and STAT 613 should be well-equipped for the class. Other students should have a solid understanding of elementary probability, statistics and linear programming. For questions regarding the specifics of your background, please contact the instructor.

Activity: Lecture

0.5 Course Units

Notes: Class participation, case write-ups, online quizzes, self-study exercises and a final exam.
OIDD 643 Analytics for Revenue Management
This course introduces you to the essential concepts and techniques required to understand and implement revenue management (RM). The need for repeated, rapid cycles of estimation and optimization has driven the development of a set of analytical tools that are particularly well suited for RM. This course focuses on those tools. Prerequisites: Students who have already taken OPIM 612 and STAT 613 should be well equipped for this class. Other students should have a solid understanding of elementary probability, statistics, and constrained optimization. For questions regarding the specifics of your background, please contact the instructor. Activity: Lecture 0.5 Course Units Notes: Class participation, case write-ups, online quizzes, self-study exercises, and a final exam.

OIDD 652 Advanced Management Science: Models and Applications
This course will cover applications of decision models to managerial problems in a variety of business functions. The course will use management science techniques such as mathematical programming (LP/IP/NLP), Monte-Carlo simulation, decision trees, probability theory, and statistical analysis as the vehicle for applying diverse management theories to real-world problems. Potential in-class applications include product-line selection, risk management, corporate real options, and supply-chain restructuring. The course will emphasize the practical application of these techniques; problems will be solved using popular packages such as Excel, and Crystal Ball. Course not offered every year Prerequisite: OPIM 621 Activity: Lecture 0.5 Course Units

OIDD 653 Mathematical Modeling and its Application in Finance
Quantitative methods have become fundamental tools in the analysis and planning of financial operations. There are many reasons for this development: the emergence of a whole range of new complex financial instruments, innovations in securitization, the increased globalization of the financial markets, the proliferation of information technology and the rise of high-frequency traders, etc. In this course, models for hedging, asset allocation, and multi-period portfolio planning are developed, implemented, and tested. In addition, pricing models for options, bonds, mortgage-backed securities, and other derivatives are studied. The models typically require the tools of statistics, optimization, and/or simulation, and they are implemented in spreadsheets or a high-level modeling environment, MATLAB. This course is quantitative and will require extensive computer use. The course is intended for students who have strong interest in finance. The objective is to provide students the necessary practical tools they will require should they choose to join the financial services industry, particularly in roles such as: derivatives, quantitative trading, portfolio management, structuring, financial engineering, risk management, etc. Prospective students should be comfortable with quantitative methods quantitative methods, such as basic statistics and the methodologies (mathematical programming and simulation) taught in OPIM 612 Business Analytics or OPIM 321 Management Science (or equivalent). Students should seek permission from the instructor if the background requirements are not met. Taught by: Tsoukalas One-term course offered either term Also Offered As: OIDD 353 Prerequisite: Either OPIM 321 or OPIM 612 (or a similar optimization class) Activity: Lecture 1 Course Unit

OIDD 654 Product Design and Development
The course provides the student with a number of tools and concepts necessary for creating and managing product development processes. The course consists of two interwoven parts. First, it presents the basic steps that are necessary for moving from a "cool idea" to a product sufficiently mature to launch an entrepreneurial start-up. This includes cases, lectures, and exercises on topics like identifying customer needs, developing a product concept as well as effective prototyping strategies. The capstone of this first part is a real project in which student teams conceptualize and develop a new product or service up to the completion of a fully functional prototype. Second, the course discusses a number of challenges related to product development as encountered by management consultants, members of cross-functional development teams as well as general managers. We will analyze several cases related to, among others, resource allocation in R&D organizations, organizational forms of product development teams, as well as managing development projects across large geographic distances. Course usually offered in spring term Activity: Lecture 0.5 Course Units Notes: Lectures, case and problem analyses, group presentations, the development of a new product to the prototype stage.

OIDD 655 Operations, Marketing, and Design Integration
This course covers topics that span marketing and operations management. Students will examine issues and decisions that require significant coordination between managers in marketing and operations. Topics include channel management, supply chain design, product variety management, and service operations pricing and control. Course usually offered in spring term Also Offered As: MKTG 655 Prerequisites: MKTG 621, MKTG 622, OPIM 631, OPIM 632. Activity: Lecture 0.5 Course Units Notes: Crosslisted with MKTG 655

OIDD 656 Operations Strategy
This course examines how organizations can develop and leverage excellence in process management. The first module focuses on operations strategy. In these classes, we examine what constitutes an operation strategy and how organizations can create value by managing complexity, uncertainty, and product development. In the second half of the course, we discuss recent developments in both manufacturing and service industries. Specifically, we examine initiatives in quality, lean manufacturing, and enterprise-wide planning systems. The course is recommended for those interested in consulting or operations careers, as well as students with an engineering background who wish to develop a better understanding of managing production processes. One-term course offered either term Also Offered As: ESE 522 Prerequisites: OPIM 621, OPIM 631, and OPIM 632 or equivalent Activity: Lecture 1 Course Unit Notes: Crosslisted with ESE 522
OIDD 658 Service Operations Management
The service sector represents the largest segment of most industrial economies. In the U.S., for example, it accounts for approximately 70% of GDP and 70% of employment. In addition to this "pure" service sector, the operations and competitive positions of many manufacturing firms are becoming increasingly service-oriented. While operational excellence is critical for success in most industries today, in a wide range of service industries this is particularly true. For example, recent, significant deregulation in banking, health care, and communications has led to intensified competition and pressure on operations. At the same time, the rapid evolution of information technology has enabled firms to operate in a fashion - and offer a level of service - that has not been previously possible. Elements common to most services make the management of their operations complex, however. In particular, services are intangible, not storable or transportable, and often highly variable. Frequently their delivery involves distributed operations with a significant amount of customer contact. All of these factors make service operations end up looking quite a bit different than manufacturing operations, and the task of achieving excellence in them requires specialized analysis frameworks and tools. This course covers a mix of qualitative and quantitative models that provide the necessary tools. The class will focus on simple models that should help you to better understand both the difficulty of managing and the underlying economics of the service operations being considered. You will have the opportunity to apply these course tools in a group service assessment field project.
One-term course offered either term
Prerequisites: Courses in operations management, linear programming, probability and statistics
Activity: Lecture
0.5 Course Units

OIDD 659 Advanced Topics in Quantitative Methods and Operations Management
The specific content of this course varies from semester to semester, depending on student and faculty interest. Recent topics have included global operations, product design and development, quality management, and logistics strategy. See department for course description.
One-term course offered either term
Prerequisites: OPIM 631 and OPIM 632
Activity: Lecture
0.5 Course Units

OIDD 662 Enabling Technologies
This course is about understanding emerging technology enablers with a goal of stimulating thinking on new applications for commerce. No prerequisite or technical background is assumed. The class is self-contained (mainly lecture-based) and will culminate in a class-driven identification of novel businesses that exploit these enablers. No prerequisite or technical background is assumed. Students with little prior technical background can use the course to become more technologically informed. Those with moderate to advanced technical background may find the course a useful survey of emerging technologies. The course is recommended for students interested in careers in consulting, investment banking and venture capital in the tech sector.
Also Offered As: OIDD 314
Activity: Lecture
1 Course Unit
Notes: Lectures, discussions, assignments and class participation.

OIDD 664 Database and Information Management Systems
Data and information are critical to the modern organization. Whether used in knowledge management, business intelligence, enterprise resource planning (ERP), product design, marketing, personalization and other aspects of managing customer relationships (CRM), the underlying principles of data management are the same. This course aims to provide a practical introduction to the fundamental principles. Examples and exercises will cover the relational database tools at the core of ERP, CRM, and on-line exchanges and portals. However, the course will also use the same basic foundations to consider emerging technologies and standards such as XML, ebXML, UDDI, etc.
One-term course offered either term
Activity: Lecture
1 Course Unit

OIDD 665 Operations Management in Health Care
In an era where health care systems around the world face rapidly rising costs and quality issues, organizations large and small are looking into the operational side of health care for solutions. Likewise, the abundance of unfulfilled needs in the health care marketplace has led to an array of technology ventures with innovative new products and services. In this course, we apply the tools of operations management to analyze the health care value chain. The course consists of four modules: (1) the management of productivity, quality, and variability by care providers, (2) capacity and investment decisions under uncertainty confronting pharmaceuticals, (3) the design of health insurance by health plans and the determination of health benefits by employers, and (4) business ideas and operations models from the intersection of academic research and technology ventures. Students will learn from case discussions, hands-on decision tools, and several distinguished speakers and alumni from Stanford Hospital & Clinics, Merck, U.S. Naval Academy, and Deloitte Consulting. No prior exposure to the health care industry is assumed. The course prepares students for several career paths including consulting, operations management, and health care administration and is open to both first- and second-year MBA students.
Taught by: Faculty
Prerequisite: OPIM 631
Activity: Lecture
0.5 Course Units

OIDD 669 Advanced Topics in Information Strategy
The capstone course for the MBA major "Information Strategy, Systems, & Economics," OIDD 669 covers essential topics in information strategy - such as pricing of information goods; competing in electronic markets; market transparency and search issues; information-intensive strategies; IT outsourcing; and software project management - that have high impact on 21st-century business but are not typically covered in other Wharton courses.
Course usually offered in spring term
Activity: Lecture
1 Course Unit
**OIDD 670 Special topics in Information Systems: Simulation and Dynamic Competitive Strategy**

This course introduces tools and techniques for modeling dynamic competitive strategies - strategies that evolve over time as you and competitors take actions in response to each other and to changes in the competitive environment. This goes beyond case discussions and approximates the rigor of theoretical or game theoretical analyses, even for problems for which no traditional analytical solutions exist. Students of the course will learn to model business environments and design simulators with the goal of gaining insight and designing policies for strategy implementation. Students will develop understanding of the timing and sequencing of the actions required, as well as understanding how to modify strategies on the fly based on changing conditions or objectives. Students are introduced to state of the art software for general purpose business modeling and simulation.

Course not offered every year
Activity: Lecture
0.5 Course Units

**OIDD 672 Decision Support Systems**

The past few years have seen an explosion in the amount of data collected by businesses and have witnessed enabling technologies such as database systems, client-server computing and artificial intelligence reach industrial strength. These trends have spawned a new breed of systems that can support the extraction of useful information from large quantities of data. Understanding the power and limitations of these emerging technologies can provide managers and information systems professionals new approaches to support the task of solving hard business problems. This course will provide an overview of these techniques (such as genetic algorithms, neural networks, and decision trees) and discuss applications such as fraud detection, customer segmentation, trading, marketing strategies and customer support via cases and real datasets.

One-term course offered either term
Also Offered As: OIDD 410
Activity: Lecture
1 Course Unit
Notes: Lectures and discussions, written assignments, projects using software packages to build models.

**OIDD 673 Global Supply Chain Mgmt.**

Several forces, ranging from technology that has dramatically reduced the cost of communication, to political developments such as the opening up of China, Vietnam, and Eastern Europe, have created an avalanche of outsourcing and offshoring and lead to supply chains that stretch halfway around the world. This course will study the many questions that arise in the management of such global supply chains, including: Which design and production activities to do in-house and which to outsource? Where to locate various activities around the world? How to forecast the many factors that influence these decisions, including inflation in cost factors such as labor and freight, and the likelihood of future government regulation or political instability? How to keep the supply chain flexible so as to adapt to change? How to manage a geographically disbursed supply chain, including what relationships to have with vendors to ensure low cost, high quality, flexibility, safety, humane labor practices and respect for sustainability of the environment? The course is highly interactive, using case discussions in most classes and senior supply chain executives in many sessions. Grades are based one-third each on class participation, individual write-ups of the discussion questions for 3 of the class sessions, and a course paper.

Activity: Lecture
0.5 Course Units

**OIDD 676 Electronic Markets: Structures, Market Mechanisms and IT Enabled Strategies**

This course deals with Electronic Markets and Market structures and the strategic uses of information within the firm. The course consists of four related modules on the design and functioning of Business to Business markets, use of technology to source services from global providers - i.e., outsourcing of business processes (as opposed to IT), the use of strategic technological platforms such as CRM and Web Services and the technology-enabled precision pricing techniques. Further, students are exposed to strategy formulation and execution in an online market where they compete both against each other and against (electronic) agents. This course is recommended for students interested in a career in consulting, strategic management and to students interested in information technology related professions. The course will be delivered through a mix of lectures, case discussions and hands-on trading in virtual markets using different market mechanisms. The course Web cafe will be used for discussions and responses from instructor and TA. We do not assume or require any specific technical knowledge. Workings of electronic markets and market mechanisms and how IT can enable the formulation of new strategies and empower firms to define new markets in ways that were not possible until recently. This is an advanced elective that covers several essential topics in information strategy - IT and market structure, impact of IT on knowledge-intensive products and services and creating hybrid markets that span multiple channels. Students will compete in simulated electronic markets, using different market mechanisms and formulate information-based strategies. Students will also study how IT has enabled the globalization of services through the outsourcing of processes (BPO) and how quasi market structures which combine elements of organization and markets are emerging in knowledge-intensive service industries.

Prerequisites: MGEC 621 is recommended.
Activity: Lecture
0.5 Course Units

**OIDD 690 Managerial Decision Making**

The course is built around lectures reviewing multiple empirical studies, class discussion, and a few cases. Depending on the instructor, grading is determined by some combination of short written assignments, tests, class participation and a final project (see each instructor’s syllabus for details).

One-term course offered either term
Also Offered As: MGMT 680
Activity: Lecture
1 Course Unit
Notes: Crosslisted with MGMT 690.
OIDD 691 Negotiations
Negotiation is the art and science of creating good agreements. In this course we will work on both, studying economics and psychology for the science, and practicing actual negotiations for the art. Throughout we think of negotiation in general terms, relevant not only to salary negotiations and home buying, but performance evaluations, speeches, group collaborations and interpersonal relationships. We practice these kinds of negotiations in 2-, 3-, 4-, and 6-person exercises. Potential reasons to skip this particular negotiation course: 1) We have a strong attendance policy. 2) We have strong no-computers/phones policies. 3) the course is very discussion oriented. 4) We survey your work colleagues about your influence tactics, and 5) you have a short assignment due almost every class. Beginning with the second week of class, if you miss one class you lose a letter grade. If you miss two classes you fail. We have this policy because it is an experiential class, and because your attendance directly affects classmates you are paired with. For some weeks you can attend another section if necessary. Cross-listed with MGMT691 and LGST806.
One-term course offered either term
Also Offered As: LGST 806, MGMT 691, OIDD 291
Prerequisites: STAT 621,OPIM 621
Activity: Lecture
1 Course Unit
Notes: Crosslisted with LGST 806, MGMT 691. Lectures, cases, presentations, and written assignments.

OIDD 693 Influence
One-term course offered either term
Also Offered As: LGST 693
Activity: Lecture
0.5 Course Units

OIDD 695 Semester in San Francisco Regional Seminar
As part of the Wharton Semester in San Francisco (SSF) program, this course is designed to (i) provide integrative material that emphasizes links between finance, marketing, product design, negotiations, and other themes in the SSF academic curriculum; (ii) link classroom theories and principles to actual practice by reflecting on the academic literature and (iii) highlight the unique characteristics of, and the programs proximity to, the Bay Area economy. All students participating in the SSF are required to register for this Regional Seminar.
One-term course offered either term
Activity: Lecture
0.5 Course Units

OIDD 697 Retail Supply Chain Management
This course is highly recommended for students with an interest in pursuing careers in: (1) retailing and retail supply chains; (2) businesses like banking, consulting, information technology, that provides services to retail firms; (3) manufacturing companies (e.g. P&G) that sell their products through retail firms. Retailing is a huge industry that has consistently been an incubator for new business concepts. This course will examine how retailers understand their customers' preferences and respond with appropriate products through effective supply chain management. Supply chain management is vitally important for retailers and has been noted as the source of success for many retailers such as Wal-mart and Home Depot, and as an inhibitor of success for e-tailers as they struggle with delivery reliability. See M. L. Fisher, A. Raman and A. McClelland, "Rocket Science Retailing is Coming - Are You Ready?" Harvard Business Review, July/August 2000 for related research.
One-term course offered either term
Also Offered As: OIDD 397
Activity: Lecture
0.5 Course Units
Notes: Lectures, case discussion, guest speakers. Class participation, papers, and a team report.

OIDD 698 Value Netwoks
This is a project-based course run in a seminar format to explore current trends and opportunities for integration and coordination in IT-enabled value-chain networks. The curriculum is structured around a live case; students will work in teams to synthesize data from the live case and evaluate possible operational strategies and IT enablers in the context of a real, on-going business restructuring decision. Students will review a set of operations strategies affecting production, fulfillment, procurement product design, and support that may prove relevant e.g. Postponement, Mass Customization, Customer Service Differentiation, Buyer/Supplier Coordination. We also consider functionality that underlies relevant information technologies like Enterprise Resource Planning (ERP) or Customer Relationship Management (CRM), e.g. data integration, information quality, and security. Finally, we invite different vendors into the class to provide students with the opportunity to compare and contrast state-of-the-art IT and Operations Management solutions.
Course not offered every year
Also Offered As: OIDD 398
Activity: Lecture
1 Course Unit

OIDD 761 Risk Analysis and Environmental Management
This course is designed to introduce students to the role of risk assessment, risk perception and risk management in dealing with uncertain health, safety and environmental risks including the threat of terrorism. It explores the role of decision analysis as well as the use of scenarios for dealing with these problems. The course will evaluate the role of policy tools such as risk communication, economic incentives, insurance, regulation and private-public partnerships in developing strategies for managing these risks. A project will enable students to apply the concepts discussed in the course to a concrete problem. Cross-listed with BPUB 761.
One-term course offered either term
Also Offered As: BEPP 261, BEPP 761, BEPP 961, OIDD 261
Activity: Lecture
1 Course Unit
Notes: Cross listed with OPIM 261, BPUB 261, 761, 961, and ESE 567
OIDD 762 Environmental Sustainability and Value Creation
This course approaches environmental issues, and sustainable development more largely, from the standpoint of business. It emphasizes the trends in corporate practices and uses case studies to examine the interactions between the environment and the firm. Value creation focuses on new innovative services and financial products in this fast growing sphere. This course has three objectives: to increase your knowledge as future top decision makers on key environmental questions; to recognize environmental concerns as competitive opportunities; to teach students to think strategically and act entrepreneurially on environmental issues. You will leave the class with a tool-kit for action.
One-term course offered either term
Activity: Lecture
0.5 Course Units
Notes: MBA mini elective. This course is one of the set of mini-elective courses satisfying the core requirement. Lecture and discussion including guest speakers. Class discussion, presentations, and final project.

OIDD 763 Energy Markets & Policy
Also Offered As: BEPP 763
Activity: Lecture
1 Course Unit

OIDD 898 Advanced Topics
This course will show how to use Big Data from the internet to better understand and predict behavior. We will discuss how to make sense of Google searches, social media posts and other new sources of data. We will particularly emphasize the importance of finding honest sources of data, since people often lie. Students will learn both to make sense of existing studies and to conduct their own studies. The course is taught by Dr. Seth Stevens-Davidowitz.
Course not offered every year
Activity: Lecture
1 Course Unit

OIDD 900 Foundations of Decision Processes
The course is an introduction to research on normative, descriptive and prescriptive models of judgement and choice under uncertainty. We will be studying the underlying theory of decision processes as well as applications in individual group and organizational choice. Guest speakers will relate the concepts of decision processes and behavioral economics to applied problems in their area of expertise. As part of the course there will be a theoretical or empirical term paper on the application of decision processes to each student's particular area of interest.
One-term course offered either term
Also Offered As: PSYC 608
Prerequisite: STAT 510 or 550
Activity: Lecture
1 Course Unit

OIDD 904 Experimental Economics
Many theories in economics can be tested usefully in experiments in which researchers control parameters that are uncontrolled in natural settings. This course presents the theory of the experimental method and validity along with several examples of experimental testing: simple competitive equilibrium, intertemporal competitive equilibrium, asset markets, futures markets, bargaining models, tournaments, reputation-building in repeated games, etc.
Course not offered every year
Also Offered As: BEPP 904
Prerequisite: OPIDM900 or permission of the instructor
Activity: Lecture
1 Course Unit

OIDD 906 Proseminar in Operations and Information Management
Course not offered every year
Activity: Seminar
1 Course Unit

OIDD 910 Concepts of Math Programming
Introduction to mathematical programming for PhD students who would like to be intelligent and sophisticated consumers of mathematical programming theory but do not plan to specialize in this area. Integer and nonlinear programming are covered, including the fundamentals of each area together with a sense of the state-of-the-art and expected directions of future progress.
Course usually offered in fall term
Also Offered As: ESE 504
Activity: Lecture
1 Course Unit
Notes: Crosslisted w/ ESE 504.

OIDD 913 Advanced Linear Programming
Course not offered every year
Prerequisite: OPIM 910/ESE504 or equivalent
Activity: Lecture
1 Course Unit

OIDD 914 Advanced Non-Linear Programming
Course not offered every year
Prerequisite: OPIM910 or equivalent
Activity: Lecture
1 Course Unit

OIDD 915 Advanced Graph Theory
Deals mainly with algorithmic and computational aspects of graph theory. Topics and problems include reachability and connectivity, setcovering, graph coloring, location of centers, location of medians, trees, shortest path, circuits, traveling salesman problem, network flows, matching, transportation, and assignment problems.
Course not offered every year
Prerequisite: OPIM910 / ESE504 or equivalent
Activity: Lecture
1 Course Unit
OIDD 916 Advanced Integer Programming
In-depth review of solution methods: Lagrangean relaxation and column generation, Benders partitioning, cross-decomposition, surrogate relaxation, cutting planes and valid inequalities, logical processing, probing, branch-and-bound, branch-and-price. Study of special problems and applications: matching, location, generalized assignment, traveling salesman, forest planning, production scheduling.
Course not offered every year
Prerequisite: OPIM 910 or equivalent
Activity: Lecture
1 Course Unit

OIDD 920 Empirical Research in Operations Management
Empirical research in Operations Management has been repeatedly called for over the last 10-15 years, including calls made from the academic thought leaders in the field as well as by many of the editors of the top academic journals. Remarkably though, most researchers in the field would be pressed to name even three empirical papers published in such journals like Management Science or Operations Research. But, has there really been so little published related to empirical Operations Management (you might be surprised to learn that all five bullets listed above has been addressed by Management Science papers)? What types of problems in operations are interesting and worthwhile studying from an empirical viewpoint? How can one get started with an empirical research project in Operations Management? These are the questions that are at the heart of this course. Specifically, the objective of this course is to (a) expose doctoral students to the existing empirical literature and (b) to provide them with the training required to engage in an empirical study themselves.
Activity: Lecture
0.5 Course Units

OIDD 930 Stochastic Models
This course introduces mathematical models describing and analyzing the behavior of processes that exhibit random components. The theory of stochastic processes will be developed based on elementary probability theory and calculus. Topics include random walks, Poisson processes, Markov chains in discrete and continuous time, renewal theory, and martingales. Applications from the areas of inventory, production, finance, queuing and communication systems will be presented throughout the course.
Course usually offered in fall term
Prerequisite: STAT510 or 550 or equivalent
Activity: Lecture
0.5 Course Units

OIDD 931 Stochastic Processes II
Extension of the material presented in OIDD930 to include renewal theory, martingales, and Brownian motion.
Course usually offered in spring term
Also Offered As: STAT 901
Prerequisite: OPIM930
Activity: Lecture
0.5 Course Units
Notes: Crosslisted with STAT 901

OIDD 932 Queuing Theory
This course presents the mathematical foundations for the analysis of queuing systems. We will study general results like Little's law and the PASTA property. We will analyze standard queuing systems (Markovian systems and variations thereof) and simple queuing networks, investigate infinite server models and many server approximations, study GI/G/1 queues through random walk approximations, and read papers on applied queuing models.
Course offered spring; even-numbered years
Prerequisites: OPIM930 and OPIM931
Activity: Lecture
0.5 Course Units

OIDD 934 Dynamic Programming and Stochastic Models
The course goal is to provide a brief but fairly rigorous introduction to the formulation and solution of dynamic programs. Its focus is primarily methodological. We will cover discrete state space problems, over finite or infinite time horizon, with and without discounting. Structured policies and their theoretical foundation will be of particular interest. Computational methods and approximation methods will be addressed. Applications are presented throughout the course, such as inventory policies, production control, financial decisions, and scheduling.
Course usually offered in spring term
Prerequisite: OPIM930
Activity: Lecture
0.5 Course Units

OIDD 937 Methods Stumblers: Pragmatic Solutions to Everyday Challenges in Behavioral Research
This PhD-level course is for students who have already completed at least a year of basic stats/methods training. It assumes students already received a solid theoretical foundation and seeks to pragmatically bridge the gap between standard textbook coverage of methodological and statistical issues and the complexities of everyday behavioral science research. This course focuses on issues that (i) behavioral researchers are likely to encounter as they conduct research, but (ii) may struggle to figure out independently by consulting a textbook or published article.
One-term course offered either term
Activity: Lecture
0.5 Course Units

OIDD 940 Operations Management
Concepts, models, and theories relevant to the management of the processes required to provide goods or services to consumers in both the public and private sectors. Includes production, inventory and distribution functions, scheduling of service or manufacturing activities, facility capacity planning and design, location analysis, product design and choice of technology. The methodological basis for the course includes management science, economic theory, organization theory, and management information system theory.
One-term course offered either term
Activity: Lecture
1 Course Unit
Notes: Crosslisted with ESE 620

OIDD 941 Distribution Systems Seminar
Seminar on distribution systems models and theory. Reviews current research in the development and solution of models of distribution systems. Emphasizes multi-echelon inventory control, logistics management, network design, and competitive models.
Course usually offered in spring term
Prerequisite: OPIM940
Activity: Lecture
1 Course Unit
OIDD 943 Retail Operations.
Activity: Lecture
0.5 Course Units

OIDD 950 Perspectives on Information Systems
Provides doctoral students in Operations and Information Management and other related fields with a perspective on modern information system methodologies, technologies, and practices. State-of-the-art research on frameworks for analysis, design, and implementation of various types of information systems is presented. Students successfully completing the course should have the skills necessary to specify and implement an information system to support a decision process.
One-term course offered either term
Activity: Lecture
1 Course Unit

OIDD 951 Seminar on Logic Modeling
Seminar on the elements of formal logic necessary to read and contribute to the Logic modeling literature, as well as the implementation principles for logic models. The primary topics include elements of sentence and predicate logic, elements of modal logics, elements of semantics, mechanical theorem proving, logic and database, nonmonotonic reasoning, planning and the frame problem, logic programming, and metainterpreters.
Course not offered every year
Prerequisites: Permission of the instructor and some prior knowledge of logic or Prolog
Activity: Seminar
1 Course Unit

OIDD 952 Computational Game Theory
Seminar on principles of knowledge-based systems including expert systems. Topics include basics of expert systems, knowledge representation, meta-level reasoning, causal reasoning, truth maintenance systems, model management, planning systems and other applications.
Course not offered every year
Prerequisites: Permission of instructor and knowledge of logic and Prolog or Lisp
Activity: Seminar
1 Course Unit

OIDD 955 Research Seminar in Information Systems
This course provides an overview of some of the key Information Systems literature from the perspective of Insormation Strategy and Economics (ISE) and Information Decision Technologies (IDT). This course is intended to provide an introduction for first year OIDD doctoral students, as well as other Wharton doctoral students, to important core research topics and methods in ISE and IDT in order for students to do research in the field of Information Systems. While it is intended as a "first course" for OPIM doctoral students in ISE and IDT, it may also be useful for students who are engaged in research or plan to perform information technology related research in other disciplines.
Activity: Lecture
1 Course Unit

OIDD 960 Research Seminar in Information Technology - Economic Perspectives
Explores economic issues related to information technology, with emphasis on research in organizational or strategic settings. The course will follow a seminar format, with dynamically assigned readings and strong student contribution during class sessions (both as participant and, for one class, as moderator.)
Course usually offered in fall term
Activity: Lecture
1 Course Unit

OIDD 961 Research Seminar in Information: Strategy, Systems and Economics
This is the advanced doctoral-level research research in information strategy and economics that builds on the foundations developed in OPIM960. Much of the content will be focused on current research areas in information strategy such as the information and organizational economics, information technology and firm performance, search cost and pricing, information and incentives, coordination costs and the boundary of the firm, and the economics of information goods (including pricing and intellectual property protection). In addition, promising empirical approaches such as the use of intelligent agents for data collection or clickstream data analysis will be discussed.
Activity: Lecture
1 Course Unit

OIDD 992 Conflict Mgmt Seminar
Course usually offered in spring term
Activity: Lecture
1 Course Unit

Organizational Dynamics (DYNM)

DYNM 500 Foundations of Research and Scholarship
A main objective of this foundation course is to improve the academic papers and presentations in all Organizational Dynamics work, including the capstone. Because the discipline of writing for academic purposes is based on skills that are not common to business writing and because the writing process is central to learning in this program, Organizational Dynamics offers this course designed to assist participants in developing efficient, reliable, and fruitful academic writing and presentation techniques.
Taught by: Barstow, Greco, and Shapiro
Prerequisites: Non-DYNM students must complete a course permit request form: https://www.sas.upenn.edu/lps/graduate/dynamics/course-permit
Activity: Seminar
1 Course Unit
Notes: DYNM Category: F
**DYNM 501 Perspectives on Organizational Dynamics**

"Perspectives" is both a fundamental and integrating course intended for MSOD students at any point in the program who wish to understand and deploy a multiplicity of dynamics operative in organizations and in the minds that create and inhabit them. It is particularly useful for those in their first year and for non-MSOD students. One key focus is on understanding the implicit mental and emotional frameworks or metaphors that "inform" organizing so that we can virtually see more robust and complex approaches to effectiveness and to leadership within them. Several faculty members highlight their specialties. One special theme examines new management models and thinking frameworks designed to prevail in a 21st century context. Lectures, discussion, and experiential learning are used to build an informed grounding in the history, philosophy, theory, and practice of Organizational Dynamics. The course requirements are active class participation, potential application projects/weekly journal, a midterm paper and a final paper.

Taught by: Greco

One-term course offered either term
Prerequisites: Non-DYNM students must complete a course permit request: https://www.sas.upenn.edu/lps/graduate/dynamics/course-permit
Activity: Seminar
1 Course Unit

Notes: DYNM Category: F; DYNM Concentrations: LMC, GL, OC, SD

**DYNM 542 Theories, Models, and Practices that Inform Coaching**

This course will examine how theory guides the effective practice of coaching. Students will be introduced to a theory and model that encompasses a multi-disciplinary approach to coaching in an organizational setting. With this framework as a basis, students will select, research, and present a theoretical model of their own choosing and design a coaching application that demonstrates theory in action. Students will leave the course with an array of theoretical frameworks and practical techniques that will enhance their own coaching capabilities as managers and consultants. Undergraduates may enroll in 500-level courses only with permission of the instructor.

Taught by: Orenstein

One-term course offered either term
Prerequisites: Permits for Non-DYNM students: https://www.sas.upenn.edu/lps/graduate/dynamics/course-permit
Activity: Seminar
1 Course Unit

Notes: DYNM Course Category: F; DYNM Concentrations: LMC, OC. Course Schedule: 6/1, 3, 13, 15, 17, 20, 22, 24, 27, 29.

**DYNM 551 Devil's Advocate: Power of Divergent Thinking**

Short-term or long-term? Us or them? Build or buy? Margin or volume? My way or the highway! Ad infinitum, apparent forced choices—or no choice—and limited perspectives can create costly tugs of war or constricted judgment without our minds (and hearts) and in organization dynamics, persuasive, and often hidden, divergence in thinking offers great opportunity for learning, creativity, and sound decision-making. This course offers several robust, practical techniques for bringing the value of diverse perspectives in politically productive ways to leadership thinking, communications, and organization dynamics. This course will meet between May 23rd and June 23rd.

Taught by: Greco

One-term course offered either term
Prerequisites: Permits for Non-DYNM students: https://www.sas.upenn.edu/lps/graduate/dynamics/course-permit
Activity: Seminar
1 Course Unit

Notes: DYNM Course Category: A; DYNM Course Concentration: LMC

**DYNM 552 Strategic Crowdsourcing & Business Models**

This online course offers insight on how innovative firms are organizing strategically to gain advantage from engaging online with the value distributed resources held by a global pool of individuals. Through cases derived from original research, including Amazon, Facebook, Netflix, oDesk, Kiva, Wikipedia, among others, this course unveils the business models that these organizations use to create new value by working with "crowds" online. Open, distributed, online approaches to work and innovation have been widely studied over the past decade in the context of the computer and software industry (e.g. Benkler 2002; Chesbrough 2003; von Hippel and von Krogh 2003). Many of those concepts have since then permeated other industries, eventually giving birth to a distributed organizational paradigm referred to as "crowdsourcing" (e.g. Howe 2008; Villarroel 2008). The crowdsourcing model has proven valuable for innovation, work, entrepreneurship, among other applications. For example, in 2011, a crowd innovation initiative involving 57,000 individuals solved a decade-old scientific problem in molecular biology in only 3 weeks. In 2012, the top 3 crowd labor platforms brought skilled work to 6 million people in over 200 counties. In 2013, US $5 billion are expected to be invested in crowd-funded projects around the world. The aims of this course are (1) to gain a solid understanding of the business models in crowdsourcing; (2) to benefit from first-hand experience with the "power of the crowd"); (3) to critically analyze the potential and limitations of this new organizational paradigm.

Taught by: Villarroel

One-term course offered either term
Activity: Lecture
0.5 Course Units

Notes: For additional information, please see our website at: http://www.organizationaldynamics.upenn.edu

**DYNM 553 Becoming a Courageous Follower**

This course will examine both personal and professional behaviors that constitute effective followership. While the leadership literature is saturated with books on becoming better leaders, there is a dearth of awareness on finding and supporting those who follow those leaders effectively. Students will use surveys from the limited literature on effective followership to profile their own organization's dynamics on styles of followership, and stories of success and failure in confronting organization mistakes and leadership errors will be researched. The outcome of the class will be a personal profile on followership style and an organizational profile on its followership culture.

Taught by: Eldred

One-term course offered either term
Activity Lecture
0.5 Course Units

Notes: For additional information, please see our website at: http://www.organizationaldynamics.upenn.edu
DYNM 555 The Idea of Nationalism
Nationalism has been the most important geo-political phenomenon of the past two hundred years. Its continuing power has been amply demonstrated by recent events in many parts of the world. The principle of national self-determination and closely related notions of individualism and human rights shape the global context in which businesses, governments, organizations, and individuals must operate in the 21st century. This seminar course will explore the ideology of nationalism through the lens of institutions and organizations, corporations, nonprofits, government, NGOs, unions, religious communities, etc. Starting with concrete examples from students own experiences and the contemporary conflicts confronting governments, organizations, and businesses, we will examine the ideology of nationalism, its meaning and content, its philosophical foundations, its underlying assumptions about the nature of human identity, and its contemporary expressions in nationalist movements and ethno-political conflicts around the world. In the process, we will explore such questions as: What is a nation? Does every identifiable ethnic or national group have a valid claim to a nation-state of its own? How are claims to national self-determination justified? Why do nationalist movements seem so often to engender political extremism and violent ethno-political conflicts? Is national self-determination compatible with our commitments to individualism, rationality, and universal human rights? What are the best strategies to cope with the persistence of nationalism in the 21st century?
Taught by: Steinberg
One-term course offered either term
Prerequisites: Permits for non-DYNM students: https://www.sas.upenn.edu/lps/graduate/dynamics/course-permit
Activity: Seminar
1 Course Unit
Notes: DYNM Category: A; DYNM Concentration: GL

DYNM 558 Social Media and the Organization
If you don't yet believe in the social media revolution, then watch this: http://www.youtube.com/watch?v=ZQzsQkMFgHE. Facebook. Twitter. Pinterest. Tumblr. Path. Delicious. Digg. Youtube. LinkedIn. It's been less than a decade since many of these social media services have launched, yet they've transformed society in many significant ways. Social Media and the Organization will deepen your understanding of and offer real time practical experience with social media. The course will examine the current trends and use of social media in marketing, product development, customer service, networking and other facets of organizational policy and practice. Students will have hands-on participation online with the class blog, http://upennsocialbook.wordpress.com, sharing relevant case studies, analyzing social media campaigns and critiquing their own organization's culture and values surrounding social media including social media policy, staff challenges, and evaluation of challenges and opportunities in its use.
Taught by: Havely/Warren
Prerequisites: Non-DYNM students must complete a course permit request: https://www.sas.upenn.edu/lps/graduate/dynamics/course-permit
Activity: Lecture
1 Course Unit
Notes: DYNM Category: A; DYNM Concentration: LMC

DYNM 559 Research Methods to Develop Dynamic Expertise
It's not enough to be competent, educated, smart and professional. Globalization, technology, and vastly improved communications have increasingly led to "Winner Take All" markets. Consider the local opera house: 100 years ago, Iowa alone had more than 1,500 of them. Thousands of sopranos earned adequate, if modest, livings from the live performances, but now, thanks to i-pods, the world's best soprano can be literally everywhere at once. And since it costs no more to transmit MP3s of Renee Fleming's Mozart arias than her understudy's, most opera fans listen to Fleming. Thus, Fleming earns several million dollars a year while most other sopranos, many of whom are almost as talented, struggle to get by. The same is increasingly true of other professions: Those who are recognized for being the best at what they do can sell their services anywhere and everywhere at top dollar, whereas those who lack such recognition find their services valued less and less—if they are valued at all. As graduate students at the University of Pennsylvania, you have an extraordinary opportunity to become the leading expert in a given domain in a few short years, maybe less.
Taught by: Freeman
Activity: Lecture
0.5 Course Units
Notes: For additional information, please see our website at: http://www.organizationaldynamics.upenn.edu

DYNM 601 Gender Issues in Organizational Leadership
This seminar will explore the intersection of gender and organizational behavior as it has evolved and in the current social and economic context in this country. We will examine the social, cultural and structural dynamics within organizations that differentially affect women and men, as well as the gender-linked resources each brings to organizations. Topics that will be addressed include the debate over the current situation of women in the workforce; the social construction of gender; the relationship of gender and power in understanding gender dynamics in the workplace; the intersection of gender and class; gender issues in organizational leadership; policy and practice as reinforcers of gendered dynamics; the interaction of culture and organizational structure; and restructuring organizations to better meet the needs of women and men in today's culture. The course will 1) address the development of a theoretical framework for understanding gender issues in the workplace; 2) explore more specific ways in which policies and practices have different effects on employees and managers by virtue of gender and; 3) focus on alternative conceptualizations, structures, policies and practices that could make it possible for both men and women to be successful in the workplace and to avoid gender-based discrimination. In this last section, we will specifically discuss various organizational change processes that address gender issues within organizations.
Taught by: Vanderslice
One-term course offered either term
Activity: Seminar
1 Course Unit
Notes: For additional information, please see our website at: http://www.organizationaldynamics.upenn.edu
DYNM 602 Leader-Manager as Coach
New work technologies, increased competition, and employees' desire for more involvement in their work are changing the traditional role of the manager. Rather than directing, planning, and controlling the work, managers and leaders are facilitating processes and coaching and developing their employees. Team-based organizations are built on coaching as a core requirement of the team leader role. This course explores the theory and practices of individual coaching as leadership behavior. The focus is on helping managers develop their skills and improve their performances as coaches. We will examine the need to provide others with successful performance strategies, timely feedback on strengths and on development needs, and growth opportunities in order to challenge others to reach their potential. We will explore workplace environments that foster the growth and achievement of those we lead.

Taught by: Russo
One-term course offered either term
Prerequisites: Course permits for Non-DYNM students: https://www.sas.upenn.edu/lps/graduate/dynamics/course-permit
Activity: Seminar
1 Course Unit
Notes: DYNM Category: A; DYNM Concentrations: LMC, OC. Course Schedule: 9/16, 10/7, 14, 11/18, 12/2

DYNM 603 Leading Emergence: Creating Adaptive Space in Response to Complex Challenges
This seminar is designed to be highly experiential so that participants can engage in the practices necessary to enable innovation and adaptation. Participants will examine emergent innovation theory by addressing the dynamics and conditions in which ideas emerge in an informal manner, garner organizational attention, and gain momentum towards becoming successful innovations or bold changes within complex organizations. This will include examining the need for adaptive space in generating value that drives growth by enabling an environment of idea generation, entrepreneurship and innovation while leveraging the benefits of existing, formal systems to scale these ideas. Participants will explore and engage in such topics as creative experimentation, idea emergence, organizational network analysis, social capital, design thinking, organizational analytics and complexity leadership.

Taught by: Arena
One-term course offered either term
Prerequisites: Permit requests for non-DYNM students: https://www.sas.upenn.edu/lps/graduate/dynamics/course-permit
Activity: Seminar
1 Course Unit

DYNM 604 Managing Enterprise Risk
Can operations undertake effective risk management in our globalized, inextricably networked economy? What risk management role do we play in our organizations? We will apply readings and engage in case studies to discuss whether our organizations do or should manage risks as strategically as opportunities. We'll also examine our involvement with risk management in our organizations. By the conclusion of the course, you should have a strong understanding of organizational risk and a framework for addressing risk in your organization.

Taught by: Combrinck-Graham
Course usually offered summer term only
Prerequisites: Non-DYNM students must complete a course permit request form: https://www.sas.upenn.edu/lps/graduate/dynamics/course-permit
Activity: Seminar
1 Course Unit
Notes: DYNM Categories: DE, A; DYNM Concentration: LMC

DYNM 605 Resolving Project Risk, Uncertainty, and the Unexpected
DYNM 605 is a uniquely blended content of thought leadership vetted by subject matter experts worldwide. This participant-centered seminar is an opportunity to increase both awareness and knowledge of risk and uncertainty by examining causes of unexpected events in predictive (classic) and adaptive (agile) project frameworks. Successful applications of non-deterministic approaches are explored as antidotes to constrained command and control project environments. Course content is valuable in roles, organizations, and sectors of all types. Prominent project/operational risk management methodologies are included in this seminar. Processes advanced by the Project Management Institute, U.K. Association for Project Management, International Council on Systems Engineering, and by the International Organization for Standardization are contrasted with industry specific practices, including the U.S. Food and Drug Administration, NASA, and the Departments of Defense and Energy. Case examples are based on relevant experience. Participants perform hands-on implementation of processes in realistic team working sessions and facilitated dialogue. Spreadsheet/network analysis using Monte Carlo Simulation tools will be included in the course and clinics (see syllabus).

Taught by: Hornbacher
One-term course offered either term
Prerequisites: Course permits for non-DYNM students: https://www.sas.upenn.edu/lps/graduate/dynamics/course-permit
Activity: Seminar
1 Course Unit
DYNM 606 Leading from the Center: Unleashing Your Leadership Potential
This seminar is designed to support existing and emerging leaders who recognize their need for more adaptive leadership skills to effectively respond to rapidly changing environments. We will weave leadership theory and practice in a highly experiential seminar so that participants can actively engage in a leadership lab including deep reflective thinking, rapid prototyping and experimenting with new behaviors and practices. The purpose of the seminar is to evoke personal leadership at more impactful levels and improve organizational performance and personal satisfaction. Participants will examine their own, and others’, leadership theories by identifying assumptions about leading, creating a preferred model for individual leadership, and field testing actual shifts in behavior. Participants will engage in a three-part exploration over the course of the seminar: first, we will have an opportunity to examine our own models and those of the leading theorists in the field; second, participants will be asked to articulate and improve their own model; and finally, participants will be asked to test and validate their model and report back on the experience. This course is designed to create an ‘action-learning’ community in which you will integrate your professional experience, this class, and other graduate course work with a final exploration of leadership concepts, theory, and applied practice. This course is also designed to strengthen your ability to lead, including as a colleague who can support leadership behavior in peers and as one who can promote leadership behavior in supervisors and subordinates.
Taught by: Arena and Benjamin
Course not offered every year
Prerequisites: Permits for non-DYNM students: https://www.sas.upenn.edu/lps/graduate/dynamics/course-permit
Activity: Seminar
1 Course Unit
Notes: DYNM Category: F; A; Concentration: LMC. Course Meetings: 6/23-25 7/28-30

DYNM 607 Psychodynamics of Organizations
As an area of study, the psychodynamics of organizations draws out attention to the tacit, implicit, and unconscious dimensions of organizational life. It presumes that a person takes up his or her role at work by drawing on both individual history and the organizational context that helps define a role, its boundary, and the resources available to take it up. In both these aspects, the organizational context, and one's individual biography, people are often unaware of the thoughts and feelings that animate their behavior. This course will introduce students to some basic concepts of psychoanalysis, which focuses on individual motivation, and systems psychodynamics, which focuses on group dynamics and group psychology. System psychodynamics also emphasizes how an organization's primary task, or its "reason for being," influences individual experience. Readings include case studies as well as expositions of theory. The instructor will also draw on his own consulting cases.
Taught by: Hirschhorn
One-term course offered either term
Prerequisites: Course permits for Non-DYNM students: https://www.sas.upenn.edu/lps/graduate/dynamics/course-permit
Activity: Seminar
1 Course Unit

DYNM 608 Organizational Dynamics of Working in a Global Marketplace
This course examines some of the sources of confusion, conflict, misperception and error that arise when representatives of U.S. organizations interact and work in the global marketplace. The aim is to heighten awareness, help avoid personal or professional pitfalls, and to more effectively manage some of the organizational and business challenges that arise when operating across dissimilar environments. We will focus on areas including: ethics, culture, language, ethnicity, religion, gender, the political and legal systems, labor, corruption, and corporate organization. Each class session will begin with a short, interactive introductory lecture, followed by discussion around assigned readings and mini-cases.
Taught by: Tschoegl
One-term course offered either term
Activity: Seminar
1 Course Unit
Notes: For additional information, please see our website at: http://www.organizationaldynamics.upenn.edu

DYNM 609 From Traditional Project Management to Transformational Project Leadership
The primary objective of this course is to provide a comprehensive framework for analyzing both current and future expectations for success of Project Leaders in the context of Project Management, Project Teams, and the Project/Program/Portfolio Management Office (PMO) by addressing the following questions: 1) What is the track record of Project Management and what capabilities are required to succeed as a Project Leader in a complex and evolving business environment? 2) What characteristics does a Project Leader possess and can every Project Manager become a successful Project Leader? 3) How can Project Managers better integrate their left-brained analytic intelligence with their right-brained emotional intelligence to become successful Project Leaders? 4) What are the desired attributes of a transformational leader and what organizational barriers may impede transformational change? 5) What are the roles and responsibilities of the Project Leader as Team Leader, Coach, and Mentor? 6) How can Project Managers and Project Leaders better prepare themselves for integration into PMOs within their organizations?
Taught by: Bayney
One-term course offered either term
Prerequisites: Course permits for non-DYNM students: https://www.sas.upenn.edu/lps/graduate/dynamics/course-permit
Activity: Seminar
1 Course Unit
DYNM 610 Knowing Yourself: The Coach as an Instrument of Change
Note: This class is predicated on the assumption that prior to offering coaching assistance, a coach should have a deep understanding of his or her own behavior and its impact on a client. Utilizing validated tools and strategies available for coaches, the students practice sets of coaching skills on each other. This includes practice in interviewing and observational skills. In addition, students will have the opportunity to give and analyze 360 degree feedback data, as well as use a variety of other instruments that can be foundational for a useful coaching experience. Premise: Coaching others is very serious business. Intrepid individuals willing to take on this responsibility should be willing to answer the following questions: Who am I as a leader and helper? What are the assets I bring to the coaching relationship? What are my deficits, overused strengths, or underutilized skills and behaviors? What historical influences from my family of origin influence my capacity to build a positive relationship with my coaching client? Are there discrepancies in relation to my self-perceptions and those who know me well—family members, peers, colleagues, friends, boss, and direct reports? As a result, are these specific areas of personal development that I need to address as I move? Similar to most traditional programs where the focus is on the management of change, the course is organized to: 1) A diagnostic phase in which the values, history, assumptions, and behaviors of the client will be assessed. In this case the client will be the student/coach. 2) The applied phase in which analysis, interpretation, and formal learning will be the central focus. The end result will be individuals with a deep and abiding understanding of their own psychodynamics and their personal impact. Finally, by modeling many of the tools and strategies useful in any effective coaching effort and practicing them on themselves and their student peers, it is hoped that the experiential nature of the course will allow maximum transfer to the real work of coaching.

Taught by: Napier
One-term course offered either term
Prerequisites: Non-DYNM students must complete a course permit request form: https://www.sas.upenn.edu/lps/graduate/dynamics/course-permit
Activity: Seminar
1 Course Unit
Notes: DYNM Category: A; DYNM Concentrations: LMC, OC. Course schedule: January 14 15; February 25 26; March 18

DYNM 611 Effective Collaboration for a Changing Global Workplace
Effective collaboration requires a combination of strong self-awareness and an ability to make adjustments at the individual and group level. This course provides tools for building teams that leverage individual strengths and a mutual learning process of continuously addressing collaboration barriers to improve team performance. This seminar/lab is designed to extend each participant’s analytical skills and gain practice implementing high performance practices through a team-based simulation. Specific learning objectives are to: 1. Understand leading-edge frameworks for building effective teams. 2. Learn and apply tools for diagnosing barriers to collaboration. 3. Develop implementation plans for teams and organizations consistent with best practices. 4. Provide tools for self-assessment of participants to leverage their strengths for teamwork success. 5. Apply learning from classroom-based teamwork simulation to participants’ real life experiences.

Taught by: Hirshon, Legatt, and Newberry
Course not offered every year
Prerequisites: Non-DYNM students must complete a course permit request form: https://www.sas.upenn.edu/lps/graduate/dynamics/course-permit
Activity: Seminar
1 Course Unit
Notes: DYNM Categories: F, DE; DYNM Concentrations: LMC, GL. Course Schedule: 9/9 10; 10/7 8; 10/28; 11/19.

DYNM 612 Mastering Organizational Politics and Power
The purpose of this course is to explore, enhance, and expand the participants’ competence in organizational politics. Students will observe political dynamics as they occur in their own organizations and will interview senior managers in other organizations to learn how political realities vary from one organization to another. Theoretical ideas about a dimension of organizational politics of particular interest to each individual participant will be analyzed in a term paper. In addition, each participant will keep a personal diary of political dynamics in his or her own workplace. The course will also explore ways to master the political skills of networking, negotiating, influencing, leading, and following, as well as developing a political strategy.

Taught by: Eldred
One-term course offered either term
Prerequisites: Course permit requests for non-DYNM students: https://www.sas.upenn.edu/lps/graduate/dynamics/course-permit
Activity: Seminar
1 Course Unit
Notes: DYNM Category: A; DYNM Concentration: LMC
DYNM 613 Is Bigger - Inevitable, Better or Worse in Organizations?
Is the modern large corporation alienating, inflexible, unproductive? Is the small organization or work team engaging, innovative or creative, productive? Has it always been this way in the U.S.? Is change possible? In this unique, informal, "turbo" seminar, we will examine the large corporation in terms of history, governance and control, and delivery of (office) work. We will consider whether "bigness" and bureaucracy are inevitable, and how organizations of the present, and probably the future, are affected by those of the past. This seminar has been structured to cover a good deal of ground in a short time. The seminar will meet on six Saturdays. The subject matter of these seminars is the large-scale organization. Questions to be raised include: 1) Is the modern large corporation alienating, inflexible, and unproductive? 2) Are size and bureaucracy inevitable? 3) Is the small organization or work team engaging, innovative, creative, and productive? 4) What does the historical record for the United States reveal? 5) Are organizational alternatives and change possible?
Taught by: Licht
One-term course offered either term
Prerequisites: Non-DYNM students must complete a course permit request form: https://www.sas.upenn.edu/lps/graduate/dynamics/course-permit
Activity: Seminar
1 Course Unit
Notes: DYNM Category: F; DYNM Concentration: LMC. Course Schedule: 1/16, 23, 30; 2/6, 20 27. 1/16 is 9 to 12; all other meetings are 9 to 5.

DYNM 614 Consulting/Coaching Tools and Techniques
This course will offer a conceptual comprehension of the tools and techniques used in effective internal and external organizational consulting engagements. By contrasting the theory and practice of alternative coaching models, we will build tools and techniques for effective coaching as a leadership competency. Through an analysis of the coaching relationships in your organization, you will learn to develop a personalized approach to coaching and expand upon and within organizational settings. Participants learn the "how and why" as well as well as consulting frameworks. Additionally, the relevant and often symbiotic connection between consulting and coaching will be studied. What process tools are most useful to today's executive coach in a consultative environment? How do approaches to consulting and coaching differ? How are they similar? How can a confluence of coaching and consulting lead to more effective decision-making and wide-scale organizational performance? This course will be presented over five class meetings. The class sessions will be taught utilizing lectures, case studies, structured small group discussions, individual and team presentations, faculty and participant experience, and guest speakers.
Taught by: Russo
One-term course offered either term
Prerequisites: Non-DYNM students must complete a course permit request: https://www.sas.upenn.edu/lps/graduate/dynamics/course-permit
Activity: Seminar
1 Course Unit
Notes: DYNM Category: DE; DYNM Concentrations: OC. Course Schedule: 1/21, 2/4, 4/8, 4/22, 4/29

DYNM 615 Global PENNovation: The Food-Water-Energy Nexus
Environmentalist Paul Hawken challenged a class of 2009 college graduates that they would have to "figure out what it means to be a human being on earth at a time when every living system is declining, and the rate of decline is accelerating." That theme is at the heart of this course. While we have seen the notion of sustainability gaining some traction in recent years, our quality of life in the near future very likely hinges on the development and implementation of sustainable solutions to enormously complex environmental and social problems. This course is designed to foster the thinking that is needed to address those enormous problems. It involves focusing on a critical global problem with sustainability and social dimensions - in this case, the need to balance global food, water, and energy needs in a manner that allows the world to feed 9.6 billion citizens by 2050 while preserving the environment for future generations. PENNovation is a course about innovation, idea generation, collaboration, leadership, communication, research, decision-making, sustainability, sustainable solutions, creative thinking, leading change, and complex problem-solving. Class members take a deep dive into a major sustainability challenge while also gaining experience in how to lead global teams. The nexus: the world faces the imminent challenge of feeding roughly 9.6 billion citizens by 2050, an increase of about 2.3 billion (31%) from 2015. Yet we are not successfully feeding the global population today. FAO reports that about 800 million global citizens are hungry, and nearly 2 billion suffer from micronutrient deficiencies. The World Economic Forum reported that global freshwater demand is expected to exceed current supply by over 40% by 2030– just 15 years from now– while evidence of shortages is increasingly clear in heavily populated areas such as California, Sao Paolo, and China. Demand for energy continues to rise; the International Energy Agency notes that global energy demand is set to grow by 37% by 2040. An increasingly affluent population is straining the world’s already scarce resources, particularly in end goal of this course will be to produce a world-class product including the quest for animal protein, yet we continue to waste vast amounts of food (between 1 and 2 billion tons annually) and exacerbate social and environmental problems in the process. How can the world balance all of these challenges, meeting global needs for food, water, and energy security while protecting the quality of the environment and preventing social unrest? What approaches are needed? How can the needed changes be implemented?
Taught by: Finn
Course usually offered in spring term
Prerequisites: Non-DYNM students must complete a course permit request: https://www.sas.upenn.edu/lps/graduate/dynamics/course-permit
Activity: Seminar
1 Course Unit
DYNM 616 Myths to Media: Stories on a Mission
What determines our behavior? How do we come to understand? Who determines our purpose? Is now the only time? When asked "What if there were nothing in the universe," one professor replied, "How do we know there isn't?" The more our world seems to dis-integrate into discrete and unpredictable units and actors, the more we crave guidance from robust human models and conceptual frameworks of intellect, emotion, psyche, and action. Fortunately, our 100,000-year-old brains retain mechanisms enabling us even now to enhance our choice using the "stories beneath the stories" that—in form and content—have driven our purposes and actions since sentient beings could communicate. Yoda you should ask.
This course offers several means of deploying these powerful ancient sense-making tools—myths and stories—to purposefully communicate and foment action with individuals, groups, and organizations, particularly in our global social media milieu. We will learn many practical story-based ways to apply this power to several "missions": enaging others in individual and collective action, increasing understanding of patterns in human behavior, and harnessing the driver of purpose for business and social enterprise. Seek help from Prometheus.
Taught by: Greco
One-term course offered either term
Prerequisites: Course permits for non-DYNM students: https://sas.upenn.edu/lps/graduate/dynamics/course-permit
Activity: Seminar
1 Course Unit
Notes: DYNM Category: A; DYNM Concentration: LMC

DYNM 617 Economics of Human Behavior and Organizational Life
As a society, we choose many different ways to organize different aspects of our lives. The institutions and organization we choose to provide us with the necessities and comforts of life range from the fundamental institutions of family and religious organizations, to firms in the capitalistic market and democratically elected governments. We respond to this environment in unique ways: we marry, we worship, we buy and sell goods and services, and we vote. The primary goal of this course is an examination of the various aspects of human behavior in the context of organizational and institutional life from an economic perspective. We recognize that the choices we make are sensitive to the costs and benefits of different actions and use this economic perspective to gain insights into social, economic and political behavior in our daily lives. We start the course with an examination of how micro economists view the world and examine their favorite toolkit. We discuss concepts such as: efficiency, opportunity cost, marginal analysis, externalities, incentives, free-riding, rent-seeking, and transaction costs. These concepts are fundamental if an economic perspective and they will be presented using every day examples. Before concluding the course, we will look at several topics such as: Human capital and investment in education (Should you invest in an Ivy League school education?); Law and enforcement (When is it profitable to break the law?); Bribes and gifts (Quid pro quo?); Economics of information (Used cars and the market for "lemons"); Why we discriminate against minorities?; Property rights and externalities (The tragedy of the commons: Should we have smoke-free environments?); and Free-riding (Should I vote in the next election? Should I volunteer to clean up?)
Taught by: Handy
Course usually offered summer term only
Prerequisites: Course permits for non-DYNM students: https://www.sas.upenn.edu/lps/graduate/dynamics/course-permit
Activity: Seminar
1 Course Unit
Notes: DYNM Category: F; DYNM Concentrations: LMC, SD

DYNM 618 Strategic Crowdsourcing and Business Models 2.0
Crowdsourcing is among the most impactful innovations in organization of the 21st century, enabling the rise of distributed organizations. In this course, we will learn the radical business models used by a new generation of companies that transcend the format boundaries of the firm—e.g. Uber, oDesk, Kickstarter, among hundreds of such distributed organizations. The crowdsourcing economy is rapidly expanding, with at least 117 distributed work companies receiving venture capital in 2013–up from 17 in 2009 and 55 in 2011 (The Economist, 2015). Entrepreneurs taking this course will understand how crowdsourcing startups made big strides in the global economy. For example, five-year-old Uber—founded in 2009—developed operations in more than 50 countries, reaching sales of $1 billion in 2014. It received $3.3 in venture capital, valued at more than $41 billion in December 2014 (The Wall Street Journal, 2014). Uber offers an online platform connecting self-selected drivers and users who use a smartphone app to interact with the service. Any interested driver, who has a car and a smartphone, can sign up to be an Uber driver.
Taught by: Villarroel
Course not offered every year
Activity: Seminar
0.5 Course Units
Notes: This course will be in a hybrid in-person and online course.

DYNM 619 Organizational Project Management
The course provides an overview of the concepts, procedures, and fundamental processes of project management for working professionals. Participants are introduced to the principles, tools, and techniques of project management within an integrative framework. The course emphasizes that, for most organizations, projects are the primary means for implementing strategic initiatives. Course Objectives: 1) Understand and critically evaluate expectations, procedures and processes of program management as currently practiced in large for-profit enterprises; 2) Understand the content and processes and standards of practice as defined by the Program Management Institute (PMI); 3) Understand how to build and manage effective project teams; 4) Become familiar with the critical components of effective project plans. In addition to the scheduled meeting dates, additional class activities will be planned between faculty and students.
Taught by: Choukroun
One-term course offered either term
Prerequisites: Non-DYNM students must complete a course permit request form: https://www.sas.upenn.edu/lps/graduate/dynamics/course-permit
Activity: Seminar
1 Course Unit
Notes: DYNM Categories: F, A; DYNM Concentration: LMC. Course schedule: 9/9, 16; 10/7, 14, 28; 11/4, 18; 12/2, 9
**DYNM 620 The Coach: Applying Tools and Skills in the Field**

Coaching insinuates change, and most meaningful change is, at some level, therapeutic. This course will explore the dynamics of change as a therapeutic process. Whenever individuals have the nerve to “help” others, self-understanding must come front and center. As a master coach once said, “Who in the hell do we think we are helping others unless we are willing to take a very hard look at ourselves-our behavior, our impact, our projections and biases?” Not only must we ask hard questions of ourselves and resolve our own issues that could corrupt our effectiveness, but we also need to model the most productive behaviors possible. The questions for students of this course include: 1) Are you willing to look? 2) Are you willing to be fiercely honest with yourself and with your fellow students? 3) Are you prepared for the responsibility that goes with mucking around in someone else’s life? What makes this particular coaching course unique is that it affords students the opportunity to experience a full range of coaching practices in a relatively short amount of time. The expectation is that the students will have identified a potential client that will be discussed during the first class (although no firm agreement would have to be reached prior to that time). The student/coach will be guided each step of the way through the coaching process which will include a) contracting with the client; b) engaging in a thorough diagnostic exercise for the client including interviews, observations and a complete 360 feedback cycle, c) analyzing the data, d) feeding the results back to the client, e) engaging the client in problem solving and an action plan designed to help increase the client’s effectiveness.

Taught by: Napier

One-term course offered either term

Activity: Seminar

1 Course Unit

Notes: For additional information, please see our website at: http://www.organizationaldynamics.upenn.edu

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**DYNM 621 Project Portfolio Management**

The primary objective of this course is to enable participants to gain a thorough understanding of and appreciation for the discipline of Project Portfolio Management. Ill-defined and poorly utilized in many organizations, Portfolio Management has struggled to become inculcated within the fabric of these cultures without direct intervention and sponsorship from the highest levels of Senior Management. Beginning with a decidedly strategic focus, the course brings together the very essence of Portfolio Management—technically robust analytics—with the softer elements of communication and decision-making to enable portfolio value maximization. The course is structured in such a way that it follows a unique Portfolio Management framework—CREOPM™—created by the authors Bayney & Chakravarti in their book titled Enterprise Project Portfolio Management: Building Competencies For R&D and IT Investment Success. In each of the first 6 classes, the framework is followed sequentially and is then applied holistically to a case study in the final classes. The impact of risk and uncertainty to the quantification of project, program, and portfolio value is addressed through classic program and portfolio optimization. Students will be expected to apply many of the principles taught in this course to their own organizations and to deliver class presentations that address portfolio strategy, linkages between organizational plans, decomposing complex decisions, prioritization, portfolio optimization, and Stage Gate Review (SGR) processes. In their final paper, students will be presented with a choice of analyzing their organizations portfolio health or a selected Kellogg School of Management case study in Portfolio Management using the CREOPM™ framework.

Taught by: Bayney

One-term course offered either term

Prerequisites: Non-DYNM students must complete a course permit request: https://www.sas.upenn.edu/lps/graduate/dynamics/course-permit

Activity: Seminar

1 Course Unit

Notes: DYNM Course Category: A; DYNM Course Concentration: LMC
DYNM 623 Building Intercultural Competence in A Global Work Environment
This engaging course will promote intercultural competence and heighten cross-cultural awareness. You will engage in activities, simulations, and discussion about culture, values, perceptions, communication styles, and cultural patterns of thought and behavior that will help you understand the basic concepts, theories, and issues of intercultural communication related to intercultural relationships and how these concepts apply to your personal and professional lives. This fun and stimulating course will also explore ways to create an interculturally-competent work environment. Learning opportunities will examine tools to interact more positively with each other. As we build intercultural competence, we will sometimes encounter barriers as we interact with people whose cultural backgrounds vary from our own. As learners of intercultural communication, we will be bringing different cultural experiences and perspectives. As we interact and learn together, you will be exposed to different viewpoints and cultural lenses. We will all realize that as we unravel differences, you will find that what is acceptable and appropriate in one culture may be disrespectful from another cultural vantage point. As we cultivate, learn, and shape our intercultural competences, we may need to have an open mindset to learn new things and unlearn misinformation. The cultural competency of learning and unlearning, shaping and reshaping is a life skill that will be useful and extended well beyond the course to our work settings and personal lives.
Taught by: Altamirano
Course not offered every year
Prerequisites: Course permits for non-DYNM students: https://www.sas.upenn.edu/lps/graduate/dynamics/course-permit
Activity: Seminar
1 Course Unit
Notes: DYNM Category: A; DYNM Concentrations: LMC, GL

DYNM 624 Program Leadership Skills and Systems
Program Leadership Skills and Systems takes a fresh look at how organizations (and the people who work for them) pursue strategic goals via initiatives that can be recognized as programs. Taking a broad view of the nature of programs, it examines the role of teams in delivering program success and how an individual team member's knowledge, skills, and behaviors, should contribute to that success. Program Leadership Skills and Systems will progress through content that examines: 1) The important of programs: What are programs and why are they critical to organizational, professional, and personal success? 2) The challenges of programs: Why do most programs fail to deliver their intended benefits? 3) The leadership needs of programs: How does an individual's leadership style and focus influence the likelihood of success of their programs--and the likelihood that they will get promoted? 4) The ideal program team: What should one look for when building a program team? 5) An individual's role on a program team: What should program team members do to be a more successful team leader, manager, or member? 6) What experts say: What are the current "standards" of program management and how can you learn from them? It is expected that students who take Program Leadership Skills and Systems will achieve a greater understanding of how programs can be used to pursue organizational, professional, and personal goals. They will learn what it takes to effectively fill the role of a program team member, manager, and/or leader and to achieve personal and professional success in their roles.
Taught by: Heaslip
One-term course offered either term
Prerequisites: Non-DYNM students must complete a course permit request: https://www.sas.upenn.edu/lps/graduate/dynamics/course-permit
Activity: Seminar
1 Course Unit
Notes: DYNM Course Category: A; DYNM Course Concentrations: LMC, OC

DYNM 625 Ethnography of Everyday Life: A Master Class
Ethnography is a fundamental method within the social sciences that concerns the systematic study of culture. It involves a "thick description" of how people actually live their everyday lives, personal or professional. Ethnographers study how human groups form institutions and how these structures grow, function, maintain themselves, and persist. Also at issue is how people share their understandings and develop ideologies pertaining to these processes. Social negotiation and the development of "local knowledge" in the culture of interpersonal affairs will be emphasized, particularly as it is transmitted from one generation to the next. Through direct observation and discussion, students will treat Philadelphia as an "urban laboratory" and seek to identify, to study, and to learn about local people and places. In this vein, the class will visit communities and organizational settings to gain exposure to ordinary people but, particularly, to apply ethnographic methods to the complexities of the modern workplace as well as to everyday life of the city. The final paper will be a synthesis of ethnographic literature and observations of local urban life and culture, particularly as these issues apply to understanding and organization or a local community.
Course usually offered summer term only
Prerequisites: Course permits for non-DYNM students: https://www.sas.upenn.edu/lps/graduate/dynamics/course-permit
Activity: Seminar
0.5 Course Units
DYNM 626 Leading the Professional Service Organization
The purpose of this seminar is to understand appropriate leadership behaviors for professional services. Students will gain first hand exposure to prominent leaders of diverse service organizations, and will research how those leaders both develop and deploy their leadership agenda. This course fills the following Organizational Dynamics requirements: Categories: A Concentrations: LMC
Taught by: Eldred
One-term course offered either term
Activity: Seminar
1 Course Unit
Notes: For additional information, please see our website at: http://www.organizationaldynamics.upenn.edu

DYNM 627 Classics of Organizational Behavior
The purpose of this seminar is to critique the thought and practice of several “big names” in organizational behavior, while establishing the continuing relevance of their work to today’s organizations. Frederick Taylor (Scientific Management), The Hawthorne Studies (Human Relations), Kurt Lewin (Group Dynamics), Eric Trist (Socio-Technical Systems) and others will be read in their primary sources, giving participants the opportunity to form their own opinion of these classic field studies. Participants will read primary sources in the field as well as more recent critical scholarship. They will then present short papers to the class in the model of an academic conference, followed by discussion. Participants will debate their own views in this conference atmosphere as if both the founders and their critics were present. In addition to the readings and discussion, participants will view a taped oral-history interview with Eric Trist and a film of Kurt Lewin’s famous experiment on leadership styles. Each participant will present two brief papers to the class and will submit a longer final paper.
Taught by: Barstow
One-term course offered either term
Activity: Seminar
1 Course Unit
Notes: For additional information, please see our website at: http://www.organizationaldynamics.upenn.edu

DYNM 628 Organizational Diagnosis: Diagnostic Strengths for Effectiveness
This seminar is designed to help participants learn multiple approaches to diagnosing the complex ways in which issues and/or problems manifest themselves in organizations. Frequently, when organizations find themselves in trouble, i.e., there are rumblings in the system about such things as lack of leadership, poor communication, diminished productivity, low morale, etc., there is a tendency to frame the problem(s) simplistically and/or locate blame in a few difficult individuals or groups. However, upon closer examination, problematic issues are often found to be symptomatic and/or symbolic of multiple issues within the organization. This course will help students understand how problems which appear at one level of the system (for example, at the personal or interpersonal level) often represent problems at other levels of the system (e.g., at the group and/or institutional level) or signify a range of interrelated issues. It will provide students with the theoretical constructs and application skills necessary for identifying and framing problem areas, collecting data, and organizing feedback to client systems. Real-time examples will inform our discussions as we consider the relationships between diagnosis, organizational reflection and appropriate action.
Taught by: Kaminstein
One-term course offered either term
Prerequisites: Course permits for non-DYNM students: https://www.sas.upenn.edu/lps/graduate/dynamics/course-permit
Activity: Seminar
1 Course Unit
Notes: DYNM Categories: DE, A; DYNM Concentration: LMC

DYNM 629 Strategic Approaches to Human Capital Management and Its Implications for Leaders
In this course we look at how human capital strategy is changing in response to increasing demands for results and more purposeful practice. We look first at the broader landscape of human capital management and see what’s new in the way an organization should approach its human capital practice. Then, we look more closely at the specific challenges—demographically, structurally, and organizationally—facing managers and Human Capital professionals in an age of uncertainty, and learn what they can do to remain adaptive and competitive. By the end of the course, through meetings and discussions, assignments, presentations, case studies, research, and required reading, participants will: 1) Learn how to assess and adjust Human Capital Development (HCD) policies, processes, and practices; 2) Think strategically about the critical human capital concerns in their own organization; 3) Connect and align individual and organizational learning imperatives; 4) Learn how to reshape human capital goals to meet continuously changing global, political, and economic environments; 5) Inspire leadership of human capital that is results-oriented and ethical; 6) Identify and explore a specific human capital issue relevant and important to their organization and develop a strategic approach for addressing it.
Taught by: Hart
One-term course offered either term
Prerequisites: Course permits for non-DYNM students: https://www.sas.upenn.edu/lps/graduate/dynamics/course-permit
Activity: Seminar
1 Course Unit
Notes: DYNM Categories: F, DE; DYNM Concentration: LMC
DYNM 630 The Discipline of Value-driven Business Process Management: Strategy Execution in a Digital World

Business strategies and operations are driven by scores of ever-shifting factors: from demographic changes and capital availability to increasing regulations, technological innovations and all present digitalization. Static business models are no longer able to keep pace with such dynamic change. Companies need a next generation management approach that fits to this environment and drives collaboration across organizational boundaries. In effect, they need to know how and when to modify or enhance their business processes, which processes are best candidate for intervention, and how to move rapidly and at the lowest risk from business strategy to execution. Business Process Management (BPM) helps organizations master change successfully and create immediate as well as durable competitive advantage. It uses the opportunities of our digital world systematically. BPM has become a management discipline that delivers significant business value by converting strategy into people and technology-based execution—at pace with certainty. It is implemented through the “process of process management” that addresses all aspects of the lifecycle of a business process: design, implementation, execution, and controlling of processes. It is about identifying the right focus to improve what really matters and to sustain those improvements. framework, approaches, methods and software for achieving and maintaining a

Taught by: Kirchmer and Naidoo

Course usually offered in fall term
Prerequisites: Course permits for non-DYNM students: https://www.sas.upenn.edu/lps/graduate/dynamics/course-permit

Activity: Seminar
1 Course Unit

Notes: DYNM Category: A; DYNM Concentration: LMC

DYNM 631 Everyday Intergenerational Conversations: Baby Boomers and Millennials

This hybrid course delves into three big questions around the burning theme of everyday intergenerational conversations. The class-experience will be a living such conversation with Dr. Barstow, a Baby Boomer, and Amrita Subramanian, a millennial. The course format is 20% in person and 80% on a virtual platform. It’s a learner-centric and a learner-driven course. It is created to mine the practical know-how and life experiences of all participants, so all generations within the class can have a revealing experience that they can immediately apply at work and their personal relationships in life. At this exact point in time there are 300+ million people in the workforce and four generations at play. We begin to see the tiers of own understanding falling apart. It’s no longer about stereotyping or simply managing by default or banking on quick-recall labels—and here’s why—workplace performance or productivity or engagement or intergenerational respect and trust cannot be left to chance or opinions. We have to pause and consider the following questions: 1) Why: What are the generation names and labels we use? What purpose do they serve? How do they help and how do they hurt? What do they hide, obstruct or make us miss? 2) So what? Intergenerational communication is poor and we can do better. Understand it and skills (strategies and tactics) to prosper and cope. How to use agency and brokerage? What of cognitive dissonance? Responding versus reacting to Fake News? 3) What’s next? What have we learned from this whole century about the 4 generations at work? At home? At meetings or webinars or potluck parties? What of families at Thanksgiving? How can we expect to have valuable and meaningful conversations and relationships with all generations—current and future?

Taught by: Barstow and Subramanian

One-term course offered either term
Prerequisites: Course permit for Non-DYNM students: https://www.sas.upenn.edu/lps/graduate/dynamics/course-permit

Activity: Seminar
1 Course Unit

Notes: DYNM Category: TBA; DYNM Concentration: TBA. Course schedule: In person session: 9/9 from 1:30-5:30.
DYNM 633 Leadership from the Middle of the Organization
Durable organizations have learned to encourage innovation from within. This course's objective is to give Organizational Dynamics graduates the skills and practical knowledge to organize change and improvement from a middle position within an existing organization. The course seeks to prepare students to assume responsibility for acting without authority by becoming the leader they have been looking for. The course's learning objectives are: (a) to gain a working understanding of the pragmatic, ethical/moral, and cognitive foundations for leading informally from a middle position; (b) to adapt an existing Leading from the Middle (LftM) process to each student's actual situation; and (c) to carry out small scale actions in accordance with the process between classes, and in each class to coach students in learning by doing leadership arts and skills such as negotiating, maximizing the feasibility of change plans, enlisting and coordinating cooperation on a team, identifying and addressing stakeholder points of view, maintaining legitimacy of an initiative, and crediting all who help. Students who take this course should already be concerned about one or more important opportunities or upsetting challenges in their present or previous organizational surroundings. The instructor will coach the class in functioning as an idealized design team. The design process has two phases, a base case projection and an idealized design. Phase 1, the base case projection, formulates the current reality without change, and projects the likely undesired effects and outcomes of maintaining status quo. Phase 2, idealized design, creates a leadership approach that all stakeholders would wish for, if all their feasible, sustainable and adaptable wishes could come true today. By participating in a design process, the class itself models many group dynamics of an actual LftM situation. Scholarly Commons describes the work done in this class with examples. (Please see Stankard, Martin (2011). Guest speakers from earlier years are invited to share experiences with course content and answer questions. This course fills the following Organizational Dynamics requirements:

Categories: DE, A Concentrations LMC, OC
Taught by: Stankard
One-term course offered either term
Activity: Seminar
1 Course Unit
Notes: For additional information, please see our website at: http://www.organizationaldynamics.upenn.edu

DYNM 634 Process Improvement Tools and Strategies
Process improvement as taught in this course often provides high- leverage, high visibility opportunities for showcasing coaching and leadership skills as a member, coach, or leader of cross-functional process improvement teams. Cross-functional process improvement teams (running lean and six sigma projects) have evolved into a major pathway for developing leadership and coaching talent in such organizations as Baptist Healthcare, Federal Express, Ritz Carlton, Toyota Motor Co., and General Electric. Process improvement project leaders and team members use specific tools and capabilities to analyze as-is processes and to define and deploy new or improved processes that deliver better outcomes and customer satisfaction with less non-value added effort. Leading or serving on cross-functional process improvement teams creates opportunities to work and network with people from other parts of your organization and creates opportunities for visibility to executives and managers sponsoring strategic improvements. Participating in or leading process improvement is also a great leadership, coaching and professional development activity.

Taught by: Stankard
One-term course offered either term
Prerequisites: Course permit for non-DYNM students: https://www.sas.upenn.edu/lps/graduate/dynamics/course-permit
Activity: Seminar
1 Course Unit
Notes: DYNM Categories: DE, A; DYNM Concentration: LMC. Course Schedule: 9/9 23; 10/7, 21; 11/4, 18. (Back up date in case of cancellation: 12/2)

DYNM 635 Organizational Essentials for Leadership
Through presentations by expert speakers, case discussions, and participation in team projects, students will review and evaluate critical issues from across the frames of business, including general; human resource; marketing; information and stakeholder management; leadership; corporate culture; communications; organizational behavior; sales, marketing and public relations; finance and financial reporting; ethics and social responsibility; unions and government relations; and business law. Each of these elements will be studied in light of changing environmental conditions, including the economy; society; consumer behavior; market trends; regulation; politics, unpredictable events such as 9/11; organizational change; history; and internationalism.

Taught by: Choukroun
Course usually offered summer term only
Prerequisites: Course permits for non-DYNM students: https://www.sas.upenn.edu/lps/graduate/dynamics/course-permit
Activity: Seminar
1 Course Unit
Notes: DYNM Course Category: F; DYNM Course Concentration: LMC.
Course meeting schedule: 7/8, 15, 22, 29; 8/5
DYNM 636 21st Century Leadership Development: Integrating Cultural Influences into Coaching Practice
Coaching has been used to support high-level leadership, to develop high potential talent, to overcome or remediate deficiencies or unproductive behaviors, and to support or manage performance during periods of change. As the use of organizational coaching has grown over the last decade, globalization of the economy has transformed organizational markets, operations, and workforces so that "culture" routinely influences interpersonal, group, and organizational interfaces. In this context leadership requires an ability to recognize and leverage the "cultural diversity" inherent in teamwork, communication, collaboration, conflict, and change. Coaching, as a leadership development practice, must help leaders grow in their ability to recognize and leverage the national, professional, functional, and organizational cultures that influence workforce engagement, productivity, satisfaction, and innovation. This course is intended for students with an interest in culturally complex leadership and organizational development. This course has a dual purpose. First, through reading, class discussion, and written reflection, the course will enhance student understanding of coaching models, methods, and cases informed by cross-cultural psychology, intercultural communication, anthropology, and international business disciplines. Secondly, through guided practice, students will develop their skills in coaching across cultural differences. Students will coach one another through a self-assessment, development planning process, and initial movement toward their objectives using Rosinski's global coaching process as one illustrative example of this kind of coaching. This course is a hybrid of online and in-person meetings on the following schedule: 6/1: In-person and online; 6/25 & 26; 7/23 & 24: In-person; 8/10: In-person and online.
Taught by: Reyes
One-term course offered either term
Prerequisites: Course permits for non-DYNM students: https://www.sas.upenn.edu/lps/graduate/dynamics/course-permit
Activity: Seminar
1 Course Unit
Notes: DYNM Course Category: A; DYNM Course Concentrations: LMC, GL, OC. Meeting Schedule: 6/1, 25, 26; 7/23 24; 8/10.

DYNM 637 Creating High-Performing Groups and Teams: A Course in Real-Time Experiential Learning
This course will be offsite in Pennsylvania, August 4th through 9th, 2017. This course will have an additional course fee to cover lodging and other program logistics. Registration permits will be issued upon signed Travel Agreement being returned to the Organizational Dynamics program office. This course is limited to 12 students. This five-day, offsite program is more about the "how" to develop high performing teams than the intellectual "what" of such teams. For five days the twelve members will immerse themselves into what differentiates a high performing team from dysfunctional teams with which we are familiar. We will take a deep dive into the fundamentals of any group or team in our efforts to become such a team. We will, along the way, learn about the art of design—internalizing the skills and tools essential for building strategic interventions into a team in real time. Not only will we design them, but also we will be critiqued in relation to the quality of our efforts as well as to the facilitation skills we used during the process.
Taught by: Rodney Napier
One-term course offered either term
Activity: Seminar
1 Course Unit
Notes: DYNM Course Category: A; DYNM Course Concentrations: LMC, OC. Residential course: 8/4 to 8/9.

DYNM 638 THE PRACTICE OF ORGANIZATIONAL LEADERSHIP
This is a practical course designed to help participants engage in reflective practice regarding their own leadership and their relationship to leadership by others. Students will present for discussion case material from their workplaces or other settings and we will also explore leadership through in-class experiential exercises. Foundational readings will provide a common language and conceptual framework. Along the way, we will revisit the fundamental questions: What is leadership? What is good leadership? What do I intend to do differently going forward?
Taught by: WING
Course not offered every year
Activity: Seminar
1 Course Unit

DYNM 639 Sustainable Change: Managing Organizational Culture to Achieve Leadership Goals
"Culture eats strategy for breakfast," as management guru Peter Drucker famously said. We know that leaders who can effectively manage their organization's culture are better at adapting to market trends, retaining employees, and engaging external stakeholders who demand more corporate transparency and social responsibility. Yet most of us find it difficult to understand what culture really is, let alone manage it successfully. This challenge is magnified at a time when technological and demographic trends have made organizational boundaries more porous and ambiguous than ever, threatening to make traditional models of top-down change management ineffective. This course will therefore take a bottom-up, contextual approach to helping students understand and manage organizational culture in order to achieve their strategic and career goals. We will start with the individual, learning how culture works to shape organizational politics. We will discuss ways in which students can develop strategies for navigating organizational culture to achieve their career goals. We will then move to the group level, examining how cultural barriers form between teams, functions, and divisions, harming communication and coordination. The final section of the course will build to the organization level and provide students with a toolkit for creating strategies to achieve sustainable cultural change. The course will be heavily focused on practical application: students will conduct semester-long cultural research/consulting projects with organizations located in Philadelphia. We will also apply course frameworks and tools to case studies of leaders attempting to create sustainability-oriented cultures in their organizations.
Taught by: Newberry
One-term course offered either term
Prerequisites: Course Permits for Non-DYNM Students: https://www.sas.upenn.edu/lps/graduate/dynamics/course-permit
Activity: Seminar
1 Course Unit
Notes: DYNM Category: TBA; DYNM Concentrations: LMC. Course Schedule: 1/21; 2/4, 18; 3/18; 4/1, 15
**DYNM 640 Virtual Collaboration**  
NOTE: Logitech ClearChat Headphones and Logitech QuickCam Pro9000 are required for this course. Please see the syllabus for other requirements. Across the globe companies, both large and small, are increasingly conducting culturally complex work through technology channels and virtual personnel transfers, making multicultural organization and virtual work inextricably intertwined. In this context electronically mediated collaboration and communication capabilities across time, distance, organization, culture, and other knowledge boundaries have become necessary for the everyday work of telecommuters, virtual teams, remote managers, professional knowledge communities, and electronic marketplaces. This course is primarily intended for students with an interest in globally distributed work and collaborative virtual organizations. The purpose of this elective is to enhance student understandings of virtual forms of human collaboration and to develop student abilities to work jointly with others via electronic tools. This course design makes typical social patterns encountered in virtual organizations visible so that students can learn from participating and collectively reflecting on their course experiences. This course has an online course fee of $150.  
Taught by: Reyes  
One-term course offered either term  
Prerequisites: Non-DYNM students must complete a course permit request: https://www.sas.upenn.edu/lps/graduate/dynamics/course-permit  
Activity: Online Course  
1 Course Unit  
Notes: DYNM Course Category: A; DYNM Course Concentrations: LMC, GL  

**DYNM 641 The Art and Science of Organizational Coaching**  
Coaching has become a primary tool for consultants, human resources professionals and administrators interested in promoting and sustaining leadership and executive development, behavioral change, and role transition. This course explores the theory and practices associated with organizational coaching. We examine and practice the steps of the normative coaching process, the issues and boundaries that effect coaching, and pitfalls to avoid. This is an introductory course that follows a hybrid model of instruction, learning and application in class and in virtual class. The first class will be a weekend face-to-face experience followed by consecutive virtual classroom sessions with a variety of different applications. Students will practice phone coaching and virtual coaching as well as virtual group written discussion. Throughout the course we will contrast theory and practice through our own experience and observation via assignments and behavioral experimentation.  
Taught by: Pennington and Subramanian  
One-term course offered either term  
Prerequisites: Permits for non-DYNM students: https://www.sas.upenn.edu/lps/graduate/dynamics/course-permit  
Activity: Hybrid Course  
1 Course Unit  
Notes: DYNM Categories: F, DE; DYNM Concentration: OC  

**DYNM 645 Project Based Laboratory**  
Course not offered every year  
Activity: Independent Study  
1 Course Unit  

**DYNM 650 Outdoor Dynamics**  
This course explores the implications of past and future changes in land use and population changes over time in one of the least densely populated areas of the country, but which serves as both a winter and summer playground for millions of urban residents each year. Set in the White Mountains of New Hampshire, only a day’s drive for over 10 million Americans, the area boasts some of the most pristine and exotic microenvironments in the world, left from the last Ice Age. Over 250,000 people visit the summit of Mt. Washington, the region’s highest peak, every year, driving, hiking or riding the cog railway to the top. The focus of this course is the growing interest in promoting “sustainable development,” which most people envision as protecting the environment and wild species from human encroachment and pollution. The course will examine the human sphere and the natural sphere as common ground in the analysis of competing issues; areas of compatibility; and future plans to promote a sustainable environment in this region. The course will focus on three themes: 1) how the people and institutions tasked with being the environment’s guardians go about their jobs; 2) how the area is used by visitors; and 3) how industry and its stakeholders have worked with local regulators and politicians to create jobs and promote growth. The course will ask students to overlay the principles of sustainability and issues management, in managing the increasing concern that the trajectory of land use and industrial growth will compromise the region’s native ecology and wilderness and backcountry attractiveness. Left to its own momentum, how will the future of the area fare versus promoting and implementing more sustainable goals? Changes in behavior will be needed to bring the two into line, and that leads to organizational dynamics. How will stakeholders resolve the natural tensions of the institutions’ (primarily those that operate in the region) mission and development goals with outsiders’ desires? What leverage do they and others have in the debate over the future of the region? In addition to an active outdoor week in the White Mountains, participants will meet with key players and leaders from the area and come away with a deeper understanding of the major issues in the tention between “the place no one knew and the place that got loved to death.”  
Taught by: Barstow/Havely  
One-term course offered either term  
Activity: Seminar  
1 Course Unit  
Notes: DYNM Course Category: A; DYNM Course Concentrations: LMC, GL. Travel Course Dates: 8/4 to 8/12.
DYNM 651 Group Team Dynamics: Understanding the Overt and Covert Dynamics that Support Effective Work

Although groups and teams are often lauded as the mechanisms that provide the competitive edge for organizations in today's challenging economic environment, there is often little attention paid to the deeper social and psychological currents influencing group and team dynamics. Organizational leaders and facilitators frequently lack an in-depth understanding of how work groups, multifunctional teams, and cross-national executive groups develop, operate, accomplish their goals—or not—and end. Team members often struggle to make meaning of the myriad spoken, as well as unexpressed, factors influencing the process and outcomes of the groups of which they are a part. This course, by emphasizing both theory and practice, provides students with a thorough grounding in the ways groups and teams develop and learn. The class will also examine approaches to building group and team competencies related to effective communication, conflict-resolution, and solving complex strategic problems as well as ways to manage the range of intentional and more hidden dynamics that both support and challenge high performance. The course is designed to include seven 3-hour classroom meetings across the semester and two extended sessions that will afford students the opportunity to explore various theoretical frameworks. In addition to drawing on the extensive literature and research in group dynamics and team building, the class will rely on experiential methods to help students develop keener understanding and insight into the ways in which their own leadership and followership dynamics, as well as the dynamics of the group-as-a-whole, influence their team's ability to accomplish its tasks.

Taught by: Kaminstein
One-term course offered either term
Prerequisites: Non-DYNM students must complete a course permit request: https://www.sas.upenn.edu/lps/graduate/dynamics/course-permit
Activity: Seminar
1 Course Unit
Notes: DYNM Categories: DE, A; DYNM Concentrations: LMC, OC

DYNM 653 Coaching Others to Manage Conflict

Not a day goes by when you or I, or a person we are coaching, is not faced with some tantalizing, challenging conflict. It may be with someone we love, a conflict in a team, a struggle between two direct reports, a difference with our boss, or the challenge of a difficult, perhaps aggressive persona in a meeting we facilitate. The problem is not that there is a conflict. The problem is that most of us have a very thin, often inadequate repertoire of responses to the conflicts that engage us on a daily basis. The result is that all too often we are predictable in our responses. Thus, if we take these same limited skills and attempt to provide them to a client in our role as a coach, the consequences will more than likely be similar. This course is about expanding your repertoire of responses to a wide array of conflict situations. In the process, you will increase your understanding of the theoretical constructs that underlie successful conflict management. Not only will your strategies for managing a variety of conflicts expand, but you will be better able to design unique responses that relate to the particular situation with which your client is faced. How you translate these ideas to your clients and, in the process, provide them the confidence to use them, will be a central theme throughout the course. This course provides a balance between intellectual theory, skills, and applied strategies along with the time to practice them.

Taught by: Napier
One-term course offered either term
Prerequisites: Course permits for non-DYNM students: https://www.sas.upenn.edu/lps/graduate/dynamics/course-permit
Activity: Seminar
1 Course Unit
Notes: DYNM Category: A; DYNM Concentration: OC. Meeting Schedule: 8/26 27; 9/23 24; 10/28
DYNM 655 Using the Political Process to Effect Organizational Change

At one time or another, each of us has said something like, “I know what to do to make some really effective—and possibly even profitable—changes in this organization, but the politics make it almost impossible to get anything done.” The sense is that, although there are changes that should be made to improve organizational performance, politics (internal, external, governmental) simply obstructs our ability to make a difference. Frustrations notwithstanding, depending on how it is employed, politics can be either an impediment or, more importantly, a source of opportunities for improving organizations. Politics is the art and science of coordinating individuals, departments, management, markets—the entire organizational environment—to effect a balance between the organization’s objectives and the methods used to achieve them. As with the other factors that are employed to affect organizational performance—the methods used to improve manufacturing, marketing, sales, finance, and so on—politics is a means that organizations can use to initiate and maintain critical personal and institutional relationships.

One of the seminar readings—Latimer’s “Why Do They Call It Business If It’s Mostly Politics?” is used to provide illustrations of the ambiguous nature of much of what is regarded as organizational politics. What is critical to understand and appreciate from the outset, however, is that politics is not an external factor that is imposed on organizations. Politics is not only a means for achieving personal or institutional power; it is also a method for developing and maintaining personal and institutional relationships within and among individuals and organizations of all types. This seminar will discuss organizational politics and the ways that it is used to identify, characterize, and effect change—both within and among organizations. After reviewing several perspectives on organizations and the roles that political processes play in decision-making, a series of cases is presented that illustrate the contexts and conditions for effective political communication and coordination.

Taught by: Gale and Brady
One-term course offered either term
Also Offered As: GAFL 555
Prerequisites: Course Permits for non-DYNM students: https://www.sas.upenn.edu/lps/graduate/dynamics/course-permit
Activity: Seminar
1 Course Unit
Notes: DYNM Category: A; DYNM Concentration: LMC

DYNM 656 The New Normal: Racial and Ethnic Diversity in the 21st Century Workplace

This course examines the social construction of race and ethnicity, including relations within and across groups, with a particular focus on their implications for organizational culture and management. In a very real sense, the workplace is a microcosm of the larger society; a place where our individual experiences, beliefs, and biases related to race and ethnicity intersect, creating both opportunities and challenges. Our capacity to understand the different backgrounds and experiences that individuals and groups bring to the organization, as well as recognizing our own biases and the biases of others are directly implicated in our ability to both manage and be managed in the organizations that we are a part of. A primary objective in this course is to increase our capacity to first understand the contours of racial and ethnic diversity in twenty-first century America by investigating (1) the historical context that influences present-day understandings of racial/ethnic diversity (2) how and why individuals from different racial/ethnic backgrounds can "see" the same thing but interpret it very differently, depending on experience, culture, and social position relative to race/ethnicity (3) the meaning and importance of dominant and minority groups, the degree to which a racial hierarchy exists, and the implications of that hierarchy for important outcomes (4) the degree to which the workplace is, indeed, a microcosm of the larger society (5) the pitfalls of "colorblindness" (6) the nature of stigma and its workplace implications and (7) the benefits and drawbacks of affirmative action policy in the workplace.

Taught by: Charles
Course usually offered summer term only
Activity: Seminar
1 Course Unit
Notes: For additional information, please see our website at: http://www.organizationaldynamics.upenn.edu
DYNM 661 Organizational Culture Change: Theory and Practice
The importance of organizational culture as a factor that can influence organizational performance either positively or negatively gained renewed attention beginning in the mid-1990's. The success of high-profile firms with "quirky cultures" like Ben & Jerry's, the entrepreneurial cultures of high tech firms that countered the cultures of traditional corporations, a recognition that organizational culture can be a major factor in organizational performance and the related emergency of "high performance organizations", acknowledgment that organizational culture can trump the implementation of organizational strategy, differences in values of workers from different generations, competition among companies to attract the best employees, and the failure of many once-promising mergers and acquisitions all pointed to the importance of understanding and intentionally managing organizational culture. This course will address many of the major debates about organizational culture as well as provide students with tools for better assessing and understanding organizational culture and managing culture change. Course material and discussions will consistently address issues related to both theory and practice. Course meeting schedule: Mondays: 1/23; 2/6, 27 (Conference Call); 3/13, 20 (Conference Call). Saturdays: 1/28; 2/18; 3/4; 4/1.
Taught by: Vanderslice
One-term course offered either term
Prerequisites: Non-DYNM students must complete a course permit request: https://www.sas.upenn.edu/lps/graduate/dynamics/course-permit
Activity: Seminar
1 Course Unit
Notes: DYNM Category: A; DYNM Concentration: LMC. Course Schedule: This course will meet on specific Monday evenings and Saturdays. Exact dates are listed below.

DYNM 662 Entrepreneurship and Leadership: Creating Winners
Peter Drucker once famously said that "entrepreneurs innovate:" The course looks at how innovation drives the entrepreneurial process in both large organizations and in startup ventures. It stresses the importance of bringing entrepreneurial vision and energy to all organizations: profit and non-profit, as well as government and institutional. The course examines the characteristics of successful entrepreneurs. Participants will learn how to develop their own entrepreneurial instincts and how to encourage an entrepreneurial culture in their organizations. The course examines the challenges of startup ventures and provides practical information to participants who are considering an entrepreneurial venture. It explores strategies for identifying opportunities, creating successful business models, valuing a business, raising capital and managing the business. The course builds understanding of how a culture of entrepreneurship and innovation are critical to any organization that wants to survive and prosper in the future. The course discusses how sustainability is becoming a global force for change, creating exceptional entrepreneurial opportunities. The course looks closely at the leadership roles of both the CEO in a large organization and the entrepreneur in a venture. The course examines how leaders in all kinds of organizations set priorities, identify game-changing opportunities, shape the organizational culture and motivate their teams to achieve outstanding performance or, sometimes, fail. The course stresses the leadership responsibilities of the board of directors in providing governance and oversight in both for-profit and non-profit organizations.
Taught by: Keech
One-term course offered either term
Prerequisites: Course permits for non-DYNM students: https://www.sas.upenn.edu/lps/graduate/dynamics/course-permit
Activity: Seminar
1 Course Unit
Notes: DYNM Category: A; DYNM Concentrations: LMC, SD
DYNM 663 Green Skepticism: Communicating and Implementing Sustainable Business

Green initiatives are creating competitive advantage for businesses. Smart companies are integrating environmental stewardship into their strategies, operations, marketing, and product innovation. Companies that successfully embed sustainability in their core business strategy and culture—rather than "bolting it on" as a peripheral activity—are gaining the most value added. Embedding sustainability requires the active engagement of all organizational stakeholders, many of whom may be green skeptics, dubious of the need to change. "Many people who feel passionately about sustainability cannot relate to those who have a harder time understanding the need for a change..." - Corporate associate & MBA candidate. The business case for sustainability has been made many times, yet skepticism about the need for change remains widespread. While adopting sustainable business practices must make sense financially, an economic argument alone may not be enough to convince people to purchase green business products and services or to implement sustainability practices. The course is based on the assumption that "task significance" is an important factor for implementing sustainable business practices. This means helping people see the connection between small tasks they are being asked to do and the big picture of global sustainable business. The first part of the course focuses on understanding sustainability driven changes in the global business landscape through a coherent framework. The second part of the course focuses on what those changes mean for business fundamentals: consumption, production systems, innovation, and emerging economies. The third part of the course focuses on communicating and implementing sustainable business strategies and initiatives. Students will have the opportunity, with a team, to design a communication and implementation program for an organization. Throughout the course, strategies and tactics that work to engage skeptics who do not understand the need for change, as well as tactics that don't work, will be studied. The course is based on the instructor's experience leading hundreds of business and environmental professionals from skepticism to enthusiasm for sustainable business over the past decade. This course is designed for everyone tasked with helping others in implementing sustainable business practices and for entrepreneurs selling green business products and services. It will provide strategies for enhancing a technical and economic sales pitch. The course is also for those who may be skeptical themselves, and want to reconsider their skepticism. Categories: A Concentrations LMC, SD

Taught by: Pourdehnad
One-term course offered either term
Activity: Seminar
1 Course Unit

Notes: For additional information, please see our website at: http://www.organizationaldynamics.upenn.edu

DYNM 664 Organizational Culture and Learning

What is organizational culture? What is organizational learning? How do organizations learn effectively and change their culture? A learning organization is skilled at creating, acquiring, and transferring knowledge, and at modifying its behavior to reflect new knowledge (Garvin, 1993). According to Ray Stata, Chairman of Analog Devices, "The rate at which individuals and organizations learn may become the only sustainable competitive advantage." However we define and prioritize organizational learning, we must still struggle with how to do it. This is a tougher question. The thesis of this seminar is that an enriched understanding of culture can enhance organizational learning. Participants will explore the concept of culture, study the work of Chris Argyris, and discover practices and behaviors that promote organizational learning and culture change. The objective of this seminar is to help participants get beyond highly abstract philosophy and develop a deeper understanding and useful skills based on these concepts. This course will meet on the following Wednesdays: May 27th, June 3rd, 10th, and 17th; July 22nd and 29th.

Taught by: Barstow
One-term course offered either term
Activity: Seminar
1 Course Unit

Notes: For additional information, please see our website at: http://www.organizationaldynamics.upenn.edu

DYNM 666 Systems and Design Thinking

This class is designed to challenge the traditional thinking of basic management strategy and practice. Through a series of lectures, interactive cases, and group discussions, faculty will challenge participants to rethink their assumptions and move beyond the traditional practice of management strategy formulation and execution. The prevailing pattern of thought employed by management is analytical. Analysis has come to dominate thought in the western world. But no amount of analysis can explain systemic interaction and organizational behavior. A new pattern of thought is required: synthetic. Systems Thinking involves both analysis - to produce knowledge of organizations (systems) - and synthesis to provide understanding. Without both, effective solutions to problems cannot be obtained. To go beyond understanding to wisdom requires awareness of the difference between doing things right (efficiency) and doing the right thing (effectiveness). The better we do the wrong thing, the more wrong we become. Today a great deal of energy is expended by organizations in an effort to increase the efficiency with which wrong things are done.

Taught by: Pourdehnad
Course usually offered in fall term
Prerequisites: Course permits for non-DYNM students: https://www.sas.upenn.edu/lps/graduate/dynamics/course-permit
Activity: Seminar
1 Course Unit

Notes: DYNM Category: F; DYNM Concentrations: LMC, SD
DYNM 667 Building a Business Case for Sustainability
What are the systemic changes that an organization must undergo in order to become sustainable? (Sustainability is defined here to mean that no aspect of business operations is harmful to the planet or future generations.) We will examine the issues of sustainability using Peter Senge's work on learning organizations, the Swedish sustainability model, The Natural Step, and Russell Ackoff's idealized design as our frameworks for building a business case for sustainability within an organization or department. Class participants will be asked to build a business case for sustainability within an organization or department and to prepare an interim progress report (5-7 pages) plus a final paper (15-20 pages) using the concepts and principles covered in this course and then will present their case to the class in the last sessions of the course.
Taught by: Barstow
One-term course offered either term
Activity: Seminar
1 Course Unit
Notes: For additional information, please see our website at: http://www.organizationaldynamics.upenn.edu

DYNM 669 The Power of Confusion
Confusion is a lack of clarity about some situation that matters to you, which causes you to feel so uncertain or uncomfortable that you have a hard time making decisions. You may be confused about whether you fit into an organization; or about what work makes you feel great versus work that you are good at or about the right thing to do when you are frightened. The power of confusion is that it forces you to stop and seek clarity in your life and career. This seminar addresses seven types of personal and organizational confusion encountered in organizational life during a professional career: 1) confusion over which personal ethics, skills, and talents you find most meaningful; 2) confusion over discovering what is really going on in an organization; 3) confusion of who is in charge—leadership and which direction 'we' are moving toward? 4) confusion over 'what's in it for me?' How motivation and satisfaction relate to incentives and pay schemes; 5) confusion caused by blaming, rather than developing skills needed to make lasting changes and improvements; 6) confusion about how teams pull together 7) confusion caused by committing random acts of improvement instead of building a system for making customer-oriented organizational innovations and improvements. You were not born with any inherited knowledge or wisdom, yet you are certain to face fear and confusion during your lifetime. You were born with curiosity and the ability to ask 'why?' when you face a confusing situation. You were also born with the ability to think for yourself, listen to others, and learn from experience. Confusion spurs you to use these abilities to gain the clarity that leads to understanding and wisdom; you will need tools to guide your learning. This seminar will show you how to use simple tools to achieve that clarity.
Taught by: Stankard
One-term course offered either term
Prerequisites: Non-DYNM students must complete a course permit request: https://www.sas.upenn.edu/lps/graduate/dynamics/course-permit
Activity: Seminar
1 Course Unit
Notes: DYNM Category: A; DYNM Concentrations: LMC, OC. Course Schedule: 1/14, 28; 2/11, 25; 3/11; 4/1. Snow make up day: 4/8

DYNM 671 Workplace Ethics: Ownership, Participation, Productivity
In this course, you will have the opportunity to: 1) examine ethical, religious, legal, technological, and economic bases for different ownership systems from early human history through the 20th century; 2) develop a theoretical framework for understanding ownership issues in the contemporary workplace; 3) review social science concerning ownership and the related organizational issues of motivation, performance, productivity, profitability, culture, diversity, and equity; 4) analyze a variety of cases to measure ownership's effects across many industries and business situations; 5) learn about various forms of ownership and compensation in use today in small and large organizations, both public and private; 6) utilize a diagnostic tool for assessing the ways in which your own organization's culture and business outcomes are impacted by the firm's ownership system; 7) describe your own experiences of the different ownership systems with which you may have engaged, including: family, schools, little leagues and professional sports, volunteer service organizations, charities, religious institutions, professional service providers (e.g., doctors, lawyers, veterinarians), the places where you shop (e.g., think about Genuardi's before and after it was sold to Safeway), and the different places you have worked...as a way of systems; 8) assess and refine your views regarding ownership in light of your own social, political, religious, and ethical commitments. Who is going to own what we all have a part in creating? The history of American business is an evolving answer to the question of ownership. Of all the issues relevant to organizational dynamics, ownership is arguably the most important and least understood. Matters of ownership have also been and remain of intimate concern to ordinary Americans-the slave yearning to be free, the young couple with a dream of home ownership, the entrepreneur who wants to be his own boss, the consultant who wants to form a partnership with her best friends, and the indebted, mid-level manager reviewing last year's 401(k) statement.
Taught by: Lamas
Course usually offered in spring term
Prerequisites: Non-DYNM students must complete a course permit request form: https://www.sas.upenn.edu/lps/graduate/dynamics/course-permit
Activity: Seminar
1 Course Unit
Notes: DYNM Category: F; DYNM Concentration: LMC
DYNM 672 A Systems Approach to Crisis Preparation and Organizational Resilience

Educational Objectives: 1. Awareness of crisis as a part of life and social systems; macro-level crises that could affect you; organizational/individual crisis vulnerability; types of organizational crises; group, family and individual crises. 2. Understanding of: nature and phases of crisis; what to do before, during and after a crisis; crisis psychology/decision-making; security strategies-anticipation vs. resilience; Skills, models and practices of resilience; systemic vulnerability/systemic resilience. 3. Enhance ability to: think critically; develop expertise; adopt a systems perspective; articulate and communicate your thoughts cogently, concisely and compellingly. 4. Apply course-related knowledge to be able to successfully foresee and weather crises. General Education Philosophy. This course fills the following Organizational Dynamics requirements: Categories: A Concentrations: LMC, SD The course includes travel to New York and the World Trade Center site, and lectures at Columbia University to understand what can happen during and after a crisis.

Taught by: Freeman
One-term course offered either term
Activity: Seminar
1 Course Unit
Notes: For additional information, please see our website at: http://www.organizationaldynamics.upenn.edu

DYNM 673 Stories in Organizations: Tools for Executive Development

As we all know, living in—and out-of—organizations is getting exponentially harder. Things seem to be multiplying, splintering, and coalescing kaleidoscopically, and each of us is increasingly taxed to make sense of it all, let alone create meaning for ourselves and those we manage and care about. Remarkably, a powerful tool for helping us is one we have already mastered: stories. As humans we think, feel, speak, listen, explain, and believe in narrative form. Yet this capability is dramatically under-exploited at work. This course examines a variety of ways to bring the power of stories to organizational life. We will look at how stories enhance communication, support change, and intensify learning and development in individuals and organizations, thus informing your leadership style and effectiveness. We will have many opportunities in class to apply “story-based technologies” to issues you face in personal or professional life. Readings come from the literatures of human development, narrative psychology, organizational change, executive learning, and, of course, from literature itself.

Taught by: Greco
Course not offered every year
Prerequisites: Course permits for non-DYNM students: https://www.sas.upenn.edu/lps/graduate/dynamics/course-permit
Activity: Seminar
1 Course Unit
Notes: DYNM Category: A; DYNM Concentration: LMC

DYNM 676 Communication Competence: Extracting Value in Key Organizational Interactions

Often an organization can facilitate its own success by employing fundamental communication practices during value-latent interpersonal interactions. In this course we explore the direct relationship between competent communication and the ability to extract maximum value in most Key Organizational Interactions. Starting off on a personal development note and building off time-tested principles, participants will conduct their own communication skills assessment to determine their own communication strengths and identify specific areas for improvement. Qualities such as effective empathy and active listening are also explored. Moving into the organizational realm, together we define then locate those Key Organizational Interactions, both within and external to the organization, that significantly impact how that organization is perceived. We explore all the possible value points within these Key Organizational Interactions, how they tie into the organization’s strategic objectives, and how to best approach them interpersonally.

Taught by: Brian Shapiro
One-term course offered either term
Activity: Seminar
1 Course Unit
Notes: DYNM Course Category: A; DYNM Course Concentrations: LMC

DYNM 677 Human Capital and Human Nature: Sources of Creativity and Innovation

Goal: To mine the resources within yourself, cultivate and engage others, and build with them. Every one of us is potentially wired for creativity, however, each of us is unique. How can we understand the research and use it to understand ourselves, our colleagues, and our world? How do we know what is real?

Taught by: Bauer
One-term course offered either term
Activity: Seminar
1 Course Unit
Notes: For additional information, please see our website at: http://www.organizationaldynamics.upenn.edu

DYNM 679 To Thrive Or To Survive? Our Question in the Evolving World

The seminar focuses on the implications for our own work and personal lives as we reinvent ourselves, our organizations, and our society in what is often called “the new normal.” We begin with a realistic exploration of the relationship of the global economy to the widely different political systems which provide individuals with safety nets. We compare the United States to China and Europe and the ways in which our different systems both compete and support each other. Each participant will research a portion of the regional job market, analyzing the source of investments, patents, required skill level and experience of employees, and competitive outlook. The final presentation and paper will fit their regional analysis into the global picture. Where does it fit? What are its risks?

Taught by: Bauer
One-term course offered either term
Activity: Seminar
1 Course Unit
Notes: DYNM Category: A; DYNM Concentrations: LMC, GL
DYM 683 Quantitative Project Risk Analysis Methods and Tools
DYM 683 is an unusual opportunity for students to develop a working knowledge and set of skills in a seminar conducted by an experienced subject-matter while using their own Windows PC computers. Quantitative project risk analysis of cost estimates, critical path networks, and integrated cost-schedule models is a highly specialized capability that industry and government organizations increasingly seek to deploy. Sophisticated tools and methods used in this course can be applied across industry domain boundaries and are scalable from mega projects to volatile start-ups. These world-class tools and best practices have been validated through use in public and private organizations. (Academic licenses will be provided with the course.) Prospective students need previous experience using spreadsheet software (an installed version of Microsoft Excel is required). Also, it is preferable, but not required, for students to have some experience with planning/scheduling software (for example, Microsoft project or Oracle Primavera P6). Please contact the instructor with questions and to clarify expectations. The course is composed of 4 modules, each of which will be approximately two sessions in duration. Learning objectives are to answer these important questions—How confident are you in achieving your project’s cost and schedule objectives? What can you do to improve your confidence? Will the right resources be available to implement your responses when needed? Module 1: Develop project plans with resources and costs during uncertain conditions. Module 2: Implement spreadsheet quantitative cost risk analysis (Monte Carlo simulation). Module 3: Implement Monte Carlo simulation of plans, CPM schedules, and decision trees. Module 4: Integrate cost and schedule risk analysis using Monte Carlo Simulation.

Taught by: Hornbacher
One-term course offered either term
Prerequisites: Course permits for non-DYNM students: https://www.sas.upenn.edu/lps/graduate/dynamics/course-permit
Activity: Seminar
1 Course Unit
Notes: DYNM Categories: DE, A; DYNM concentrations: LMC, SD. Course Schedule: 9/10, 17; 10/1, 15, 29; 11/5, 19; 12/3, 17. This course will have a software fee, TBA.

DYM 689 Balance of Power in the Global New Normal
The economy is global and every successful business in every nation must operate with awareness of its place in the interconnected dynamics of local, national, and global issues. This course uses many lenses, such as history, culture and economy to understand the global issues, their interconnections, and the impact they may have in different places, on different organizations, and in our personal decisions. Each of us needs to be able to engage systems thinking as we aim to understand others from the inside and ourselves from the outside. The central relationship in the global new normal is the United States and China. The weekly readings begin with recognition of the centrality of a liberal for the United States and the effect that has on China and the cultures of East Asia. This sets up three frames of reference: Human Rights, Democracy, and Capitalism. Current and potential Organizational Dynamics students with interest in Global Studies, particularly those focusing on Systems Thinking, (Sustainable) Development Policy, and international courses will find this course helpful. MPhil students with MSOD background can use this course as a foundation for advanced research in Global Studies.

Taught by: Bauer
One-term course offered either term
Prerequisites: Course permits for non-DYNM students: https://www.sas.upenn.edu/lps/graduate/dynamics/course-permit
Activity: Seminar
1 Course Unit
Notes: DYNM Category: F; DYNM Concentrations: LMC, GL, SD

DYM 691 Small Group Processes
We survive in the world not by our own devices alone, but through the interaction of individuals working as a group toward common goals. Using a group process format, we will look at how individuals work together, addressing questions such as: What individual behaviors contribute to the success of groups in accomplishing tasks? What group behaviors are productive and which interfere with the task? Who belongs to the group and who does not? We will examine how people in small groups influence one another through direct, generally face-to-face contacts. Participants will develop and report on projects relevant to their own work or home environment. Readings will include a retrospective on the field of human relations and group dynamics, the social psychology of group process and group dynamics, with specific application to the world or work and complex organizations.

Taught by: Ramsden
Activity: Lecture
1 Course Unit

DYM 692 Innovation in Organizations
Most serious study of innovation has focused on its dynamics and how these dynamics can be managed. A broader range of studies also consider the nature of creativity and techniques to facilitate innovation. We survey these areas, emphasizing the relationship between innovation and organization, which are central to innovation both as facilitators and impediments. More generally, we consider the process of Organizing Innovation, the role of individuals, teams and organizations in effecting change and realizing its benefits. I cover one additional theme—improvisation—because it provides insight into dealing with novel situations, and also as antidote to the relentless organizational and institutional pressures that crush the "impulsivity" and "deviance" that we need for creativity and innovation. In the end, though, the core of the course are the real issues of your life and work. Creativity begins with questions, innovation begins with problems, and education begins with you. Reflect on the central issues of your life and work and come prepared to share them with the class. The success of your experience rests on a willingness to explore your core interests and take a leadership role in molding the course to meet them. This course fills the following Organizational Dynamics requirements: Categories: A Concentrations: LMC, SD

Taught by: Freeman
One-term course offered either term
Activity: Seminar
1 Course Unit
Notes: For additional information, please see our website at: http://www.organizationaldynamics.upenn.edu
DYNM 693 The Global Leader
The "Global Leader" is a co-listed INTS/DYNM course, developed as part of the Lauder Institute's new Global Program that will prepare students for leadership roles in international and culturally diverse environments. The course will focus on developing skills through a hands-on approach that includes using case students, in-class exercises, movie clips, and class discussion, with readings that emphasize theory and application. The course is comprised of two modules. The first module - Globally Capable Leadership - will introduce students to the core qualities of leadership that transcend cultures, as well as examine how cultural context influences leadership efficacy. The second module - Managing Across Borders - will teach students how to negotiate effectively in a variety of contexts, including conflict resolution, transactional settings, conflict resolution, and across borders, such as those of gender, ethnic identity, national culture, and differences in values and beliefs.
Taught by: Taheripour
One-term course offered either term
Also Offered As: INTS 693
Activity: Seminar
1 Course Unit
Notes: For additional information, please see our website at: http://www.organizationaldynamics.upenn.edu

DYNM 705 Capstone Course
This course requires the student to study a topic of their own choice, discuss their progress with the class in regular meetings and to deliver a final paper that meets the following criteria: 1. Makes an argument, describes or summarizes a position that is unique, original, or which directly applies to the student; 2. Uses primary sources or applies to a primary organization as much as possible; 3. Conforms to the style and format of good academic writing and the MSOD Capstone Presentation Guidelines; 4. Allows a student to demonstrate competencies gained from the courses completed in the Organizational Dynamics program. The role of the capstone professors is to coordinate the development of each student's capstone committee, to offer facilitation during peer-review discussion, to discuss the student's work as the capstone is written. A course professor may also be the student's primary advisor or a reader. For details about the capstone course, including delivery dates, please see the DYNM Canvas community site.
Taught by: Barstow and Russo
One-term course offered either term
Activity: Seminar
1 Course Unit
Notes: DYNM Category: Capstone.

DYNM 720 Foundations of Organizational Consulting and Executive Coaching
This 5.5 day intensive course is the first in a six-course cohort program in Organizational Consulting and Executive Coaching. During this course students will experience the formation of a group (their cohort) and learn the dynamics that commonly affect groups. Students will be taught a variety of theoretical constructs which influence the helping professional role and also start to practice as helping professionals through live coaching and case studies. This course is a residential course. This course will have an additional course fee to cover lodging and other program logistics. Registration permits will be issued upon a signed Travel Agreement being returned to the Organizational Dynamics program office.
Taught by: Bergey/Pennington/Russo
One-term course offered either term
Prerequisites: This course is for OCEC Cohort members only.
Activity: Seminar
1 Course Unit
Notes: DYNM Category: F; DYNM Concentration: OCEC. Course Schedule: TBA

DYNM 722 Making Meaning from Organizational Experience and Establishing Frameworks for Consulting and Coaching
This course is designed to immediately follow the five-day DYNM 720 intensive in order to build on cohort member experiences by introducing a broad range of coaching and consulting theories. Using newly introduced theories and your own experiences and observations, you will begin applying them to assess, interpret, and make meaning of behavior at three levels: individual, group, and organizational. Using your knowledge and research, you will begin narrowing and deepening theories you are drawn toward to begin laying a foundation for your further work in DYNM 723 and 724. DYNM 722 culminates with each cohort member researching and executing a high-level presentation based on one theoretical approach. You will continue your cohort-based learning with your deeper appreciation of one approach, as well as benefiting from each of your cohort member's presentations.
Taught by: Bergey
One-term course offered either term
Prerequisites: This course is for OCEC Cohort members only.
Activity: Seminar
1 Course Unit
Notes: DYNM Category: F; DYNM Concentration: OCEC. Course Schedule: TBA

DYNM 723Consulting and Coaching Process: Knowing Yourself
Participants learn to be coaches by being coaches to one another. Over a two-month period, cohort members expand their repertoire of skills and tools, share their experiences, and together scrutinize the client/coach relationship.
Taught by: Pennington
One-term course offered either term
Prerequisites: This course is for OCEC cohort members only.
Activity: Seminar
1 Course Unit
Notes: DYNM Category: A; DYNM Concentration: OCEC. Course Schedule: 4/8-9; 5/6-7; 6/3-4
DYNM 724 Building Consulting/Coaching Tools and Techniques
This course will offer a conceptual comprehension of the tools and techniques used in effective internal and external organizational consulting engagements. By contrasting the theory and practice of alternative coaching models, we will build tools and techniques for effective coaching as a leadership competency. Through an analysis of the coaching relationships in your organization, you will learn to develop a personalized approach to coaching and expand upon within organizational settings. Participants learn the "how and why" as well as consulting frameworks. Additionally, the relevant and often symbiotic connection between consulting and coaching will be studied. What process tools are most useful to today's executive coach in a consultative environment? How do approaches to consulting and coaching differ? How are they similar? How can a confluence of coaching and consulting lead to more effective decision making and wide-scale organizational performance? DYMN 724 will be presented over five class meetings. The class sessions will be taught utilizing lectures, case studies, structured small group discussions, individual, and team presentations, faculty and participant experiences, and guest speakers.
Taught by: Russo
One-term course offered either term
Prerequisites: This course is for OCEC cohort members only. DYNM 614, which teaches the same content, is open to all DYMN students.
Activity: Seminar
1 Course Unit
Notes: DYNM Category: DE; DYNM Concentration: OCEC. Course Schedule: 1/7 8; 2/11 12; 3/11 12

DYNM 725 Interpretation & Problem-Solving & Managing Conflict
Participants explore sources of problems and conflicts, identify the range of choices for resolution, and spend time in the field identifying and resolving conflicts at the personal and team levels.
Taught by: Napier
One-term course offered either term
Corequisite: DYNM726
Activity: Seminar
1 Course Unit
Notes: For additional information, please see our website at: http://www.organizationaldynamics.upenn.edu

DYNM 726 Expanding Coaching/Consulting Tools and Skills
Competencies are expanded into more complex aspects of team and organizational change. Having experienced the art of design at a micro level, they now examine it as a means of enhancing larger system change. The cohort explores the nature of system change and how it relates to changing teams and individuals.
Taught by: Russo/Napier/Orenstein
Corequisite: DYNM725
Activity: Seminar
1 Course Unit
Notes: For additional information, please see our website at: http://www.organizationaldynamics.upenn.edu

DYNM 727 Practicum Experience in Consulting and Coaching
Participants integrate everything they have learned by contracting with a client to provide consulting/coaching services. Individual supervision is provided on a weekly basis by a core faculty member and peer supervision is provided in two clinics, where cohort members share their experiences and learning with one another and, at the conclusion of the second clinic, bid the cohort farewell as members are now ready for their internship experiences. This course is open to OCEC students only.
This course fills the following Organizational Dynamics requirements:
Categories: A Concentrations: OCEC
Taught by: Russo/Napier/Orenstein
One-term course offered either term
Activity: Seminar
1 Course Unit
Notes: For additional information, please see our website at: http://www.organizationaldynamics.upenn.edu

DYNM 729 Executive Coaching Internship
In this course, each participant is exposed to a variety of executive coaching opportunities designed to enable them to utilize their skills in multiple situations and contexts. Access to an advisor/coach during this period ensures that each participant's advanced learning will be provided in a timely and individualized manner.
Taught by: Bergey/ Pennington/Russo
One-term course offered either term
Activity: Seminar
1 Course Unit
Notes: DYNM Category: A; DYNM Concentration: OCEC

DYNM 730 Capstone Portfolio Preparation and Proposal
In this course, students demonstrate their consulting and coaching mastery and scholarship by creating their capstone/thesis summary proposal. Throughout the program, participants will have systematically codified their learning experiences through the delivery and accumulation of various papers, project results, and other measures of performance. These will be contained in a Personal Portfolio which includes a record of understanding the assigned literature and classroom-based theory and experiences. In addition, each individual's personal coaching philosophy is framed in a theoretical and model developed over the course of the program. Personal reflections and insights are an essential aspect of the ongoing record of learning. Using all of these as source material, the participant writes and assembles a full case history drawn from the Practicum (DYNM 727) and the Internships (DYNM 728 and DYNM 729).
Taught by: Russo/Napier/Orenstein
One-term course offered either term
Corequisite: DYNM729
Activity: Seminar
1 Course Unit
Notes: For additional information, please see our website at: http://www.organizationaldynamics.upenn.edu
DYNM 753 China in Transition: The Context and Consequences of Economic Reform and Opening to the Outside World
The course will focus on the reforms and international openness that have transformed China during the last quarter century, and their political, social and legal contexts and consequences. Several specific topics will receive detailed attention, including reforms to China's economy (including the creation of a market economy, and changes in enterprise ownership and management and financial institutions), the role of foreign trade and investment and other channels of external influence, rising affluence and inequality, political reform and liberalization, and the development of the legal system. Students will experience contemporary urban China firsthand and see important cultural and historical sites and artifacts, providing a basis for assessing the influence of Chinese traditions and legacies in the People's Republic today. In China, we will meet with foreign and Chinese business people, government officials, academics and others.
Taught by: deLisle
Course usually offered summer term only
Corequisite: DYNM 754
Activity: Seminar
1 Course Unit
Notes: For additional information, please see our website at: http://www.organizationaldynamics.upenn.edu

DYNM 754 China in Transition: The Context and Consequences of Economic Reform and Opening to the Outside World
The course will focus on the reforms and international openness that have transformed China during the last quarter century, and their political, social and legal contexts and consequences. Several specific topics will receive detailed attention, including reforms to China's economy (including the creation of a market economy, and changes in enterprise ownership and management and financial institutions), the role of foreign trade and investment and other channels of external influence, rising affluence and inequality, political reform and liberalization, and the development of the legal system. Students will experience contemporary urban China firsthand and see important cultural and historical sites and artifacts, providing a basis for assessing the influence of Chinese traditions and legacies in the People's Republic today. In China, we will meet with foreign and Chinese business people, government officials, academics and others.
Taught by: deLisle
Course usually offered summer term only
Corequisite: DYNM 753
Activity: Seminar
1 Course Unit
Notes: For additional information, please see our website at: http://www.organizationaldynamics.upenn.edu

DYNM 758 Sweden: Strategies for Thriving in the 21st Century
Neutral during WWII, and claiming a "Middle Way" between east and west in the post-war twentieth century, Sweden - its people, institutions, and culture - has left its mark on our global society. In today's world, the influence of Swedish ideas and innovations can be seen in government structures, health and social policies, business organizations, working life, education, science, art, literature, and, of course, the design and style of many products and services which enjoy high demand. These are impressive impacts from a nation-state of only eight million people. What lessons are there for Americans and our institutions as we enter the twenty-first century where our leadership position, ability to determine the rules and control the agenda of world economic and political affairs are diminished? In this course, we focus on "the people philosophy" of Sweden, its government, businesses and organizations. We cover healthcare issues and policy, sustainable development, the European Community and the human relations issues in organizations. This course will include meetings with academics and leaders from industry, government, health care, science, media, arts and culture. Students will meet with and learn from these representatives in order to explore Swedish organizational dynamics, both in terms of its economic prosperity and the problems Swedish society faces today.
Taught by: Barstow
Course usually offered summer term only
Activity: Seminar
1 Course Unit
Notes: For additional information, please see our website at: http://www.organizationaldynamics.upenn.edu

DYNM 766 Global Collaboration for Sustainability: The Food-Water-Energy Nexus in Italy
Environmentalist Paul Hawken challenged a class of 2009 college graduates that they would have to "figure out what it means to be a human being on earth at a time when every living system is declining and at the rate of decline is accelerating." That theme is at the heart of this course. While we have seen the notion of sustainability gaining traction in recent years, our quality of life in the near future very likely hinges on the development and implementation of sustainable solutions to enormously complex environmental and social problems—particularly around food, water, and energy. This course is designed to foster the thinking and the collaborative spirit that is needed to address those enormous problems. It involves focusing on a critical global sustainability problem with vast social, cultural, and environmental dimensions—in this case, the need to balance global food, water, and energy needs in a manner that allows the world to feed 9.6 billion citizens by 2050 while preserving the environment for future generations. It also involves collaboration and the exchange of ideas between multi-disciplinary leaders from multiple countries and perspectives on how to manage diverse views and sustainability initiatives that are extremely relevant to the success of today's organizations (i.e., how to lead "big change" for competitive advantage).
Taught by: Finn
Course usually offered summer term only
Prerequisites: Permits to register for this course will be issued upon receipt of a signed travel agreement.
Activity: Seminar
1 Course Unit
Notes: This course departs the US 4/28 and returns 5/6.
DYNM 770 Process Excellence in South America: Chile on Its Journey to Productivity and Performance

This course will travel to Chile July 21st through 29th. The class will meet on campus before and after departure on dates to be determined. This course will have an additional course fee to cover lodging and other program logistics. Registration permits will be issued upon a signed Travel Agreement being returned to the Organizational Dynamics program office. Chile is a long and narrow strip of land along the pacific coast of South America. It is the longest country in the world, 2,700 miles in length, which is about the distance from San Francisco to New York. In 1973 the military imposed a dictatorship, led by Augusto Pinochet, who ruled the country until 1990. The Chilean strategy to be part of the world economy has been based on open markets and the development of Free Trade Agreements. A report by The Economist Intelligence Unit shows Chile has the best environment in the region for business and is among the top 20 countries worldwide. Chile stands out for the effectiveness of its policies, labor, and infrastructure. The strength and stability of its banking and financial systems have generated high credibility indexes in foreign markets, which has meant that big companies want to invest in the country, improving access to goods and services. Chilean companies have started improving the way they organize themselves. Business Process Management and Digitalization have become important topics in many organizations. The Universidad de Chile offers numerous courses and certificates in that field. Chile is making good progress on it journey to productivity and performance. Students will meet with academics and business leaders and observe the organizational dynamics of Taught by: Kirchner and Olivos
One-term course offered either term
Activity: Seminar
1 Course Unit
Notes: DYM Category: A; DYM Concentrations: LMC, GL. Travel Course Dates: 7/21-29. Pre-departure class is 7/5 from 1-4 pm.

DYNM 771 Micro-Finance in India: The Past, Present and Future

This 2CU course includes travel and study in Bangalore, Mangalore, and Mumbai, India, a country acknowledged as the world's largest democracy with a population of over 1 billion. India has a thriving microfinance industry that has come under scrutiny in the past year. While micro finance has been touted by many as the panacea in helping raise people out of poverty, empower women and aid in development from the grassroots level, it has come with some serious attendant costs. This course will discuss a variety of different models of micro finance and review the new trends of financial inclusion for the poor. We will start in Bangalore and continue to Mangalore, where we will visit local development projects, microfinance women's groups, and meet organizational leaders. We will see firsthand how and if micro finance and financial inclusion "work effectively" to achieve the goals of alleviating poverty. While in Mangalore, students will attend and participate in a conference: Micro Finance in India: The Past, Present, and Future, being held at Nitte University. We will hear experts speak on current issues and how new legislation in India may change the face of micro finance. We will end the program in Mumbai, one of the most populous urban regions in the world and the richest city in India with the highest GDP of any city in South, West or Central Asia.
Taught by: Handy
Activity: Lecture
2 Course Units
Notes: For additional information, please see our website at: http://www.organizationaldynamics.upenn.edu

DYNM 786 Multi-Organizational Project Management

In the interconnected world of global corporations, studying Project Management from the standpoint of U.S. firms is not enough. Broadening perspectives is the goal of the seminar in Paris, France. Dr. Jean-Marc Choukroun will lead Organizational Dynamics students in a study of European approaches to the challenges of large project management, particularly those involved in public-private and other multi-group projects. Dr. Choukroun notes that "In today's global economy, managing multi-national, multi-cultural teams, devising innovative financing arrangements and securing public-private cooperation are increasingly becoming standard requirements for complex projects. European integration has made dealing with these issues a priority with many European organizations. Students will be exposed to new ideas, and new ways of applying time-tested methods and techniques that European organizations in general, and more specifically French organizations, have developed to address these issues. Properly adapted, some of these ideas should prove to be readily applicable in the US context. In addition, students will discover how French managers in the public and private sectors frame issues, approach problems and implement solutions."
Taught by: Choukroun
Course not offered every year
Activity: Seminar
1 Course Unit
Notes: DYM Category: A; DYM Concentrations: LMC, GL. Travel Course Dates: 5/21 to 5/29.

DYNM 899 MPhil Capstone Course

This course requires the student to study a topic of their own choice, to discuss their progress with the class (in regular meetings) and to deliver a final paper that meets the following criteria: 1) Makes an argument, describes, or summarizes a position that is unique, original or which directly applies to the student; 2) Uses primary sources or applies to a primary organization as much as possible; 3) Conforms to the style and format of good academic writing and the MPhil Capstone Project presentation standards; 4) Allows a student to demonstrate competencies gained from the courses completed in the Organizational Dynamics program. The role of the MPhil Capstone course professor is to coordinate the development of each student's capstone committee, to offer facilitation during peer-review discussion of student work as the capstone is written, and to post the final grade. The course professor may also be a student's primary advisor or a reader. For details about the MPhil capstone course, including delivery dates, see the MPhil capstone course page.
Taught by: Starr
Activity: Masters Thesis
1 Course Unit
Notes: For additional information, please see our website at: http://www.organizationaldynamics.upenn.edu
Persian (PERS)

PERS 011 Elementary Persian I
This course is designed to help you start learning Persian and to give you the necessary tools to continue your study of Persian. This course introduces the Persian alphabet alongside grammar and vocabulary. Emphasis is placed on actively using the language for interpersonal, interpretive, and presentational modes of communication. The four language skills (i.e., listening, speaking, reading and writing) as well as pronunciation and culture are integrated into the curriculum. There is no prerequisite.
For BA Students: Language Course
Taught by: Entezari
Course usually offered in fall term
Also Offered As: PERS 611
Activity: Lecture
1 Course Unit

PERS 012 Elementary Persian II
This course is designed to help you build upon what you have learned in Elementary Persian I. Emphasis is placed on using the language for interpersonal, interpretive, and presentational modes of communication. Therefore use of English is restricted. Listening, speaking, reading, and writing as well as culture, vocabulary, grammar, and pronunciation are integrated into the course. Students must either have successfully completed PERS-011, or take the departmental exam.
For BA Students: Language Course
Taught by: Entezari
Course usually offered in spring term
Also Offered As: PERS 612
Activity: Lecture
1 Course Unit

PERS 013 Intermediate Persian I
This course is conducted in Persian and designed to help you continue expanding upon what you have learned in Elementary Persian II (PERS-012). In this course, we will begin to address a broader variety of cultural topics in order to increase your proficiency in linguistic as well as cultural terms. Emphasis is placed on actively using the language for interpersonal, interpretive and presentational modes of communication. Therefore use of English is restricted. Listening, speaking, reading, and writing are integrated into the course, as are culture, grammar, vocabulary, and pronunciation. Students must either have successfully completed PERS-012 or take the departmental placement exam.
For BA Students: Language Course
Taught by: Entezari
Course usually offered in fall term
Also Offered As: PERS 613
Prerequisite: PERS 012 or equivalent
Activity: Lecture
1 Course Unit

PERS 014 Intermediate Persian II
In this course, we will continue to address a broader variety of cultural topics in order to increase your proficiency in linguistic as well as cultural terms. Emphasis is placed on actively using Persian for interpersonal, interpretive and presentational modes of communication. Therefore use of English is restricted. Listening, speaking, reading, and writing are integrated into the course, as are culture, grammar, vocabulary, and pronunciation. Students must either have successfully completed PERS-013, or take the departmental placement exam.
For BA Students: Last Language Course
Taught by: Entezari
Course usually offered in spring term
Also Offered As: PERS 614
Activity: Lecture
1 Course Unit

PERS 015 Advanced Persian I
For BA Students: Advanced Language Course
Course usually offered in fall term
Also Offered As: PERS 615
Prerequisites: For the second semester: completion of the first semester or permission of the instructor; PERS 013 or PERS 017 or permission of the instructor.
Activity: Lecture
1 Course Unit

PERS 016 Advanced Persian II
For BA Students: Advanced Language Course
Taught by: Assefi-Shirazi
Course usually offered in spring term
Also Offered As: PERS 616
Prerequisite: PERS015 or permission of the instructor
Activity: Lecture
1 Course Unit

PERS 017 Persian for Heritage Speakers I
An intensive course designed to teach the reading and writing of standard Tehran Persian to those with a speaking knowledge of that language. In recent years there has been an increasing demand from Persian-speaking Iranian-American students for formal instruction in Persian. While many of these students have some degree of spoken fluency in Persian, they are often unable to read or write it. Their speaking ability makes it difficult to integrate them into first- or second-year classes of students who have started with no knowledge of Persian. If these Persian-speaking students could be brought to at least a second-year level of reading and writing, they could then be enrolled in more advanced courses in Persian where they would be more or less at the same level as other students. The course will focus on the lexical and syntactic differences between written and spoken Persian, and the problems of Persian spelling.
Taught by: Assefi-Shirazi
One-term course offered either term
Also Offered As: PERS 617
Prerequisites: Fluency in spoken Persian.
Activity: Lecture
1 Course Unit
PERS 018 Persian for Heritage Speakers II
This course is designed for Persian speakers who cannot easily read or write. Students begin by learning alphabet and reading simple texts in first semester, and advanced by the end of the second semester to reading intermediate texts, and writing letters and simple compositions. Students are expected to come to the class with the assigned text prepared (30%), general exams (mid-term and final), 50% attendance and participation in the class (20%). One-term course offered either term
Prerequisites: Pers 017 or the equivalent or permission of the instructor.
Activity: Lecture
1 Course Unit
Notes: Offered through the Penn Language Center

PERS 019 Advanced Persian in the Media
Taught by: Assefi-Shirazi
Course usually offered in spring term
Activity: Lecture
1 Course Unit
Notes: Offered through the Penn Language Center.

PERS 111 Beginning Pashtu I
Reading, writing, basic grammar and elemental speaking.
For BA Students: Language Course
Taught by: Santry
Course usually offered in fall term
Also Offered As: PERS 511, SAST 405
Activity: Lecture
1 Course Unit

PERS 112 Beginning Pashtu II
Reading, writing, basic grammar and elemental speaking.
For BA Students: Language Course
Taught by: Santry
Course usually offered in spring term
Also Offered As: PERS 512, SAST 406
Prerequisites: For second semester, completion of the first semester.
Activity: Seminar
1 Course Unit
Notes: This is a two-semester course.

PERS 113 Intermediate Pashtu
A wide variety of reading genres, writing, and oral expression.
For BA Students: Language Course
Taught by: Santry
Course usually offered in fall term
Also Offered As: PERS 513, SAST 425
Prerequisites: Beg. Pashtu, or permission by instructor.
Activity: Lecture
1 Course Unit

PERS 114 Intermediate Pashtu Part II
Beg. Pashto, or permission of the instructor. A wide variety of reading genres, writing, and oral expression
For BA Students: Last Language Course
Taught by: Santry
Course usually offered in spring term
Also Offered As: PERS 514, SAST 426
Activity: Seminar
1 Course Unit
Notes: Offered through Penn Language Center. This is a two-semester course.

PERS 115 Advanced Pashtu I
Modern literary short stories. BBC news broadcasts for listening comprehension and discussion.
Taught by: Santry
Course usually offered in fall term
Also Offered As: PERS 515
Prerequisites: Beg. And Int. Pashto required
Activity: Lecture
1 Course Unit
Notes: Offered through the Penn Language Center

PERS 116 Advanced Pashtu II
Pashto dialects, using recordings from different regions. BBC broadcasts for listening comprehension and discussion.
Taught by: Santry
Course usually offered in spring term
Also Offered As: PERS 516, SAST 445
Activity: Lecture
1 Course Unit
Notes: Offered through Penn Language Center.

PERS 415 CLASSICAL PERSIAN PROSE
This course is designed for those junior and senior students who are eager to explore the major works of classical Persian prose. Students will become familiar with the medieval Persia through an in-depth reading of major mystical, historical and literary works of classical Persian prose. Depending on the text under discussion, students will be introduced to the socio-cultural context of Medieval Persia. Although no prerequisites are required, this course is a perfect follow-up for NELC 216 "Persian Poetry in Translation".
Taught by: Shams Esmaeili
One-term course offered either term
Activity: Seminar
1 Course Unit

PERS 511 Beginning Pashtu I
Reading, writing, basic grammar and elemental speaking.
For BA Students: Language Course
Taught by: Santry
Course usually offered in fall term
Also Offered As: PERS 111, SAST 405
Activity: Lecture
1 Course Unit
Notes: Offered through the Penn Language Center

PERS 512 Beginning Pashtu Part II
Reading, writing, basic grammar and elemental speaking.
For BA Students: Language Course
Taught by: Santry
Two terms. student must enter first term.
Also Offered As: PERS 112, SAST 406
Prerequisites: For second semester, completion of the first semester.
Activity: Seminar
1 Course Unit
Notes: Offered through Penn Language Center. This is a two-semester course.
PERS 513 Intermediate Pashtu I
A wide variety of reading genres, writing, and oral expression.
For BA Students: Language Course
Taught by: Santry
Two terms. student must enter first term.
Also Offered As: PERS 113
Prerequisites: Beg. Pashtu, or permission by instructor.
Activity: Lecture
1 Course Unit
Notes: Offered through the Penn Language Center

PERS 514 Intermediate Pashtu Part II
For BA Students: Last Language Course
Taught by: Santry
Two terms. student must enter first term.
Also Offered As: PERS 114, SAST 426
Activity: Seminar
1 Course Unit
Notes: Offered through Penn Language Center. This is a two-semester course.

PERS 515 Advanced Pashtu I
Taught by: Santry
Two terms. student must enter first term.
Also Offered As: PERS 115
Activity: Lecture
1 Course Unit
Notes: Offered through the Penn Language Center

PERS 516 Advanced Pashtu II
Taught by: Santry
Two terms. student must enter first term.
Also Offered As: PERS 116
Activity: Lecture
1 Course Unit
Notes: Offered through Penn Language Center.

PERS 611 Elementary Persian I
This course is designed to help you start learning Persian and to give you the necessary tools to continue your study of Persian. This course introduces the Persian alphabet alongside grammar and vocabulary. Emphasis is placed on actively using the language for interpersonal, interpretive, and presentational modes of communication. The four language skills (i.e., listening, speaking, reading and writing) as well as pronunciation and culture are integrated into the curriculum. There is no prerequisite.
For BA Students: Language Course
Taught by: Entezari
Course usually offered in fall term
Also Offered As: PERS 011
Activity: Lecture
1 Course Unit

PERS 612 Elementary Persian II
This course is designed to help you build upon what you have learned in Elementary Persian I. Emphasis is placed on using the language for interpersonal, interpretive, and presentational modes of communication. Therefore use of English is restricted. Listening, speaking, reading, and writing-as well as culture, vocabulary, grammar, and pronunciation-are integrated into the course. Students must either have successfully completed PERS-611, or take the departmental exam.
For BA Students: Language Course
Taught by: Entezari
Course usually offered in spring term
Also Offered As: PERS 012
Activity: Lecture
1 Course Unit

PERS 613 Intermediate Persian I
This course is conducted in Persian and designed to help you continue expanding upon what you have learned in Elementary Persian II (PERS-012). In this course, we will begin to address a broader variety of cultural topics in order to increase your proficiency in linguistic as well as cultural terms. Emphasis is placed on actively using the language for interpersonal, interpretive and presentational modes of communication. Therefore use of English is restricted. Listening, speaking, reading, and writing are integrated into the course, as are culture, grammar, vocabulary, and pronunciation. Students must either have successfully completed PERS-612 or take the departmental placement exam.
For BA Students: Language Course
Taught by: Entezari
Course usually offered in fall term
Also Offered As: PERS 013
Prerequisite: For the second semester: Completion of the first semester or permission of the instructor
Activity: Lecture
1 Course Unit

PERS 614 Intermediate Persian II
In this course, we will continue to address a broader variety of cultural topics in order to increase your proficiency in linguistic as well as cultural terms. Emphasis is place on actively using Persian for interpersonal, interpretive and presentational modes of communication. Therefore use of English is restricted. Listening, speaking, reading, and writing are integrated into the course, as are culture, grammar, vocabulary, and pronunciation. Students must either have successfully completed PERS-613, or take the departmental placement exam.
For BA Students: Language Course
Taught by: Entezari
Course usually offered in spring term
Also Offered As: PERS 014
Activity: Lecture
1 Course Unit

PERS 615 Advanced Persian I
For BA Students: Advanced Language Course
Course usually offered in fall term
Also Offered As: PERS 015
Prerequisites: For the second semester completion of the first semester or permission of the instructor; PERS 013 or PERS 017 or permission of the instructor.
Activity: Lecture
1 Course Unit
PERS 616 Advanced Persian II
For BA Students: Advanced Language Course
Course usually offered in spring term
Also Offered As: PERS 016
Activity: Lecture
1 Course Unit

PERS 617 Persian Reading and Writing for Fluent Speakers
An intensive, one-semester course designed to teach the reading and writing of standard Tehran Persian to those with a speaking knowledge of that language. In recent years there has been an increasing demand from Persian-speaking Iranian-American students for formal instruction in Persian. While many of these students have some degree of spoken fluency in Persian, they are often unable to read or write it. Their speaking ability makes it difficult to integrate them into first- or second-year classes of students who have started with no knowledge of Persian. If these Persian-speaking students could be brought to at least a second-year level of reading and writing, they could then be enrolled in more advanced courses in Persian where they would be more or less at the same level as other students. The course will focus on the lexical and syntactic differences between written and spoken Persian, and the problems of Persian spelling.
One-term course offered either term
Also Offered As: PERS 017
Prerequisites: Fluency in spoken Persian.
Activity: Lecture
1 Course Unit

Pharmacology (PHRM)

PHRM 495 High Throughput Discover
Course usually offered in spring term
Also Offered As: CHEM 495
Activity: Laboratory
1 Course Unit

PHRM 510 Neurotransmitter Signalling & Neuropsychopharmacology
The goals of this course are three-fold: 1) Provide an overview of major psychiatric disorders. 2) Provide in-depth information on neurotransmitters, emphasizing the wealth of new molecular information on how neurons function and communicate, as well as the basis for psychotherapeutics (one class per week). 3) Develop skills to appreciate, present and critically evaluate the current literature in neurotransmitter signaling and neuropsychopharmacology (one class per week).
Taught by: Staff Dr. Steve Thomas; Dr. Chris Pierce; Dr. Wade Berrettini; Dr. Liz Heller
Course offered spring; even-numbered years
Also Offered As: NGG 510
Prerequisite: Permission of course director
Activity: Lecture
1 Course Unit
Notes: Meets two times per week.

PHRM 522 Human Physiology
Also Offered As: CAMB 532
Activity: Lecture
1 Course Unit

PHRM 534 Experimental Genome Sci
Also Offered As: GCB 534
Activity: Lecture
0.01 Course Units

PHRM 535 Intro To Bioinformatics
Course usually offered in spring term
Also Offered As: GCB 535
Activity: Lecture
1 Course Unit

PHRM 542 Topics in Molecular Medicine
TiMM is planned as a once-weekly seminar course whose goal is to introduce students to the ways in which biomedical research can provide new insights into clinical medicine and, conversely, how knowledge of clinical disease impacts scientific discovery.
Taught by: Skip Brass, MD, PhD; Gary Koretzky, MD, PhD; Mark Kahn, MD
Course usually offered in fall term
Also Offered As: CAMB 542
Prerequisite: Permission of the course directors
Activity: Seminar
1 Course Unit
Notes: The course is designed primarily for combined degree (MD/PhD) students, but will be available to all medical and graduate students as space permits. Priority will be given to 2st and 2nd year combined degree students. The optimal class size will be 14. Tentatively, the course will meet for one hour from 4 - 5 pm on Wednesday afternoons with occasional double sessions that will be two hours long.

PHRM 550 Advanced Topics in Neuropsychopharmacology
Biological issues relevant to neuropsychiatric illnesses are covered in detail in four sections. The first section covers clinical aspects of major psychiatric disorders and includes some contact with patients. The second section presents the neuroanatomy of the limbic system. In the third section, emphasis is on the mechanisms of action of psychotropic drugs, including antidepressants, antipsychotics, anxiolytics, and stimulants. The final section covers information relevant to understanding biological processes that may be abnormal in neuropsychiatric illnesses, such as stress, sleep, and circadian rhythms, as well as quantitative genetics.
Taught by:Lucki and staff
Course usually offered in spring term
Also Offered As: PSYC 750
Prerequisite: Permission of instructor
Activity: Lecture
1 Course Unit
Notes: Meets two times per week.

PHRM 564 DRUG DELIVERY
In this course, students will learn about drug delivery systems with emphasis on targeted therapeutics and translational nanomedicine. The course will be directed and taught by Miriam Wattenbarger (CBE) and Vladimir Muzykantov (PHRM). Lectures will also be given by other faculty from the Penn School of Engineering and Applied Science and the School of Medicine. The four main topics for the course are traditional drug delivery, drug delivery systems and nanocarriers, targeted and smart drug delivery systems, and translational aspects of drug delivery systems. There will be a midterm, final, and a group project for the course. Students will form small groups for the project and research a drug delivery topic to propose an extension of a current research area. An oral and written proposal will be given by each group to the class at the end of the semester. The course is open to SEAS seniors and graduate students, SAS college pre-med, pre- BE and pre-BGS seniors, biotechnology MS students, PGG and BGS graduate students, Wharton and Dental School students.
Also Offered As: CBE 564
Activity: Lecture
1 Course Unit
PHRM 570 Principles of Cardiovascular Biology
Lectures to be presented by various Medical School faculty members. Topics covered include: general principles of vascular biology and hemodynamics, endothelial cells and integral vascular functions, signaling in the cardiovascular system, angiogenesis, hemostasis and thrombosis, platelets, platelet/vascular interactions, vascular integrins and adhesion molecules, vascular inflammation and oxidative stress, white blood cells, vasoactive compounds and drugs, mechanisms of atherosclerosis, cholesterol and lipid metabolism, hypertension, novel vascular directed gene and enzyme therapies. Taught by: Drs. Vladimir Muzykantov and Tilo Grosser Course usually offered in spring term Prerequisite: Permission of course director Activity: Lecture 1 Course Unit

PHRM 590 Molecular Toxicology: Chemical and Biological Mechanisms
Course Goals: Exposures to foreign compounds (drugs, carcinogens, and pollutants) can disrupt normal cellular processes leading to toxicity. This course will focus on the molecular mechanisms by which environmental exposures lead to end-organ injury and to diseases of environmental etiology (neurodegenerative and lung diseases, reproduction disruption and cardiovascular injury). Students will learn the difficulties in modeling response to low-dose chronic exposures, how these exposures are influenced by metabolism and disposition, and how reactive intermediates alter the function of biomolecules. Mechanisms responsible for cellular damage, aberrant repair, and end-organ injury will be discussed. Students will learn about modern predictive molecular toxicology to classify toxicants, predict individual susceptibility and response to environmental triggers, and how to develop and validate biomarkers for diseases of environmental etiology. Students are expected to write a term paper on risk assessment on an environmental exposure using available TOXNET information. Taught by: Dr. Trevor M. Penning Course usually offered in spring term Also Offered As: REG 590 Prerequisites: Pre-requisites: Must have taken or will take Fundamentals of Pharmacology concurrently. Undergraduate course work in biochemistry and chemistry essential. Exceptions allowed based on past course work. Please consult with Course Director. Students: All 1st and 2nd year GGPS, CAMB, Neuro and BSTA students with required prerequisites; residents in Environmental and Occupational Health, and professional masters students (MPH and MTR). Activity: Lecture 1 Course Unit

PHRM 600 Medical Pharmacology BIOM 600
This course will review basic human physiology pertinent to drug action, and then focus on the mechanisms of action of the various classes of agents used in the therapy of human disease. It consists of lectures by an array of faculty with special interests and expertise in the topic being presented. Drug classes covered include: Neuropsychiatric drugs, cardiovascular and hematological drugs, anticancer drugs, antimicrobial drugs, endocrine and metabolic drugs. Taught by: Axelsen and staff. This course focuses on the mechanism of action of various classes of agents used in the therapy of human disease. Drug classes covered include neuropsychiatric drugs, anesthetics, sedatives and hypnotics, cardiovascular and hematological drugs, drugs affecting renal function, inflammation and immune modulation, anticancer drugs, antimicrobial drugs, endocrine and metabolic drugs. The course is comprised of four 1-hour lectures per week by faculty with special interests and expertise in the topic being presented. Student evaluation is based on four short answer exams. This course is intendedfor non-PGG students with an interest in molecular basis of drug action. Prerequisites: Cell Biology (BIOM 600). Prerequisite: Permission of the instructor Activity: Lecture 1 Course Unit Notes: Class meets four days a week

PHRM 623 Fundamentals of Pharmacology
This course is designed to introduce students to basic pharmacological concepts with special emphasis on the molecular actions of drugs. Subject matter includes use of microcomputers to analyze pharmacological data. Taught by: Dr. Jeffrey Field and staff Course usually offered in fall term Also Offered As: REG 623 Prerequisite: Permission of the course director Activity: Lecture 1 Course Unit Notes: Meets three times per week

PHRM 624 Medical Pharmacology
Taught by: Axelsen and staff. This course is centered on the molecular basis of drug action. It is comprised of four 1-hour lectures per week (as described for PHRM 600) and supplemented with weekly problem sets and readings designed to reinforce and expand upon materials presented in lecture. Student evaluation is based on four exams and weekly problem sets. PHRM 624 is required of all 2nd year PGG students. PGG students must co-enroll in PHRM 532/CAMB 532 (Human Physiology). Prerequisites:Cell Biology (BIOM 600). Activity: Lecture 2 Course Units
PHRM 630 Frontiers in Bioorganic and Medicinal Chemistry
This advanced course for graduate students will be based primarily on didactic lectures from three Penn faculty. Permission for a student to participate should first be obtained from one of the participating faculty. A solid background in chemistry and biochemistry will be required. Overviews of current and emerging topics in bioorganic and medicinal chemistry will be presented. Students will be given short "take home" problem sets, two formal interim examinations, and a formal final examination during the semester. Topics that will be covered over the semester include: Mass spectrometry of DNA and DNA-adducts, Synthetic peptides/peptide mimics/proteins, including the expansion of the genetic code; methods of synthesis and applications, Synthetic RNAs, DNAs and nucleic acid mimics: methods of synthesis and applications, Synthetic oligosaccharides: methods of synthesis and applications, Combinatorial chemistry, Enzymology of translation, Antibiotic biosynthesis, Introduction to drug metabolism, Characterization of drug metabolites, Characterization of reactive metabolites from drugs and endogenous molecules, DNA-adducts from drugs and endogenous molecules, Lipidomics in drug development.
Taught by: Dr. Ian Blair, Dr. Barry Cooperman, Dr. Dewey McCafferty
Course usually offered in fall term
Prerequisite: Permission of the courses directors
Activity: Lecture
1 Course Unit

PHRM 632 Cell Cont Sig Trans Path.
Course usually offered in spring term
Also Offered As: CAMB 632
Activity: Seminar
1 Course Unit

PHRM 640 Topics in Cancer Pharmacology
Reviews of current literature on topics such as cancer cell signaling, cancer genetics, hormonal carcinogens, environmental carcinogens, chemoo- and gene therapy of cancer, cancer epidemiology and prevention. New hypotheses in cancer etiology, prevention and treatment will be discussed as they appear in the literature. The aim of the course is to introduce the students to the latest development in the above areas related to cancer pharmacology.
Taught by: Dr. Judy Meinloth and Dr. Wenchao Song
Course usually offered in spring term
Prerequisite: permission of course directors
Activity: Lecture
1 Course Unit
Notes: Class meets Wednesdays, 1:00 - 3:00; Fall semester

PHRM 650 Participation in the "Dr. George W. Raiziss Biochemical Rounds", a weekly seminar program sponsored by the Department of Biochemistry and Biophysics. Program deals with a wide range of modern biochemical and biophysical topics presented by established investigators selected from our faculty, and by leading scientists from other institutions.
Taught by: Black, B. & Shorter, J.
Also Offered As: BMB 650, CAMB 702
Prerequisites: Course is limited to BGS graduate students and undergrads from the Vagelos Scholars Program.
Activity: Seminar
1 Course Unit

PHRM 657 Haz Waste Health Effects
Also Offered As: ENVS 657
Activity: Lecture
1 Course Unit

PHRM 660 Frontiers in Cancer Pharmacology
This advanced course for graduate students combines didactic lectures from Penn faculty with oral presentations and oral assignments from the students. Students should have either completed PHRM 560, Principles in Cancer Signaling and Therapeutics or PHRM 640, Topics in Cancer Pharmacology or equivalent classes. The faculty will present overviews of current and emerging topics in cancer pharmacology. Emphasis of the presentations will be on the translation of basic science discoveries into therapeutic agents. Students will choose related topics to explore in more detail. In consultation with Dr. Blair, students will prepare a 45-minute presentation (using Power Point slides). Each student will give at least two presentations during the semester. The faculty teaching the course will be available for help with the presentations. The written assignment will involve a 10-page double spaced paper (exclusive of references) with a maximum of 25 references. The assignment will consist of a literature review in the area of one of the presentation topics chosen by the student. Additional information can be obtained from the Center for Cancer Pharmacology web site: http://www.med.upenn.edu/ccp/
Taught by: Dr. Ian A. Blair
Course usually offered in fall term
Prerequisite: Permission of the course director
Activity: Lecture
1 Course Unit

PHRM 699 Laboratory Rotation
Activity: Laboratory
1 Course Unit

PHRM 799 Independent Study
One-term course offered either term
Activity: Independent Study
0.5 Course Units

PHRM 899 Pre-Dissertation Lab Rotation
Activity: Laboratory
1 Course Unit

PHRM 999 Research in Pharmacology
Independent or collaborative research in various fields of pharmacology arranged individually with members of the staff.
One-term course offered either term
Prerequisite: Permission of staff member
Activity: Independent Study
1 Course Unit
**Philosophy (PHIL)**

**PHIL 001 Introduction to Philosophy**
Problems of Philosophy. The aim of this course is to introduce some of the major topics and methods of analytic philosophy. As the course goes on, the questions we consider will become more explanatorily deep. It begins with questions about what we should do (Normative Ethics). We then move to questions about how we can even do anything at all (Free Will). We then consider how we might know about any of this (Epistemology). Finally we ask what we even are and what it means for us to be at all (Mind and Personal Identity). This course will not assume any background in philosophy. For most students, it will be a challenging, though hopefully worthwhile, course. The course will push you to understand and communicate clearly about material that is often difficult to understand. Along with introducing you to analytic philosophy, this course will help students become better skilled in understanding and intelligently questioning sophisticated arguments, which can come in handy in a large number of pursuits.
For BA Students: Humanities and Social Science S
Taught by: Detlefsen, Singer, Weisberg
One-term course offered either term
Activity: Lecture
1 Course Unit
Notes: Also fulfills General Requirement in History Tradition for Class of 2009 and prior. Freshman Seminar sections offered

**PHIL 002 Ethics**
Ethics is the study of right and wrong behavior. This introductory course will introduce students to major ethical theories, the possible sources of normativity, and specific ethical problems and questions. Topics may include euthanasia, abortion, animal rights, the family, sexuality, bioethics, crime and punishment and war.
For BA Students: Society Sector
Taught by: S. Meyer, Tan, Lord, M. Meyer
One-term course offered either term
Activity: Seminar
1 Course Unit

**PHIL 003 History of Ancient Philosophy**
This course is an introduction to philosophy in the ancient world. While today, philosophy is considered a branch of academic inquiry, many of the ancient Greeks and Romans, however, held a radically different conception of the discipline. For them, philosophy was nothing less than an entire way of life—not just a set of doctrines or arguments, but an orientation and set of lived practices, a conscious and continual reforming of the self in light of some principle or principles. In this course, we will examine the major movements and figures of ancient philosophy. Major figures will include Socrates, Plato, Aristotle, the Stoics, the Epicureans, and the Skeptics.
For BA Students: History and Tradition Sector
Taught by: S. Meyer
Course usually offered in fall term
Also Offered As: CLST 103
Activity: Lecture
1 Course Unit

**PHIL 004 History of Modern Philosophy**
This course is an introduction to a few central themes in philosophy in the 17th and 18th centuries, and to some of the crucial thinkers who addressed those themes. Topics to be covered may include, among others, the nature of the human being (including the human mind), the relationship between God and the created world, the nature of freedom, and the relations among natural sciences, philosophy and theology in this rich period of human history.
For BA Students: History and Tradition Sector
Taught by: Hatfield, Detlefsen, Chignell
Course usually offered in spring term
Also Offered As: GSWS 006
Activity: Lecture
1 Course Unit

**PHIL 005 Formal Logic I**
This course provides an introduction to some of the fundamental ideas of logic. Topics will include truth functional logic, quantificational logic, and logical decision problems.
Taught by: Domotor, Weinstein
One-term course offered either term
Also Offered As: LGIC 010, PHIL 505
Activity: Lecture
1 Course Unit
Notes: This is a Formal Reasoning course.

**PHIL 006 Formal Logic II**
An introduction to first-order logic including the completeness, compactness, and Lowenheim-Skolem theorems, and Godel's incompleteness theorems.
Taught by: Weinstein
Course usually offered in spring term
Also Offered As: PHIL 506
Activity: Lecture
1 Course Unit

**PHIL 007 Critical Thinking**
This course will provide the student with informal techniques for identifying and analyzing arguments found in natural language. Special attention will be paid to developing the ability to assess the strength of natural language arguments, as well as statistical arguments.
Course not offered every year
Activity: Lecture
1 Course Unit

**PHIL 008 The Social Contract**
This is a critical survey of the history of western modern political philosophy, beginning from the Early Modern period and concluding with the 19th or 20th Century. Our study typically begins with Hobbes and ends with Mill or Rawls. The organizing theme of our investigation will be the idea of the Social Contract. We will examine different contract theories as well as criticisms and proposed alternatives to the contract idea, such as utilitarianism. Besides the above, examples of authors we will read are Locke, Rousseau, Hume, Mill and Marx.
For BA Students: Society Sector
Taught by: Freeman, Tan
Course usually offered in spring term
Also Offered As: PPE 008
Activity: Lecture
1 Course Unit
PHIL 010 Topics in Philosophy I
In classical Athens the question of how a government should work was an urgent one. They invented democracy, adopted it successfully for decades, and then it faced challenges, from oligarchs and others. At this time of tumult, the philosopher Plato set out to explore the question of the best form of government by framing it as a question of justice. Which mode of governing is the one that delivers justice? But to understand this question, a person first needs to understand what justice itself is. Coming up with an answer to this is a thorny and difficult prospect. By focusing on Plato’s Republic, this course aims to explore how best to govern a society, what kinds of qualities one should expect in a leader, and how these questions are connected to very basic understandings about human nature, society, and the world in general.
Taught by: Tan, Taylor
Course not offered every year
Also Offered As: CLST 005
Activity: Seminar
1 Course Unit

PHIL 015 Logic and Formal Reasoning
This course offers an introduction to three major types of formal reasoning: deductive, inductive (probabilistic and statistical), and practical (decision-making). The course will begin with the study of classical sentential and predicate logics. It will move on to elementary probability theory, contemporary statistics, decision theory and game theory.
For BA Students: Formal Reasoning and Analysis
Taught by: Domotor
Course usually offered in spring term
Activity: Lecture
1 Course Unit

PHIL 024 Philosophy of Biology
In this course, we will investigate whether or not there is such a thing as "human nature", and, if there is, what it comprises. We will begin by surveying the history of philosophical and scientific theories about the relationship between bodies and minds. We will then consider what, if anything, makes humans unique within the animal kingdom. Finally, we will examine (purported) racial, sexual, and ethical differences between humans. Throughout the course, we will come to understand and critically assess a variety of philosophical and scientific methods of studying human beings (and other animals).
Activity: Seminar
1 Course Unit

PHIL 025 Philosophy of Science
What counts as a scientific theory? What counts as evidence for a scientific theory? Are scientific inferences justified? Does science give us truths or approximate truths about a world that exists independently of us? How can we know? Does it matter? These are all perennial questions in the philosophy of science, and the goal of this course is to look at how philosophers have answered these questions since the scientific revolution. In addition to reading classic work by philosophers of science, we will read material from living and dead scientists in order to gain a deeper appreciation of the philosophical questions that have troubled the most brilliant scientists in Western science.
For BA Students: Natural Science and Math Sector
Taught by: Weisberg, Spencer
One-term course offered either term
Activity: Lecture
1 Course Unit

PHIL 026 Philosophy of Space and Time
This course provides an introduction to the philosophy and intellectual history of space-time and cosmological models from ancient to modern times with special emphasis on paradigm shifts, leading to Einstein’s theories of special and general relativity and cosmology. Other topics include Big Bang, black holes stellar structure, the metaphysics of substance, particles, fields, and superstrings, unification and grand unification of modern physical theories. No philosophy of physics background is presupposed.
For BA Students: Natural Science and Math Sector
Taught by: Domotor
Course usually offered in fall term
Also Offered As: STSC 026
Activity: Lecture
1 Course Unit

PHIL 028 Introduction to Feminist Philosophy
This course is an introduction to feminist thought, both in theory and in practice. We will consider how feminist thought emerged and evolved, as well as how feminist theories respond to various intellectual, social and political challenges. Questions we will address include: What exactly is feminism? How does one’s gender identity impact one’s lived experiences? How should we revise, reformulate, or rethink traditional answers to political and ethical issues in light of feminist theories? How can feminist analyses contribute to the development of better science, and our conceptions of knowledge?
Taught by: M. Meyer
Course not offered every year
Also Offered As: GSWS 028
Activity: Seminar
1 Course Unit
Notes: Offered through the College of General Studies

PHIL 029 Philosophy of Sport
This is an introductory philosophy course that uses philosophical tools to understand and answer questions that arise in and about sports. The central question to be answered is what constitutes cheating in sports, especially by methods that enhance athletic performance. Other topics may include the nature of competition in sport, the appropriate competitors in sporting events, and the ethics of team loyalty.
Taught by: M. Meyer
Course not offered every year
Activity: Seminar
1 Course Unit

PHIL 032 Topics in Contemporary Philosophy
Transhumanists seek to extend the capacities of the human mind beyond the bounds of the human brain and body through technology. Indeed, for them, such an extension of human thinking and feeling represents the next big step in human cognitive evolution. In this course, we will examine the philosophical conception of a mind that underpins this movement to extend the human mind beyond human biology. Through an examination of the hypothesis that there can be non-biological thinking and feeling, we consider whether technologies that enable or enhance human mental faculties might one day completely supplant the biological machinery of the human body. We will also consider the moral issues surrounding the creation of transhumans. The questions that we consider in this course will get to the heart of what it means to possess a human mind and indeed to be a human being.
Taught by: Varying instructors
Course not offered every year
Activity: Seminar
1 Course Unit
PHIL 034 Philosophy of Religion
An introductory philosophical examination of questions regarding the nature of religious experiences and beliefs; arguments for and against the existence of God; the problem of evil; the relationships of faith, reason and science, the possibility of religious knowledge, the role of religious communities, etc. Readings from the history of philosophy, 20th century and contemporary analytic philosophy, and the European phenomenological, existential, and hermeneutic traditions.
Taught by: Steinberg
Course not offered every year
Also Offered As: RELS 011
Activity: Lecture
1 Course Unit

PHIL 044 Introduction to Cognitive Science
Scope and limits of computer representation of knowledge, belief and perception, and the nature of cognitive processes from a computational perspective.
Taught by: Kearns, Liberman, Weinstein, Hatfield
Course usually offered in fall term
Also Offered As: CIS 140, COGS 001, LING 105, PPE 140, PSYC 207
Activity: Lecture
1 Course Unit
Notes: Formal Reasoning Course. All Classes

PHIL 045 Animal Minds
In this course, we will examine philosophical issues in nonhuman animal cognition. We will consider questions such as the following: Do nonhuman animals use concepts? How do we assess different interpretations of their behaviour? What is the role of anthropomorphism in thinking about nonhuman animal cognition? How are intelligence and sociality related?
Course not offered every year
Activity: Seminar
1 Course Unit

PHIL 050 Introduction to Indian Philosophy
This course will take the student through the major topics of Indian philosophy by first introducing the fundamental concepts and terms that are necessary for a deeper understanding of themes that pervade the philosophical literature of India—arguments for and against the existence of God, for example the ontological status of external objects, the means of valid knowledge, standards of proof, the discourse on the aims of life. The readings will emphasize classical Hindu, Buddhist, and Jain philosophical articulations (from 700 B.E. E. to 16th century CE) but we will also supplement our study of these materials with contemporary or relatively recent philosophical writings to modern India.
For BA Students: History and Tradition Sector
Also Offered As: RELS 155, SAST 050, SAST 152
Activity: Lecture
1 Course Unit

PHIL 051 Yoga and Philosophy
"Yoga" means to yoke in Sanskrit. Metaphorically, this is often interpreted as union, or integration. This course will explore central aspects of yogic philosophy and practice, and how they relate to, and might be integrated with, contemporary analytic philosophy, college life, and beyond. We will focus on three key issues: (1) What is yogic philosophy? How does it relate to the western philosophical tradition more commonly taught in philosophy departments in the U.S.? (2) What does the practice of yoga have to do with theoretical understanding? (3) Is it possible to integrate a yogic worldview and a scientific worldview? Is there scientific evidence that yoga "works"? What does that even mean? This course will contain both a theoretical component and a practice component. In addition to writing analytical essays on these topics, students will maintain a yoga practice and a reflective journal throughout the course. No prior experience with yoga is required.
Taught by: Miracchi
Activity: Seminar
1 Course Unit

PHIL 054 Contemporary Continental Philosophy
An introduction to 20th century continental European philosophy, focusing on the origins and development of phenomenology and existentialism and their influence on contemporary thought. The course will include an introduction to the phenomenology of Edmund Husserl and examine the subsequent development of modern philosophic existentialism by critics of Husserl, such as Martin Heidegger, Jean-Paul Sartre or Maurice Merleau-Ponty. Finally, the important influence of phenomenology and existentialism on contemporary trends in French, German, and American philosophy will be explored, including hermeneutics, deconstruction, post-modernism, and post-analytic philosophy. No previous study of philosophy is required.
Course not offered every year
Activity: Lecture
1 Course Unit

PHIL 055 Existentialism
This course treats "existentialism" as an historical, philosophical, and literary phenomenon. In addition to close readings of philosophical texts by Nietzsche, Kierkegaard, Heidegger, Sartre, Simone de Beauvoir, and Camus, we will read literary works by Dostoyevsky, Ibsen, Kafka, Beckett, Knut Hamsun, and Richard Wright. There will also be semi-regular film screenings. Topics include death, anxiety, resentment, and will-to-power, authenticity, faith, the absurd, racism and sexism, sources of art and morality, and the nature of human existence.
Course not offered every year
Activity: Seminar
1 Course Unit
PHIL 067 19th Century Philosophy
"God is dead," this famous, all too famous death sentence, issued by the 19th-century German philosopher Friedrich Nietzsche, also signaled the genesis of a radical challenge to traditional notions of morality, cultural life, and the structure of society as a whole. In this course we will examine both the "modernity" of Nietzsche's thought and the ways in which his ideas have helped to define the very concept of Modernity (and, arguable, Postmodernity) itself. In exploring the origin and evolution of Nietzsche's key concepts, we will trace the ways in which his work has been variously revered or refuted, championed or co-opted, for more than a century. We will survey his broad influence on everything from philosophy and literature to music and art, theater and psychology, history and cultural theory, politics and popular culture. Further, we will ask how his ideas continue to challenge us today, though perhaps in unexpected ways. As we will see, Nietzsche wanted to teach us "how to philosophize with a hammer."
Taught by: Jarosinski
Course not offered every year
Also Offered As: GRMN 248
Activity: Lecture
1 Course Unit

PHIL 071 Animal Ethics
We all face difficult moral decisions on occasion. This course introduces students to the idea that we face such a decision several times a day in deciding what to eat. How should facts about animal life and death inform this decision? Is the suffering involved in meat, egg, and dairy production really bad enough to make the practices immoral? How do our dietary choices affect local and non-local economies, the environment, and other people generally? Finally, given the deep connections between eating practices and various ethnic, religious and class identities, how can we implement a reasonable food policy for an expanding world population while also respecting these important differences? The goal of this course is not to teach some preferred set of answers to these questions. The goal is rather to give participants the basic tools required to reflect clearly and effectively on the questions themselves. These tools include a working knowledge of major moral theories developed by philosophers, and an understanding of basic empirical issues related to food. In addition to readings, lectures, and required sections, the course may involve trips to some local food-production facilities, as well as supplemental lectures by experts from Penn, Philadelphia, and beyond.
Taught by: Chignell
Course not offered every year
Also Offered As: HSOC 171, STSC 171
Activity: Lecture
1 Course Unit

PHIL 072 Biomedical Ethics
This course is an introduction to bioethics, focusing on ethical questions arising at the beginning and end of life. Topics will include procreative responsibilities, the question of wrongful life, and prenatal moral status as well as questions of justice related to markets for sperm, eggs and gestation. We will also attend to dilemmas at the end of life, including the authority of advance directives, euthanasia and the allocation of life-saving therapies.
For BA Students: Society Sector
Course not offered every year
Also Offered As: PPE 072
Activity: Lecture
1 Course Unit

PHIL 073 Topics in Ethics
This course examines some of the central theoretical and applied questions of ethics. For example, what is the good life? By what measure or principles do we evaluate the rightness and wrongness of actions? How does ethical reasoning help us understand and address real world problems such as world hunger, social injustice, sex and race discrimination, allocation of scarce resources and the like. The course can be organized around an applied topic or practical issue such as global ethics, just war, biomedical ethics or environmental ethics.
Taught by: Gibbons, M.Meyer
Course not offered every year
Also Offered As: ENVS 073, PPE 073
Activity: Seminar
1 Course Unit

PHIL 074 Business Ethics
In this course we will begin by examining practical ethical dilemmas facing businesses. Since usually people, not businesses, face ethical quandaries, we will consider how a business can face an ethical dilemma at all. Maybe it doesn't even make sense to attribute responsibilities, liabilities, or agency to corporations. If businesses do indeed have moral responsibilities, perhaps that means that employees have corresponding rights against their employers. With a better understanding of how the ethical world intersects with the business world, we can thoughtfully discuss the place of the corporation in society.
Course not offered every year
Activity: Seminar
1 Course Unit

PHIL 076 Political Philosophy
Taught by: Freeman
Course not offered every year
Activity: Lecture
1 Course Unit
PHIL 077 Philosophy of Law
This course is an introduction to the Philosophy of law. The central question of the course is this: why have law? Answering that question requires engaging with another question: what is law? We will approach those two questions in a variety of ways throughout the semester. In the first section of the course, we will begin by discussing one important feature of law: its close connection to coercion and punishment. Many have argued that the close relationship between law and coercion creates a demand for justification: what can or does justify law, given that law involves coercion? We will explore answers to that question. We will also consider a more general question: what good is law? (if we didn’t have law, why might we want it?) The second section of the course engages with these same issues but in more concrete settings: the areas of criminal law and property law. We will consider what, if anything, is distinctive about those two areas of law, and we will consider whether the purported purpose(s) of law in general that we discuss in the first section make more or less sense when we consider these two specific areas of law. We will also consider distinctive aspects of the sources of law in these two areas of law: democratically enacted statutes, in the case of criminal law, and judge-made common law, in the case of property law. The third and final section of the course will consider an unusual and particularly significant kind of law: constitutional law. We will consider the purpose(s) of constitutions, how constitutionalism relates to democracy, and how constitutions ought to be understood and interpreted, in light of our answers to these first two questions. Throughout the course, we will engage with both classic and contemporary work, reading work by Michelle Alexander, Jeremy Bentham, Angela Davis, Ronald Dworkin, John Hart Ely, H.L.A. Hart, Thomas Hobbes, John Locke, John Stuart Mill, Robert Nozick, Martha Nussbaum, Richard Posner, Jeremy Waldron, and others. For BA Students: Society Sector Taught by: Freeman, Tan Course not offered every year Activity: Lecture 1 Course Unit

PHIL 079 Environmental Ethics
In this course we will investigate some of the ethical issues that arise from our relationship with the environment. We will examine important issues in environmental ethics, supplementing our discussions by considering how the latest scientific results affect environmental thinking and policy. Topics covered will include (but not be limited to): What are our responsibilities toward the environment, as individuals and as members of institutions? How do our responsibilities toward the environment relate to other ethical considerations? Do non-human animals/species/ecosystems have intrinsic value? What should conservationists conserve (Conservation vs restoration, keystone species vs ecosystems)? Course not offered every year Activity: Seminar 1 Course Unit

PHIL 080 Aesthetics
This course examines philosophical issues centering on the nature and value of the arts. Some questions we’ll consider are: What is art? What does it mean to have an aesthetic experience? How are aesthetic experiences different from non-aesthetic ones? What is the relation between art and truth? How do the moral qualities in a work of art affect its aesthetic qualities? Why are emotions important in our interpretations of artworks? What is the relation between art and expression? Do forgeries necessarily have less aesthetic value than original artworks? What are aesthetic judgments, and are they merely expressions of taste? Lecture and discussion will center on both classical and contemporary works in aesthetics. For BA Students: Arts and Letters Sector Course not offered every year Activity: Seminar 1 Course Unit

PHIL 155 Continental Philosophy
In this course we read various texts in the Enlightenment tradition and more recent ones critical of modern distortions of this tradition. We shall begin briefly with Kant and Marx, two exemplars of this tradition, and then we shall study in some detail the views of the Frankfurt School (especially the writing of Horkheimer and Adorno), Foucault, and Derrida. Background readings from Nietzsche and Saussure shall also be assigned to place the material from Foucault and Derrida in its proper context. Course not offered every year Activity: Lecture 1 Course Unit

PHIL 202 Topics in Ethics I
As an account of the standard of right conduct, consequentialism is sometimes said to be the view that the rightness of an act is determined entirely by the value of its consequences. Since the 1970s, consequentialism and its most widely-endorsed version, utilitarianism, have been the subjects of a number of influential critiques. Philosophers have contended that consequentialism cannot account for the distinctive values of justice and fairness, for the significance of character, for the agent-relativity of some moral demands, and for the action-guiding function that moral theories are thought to possess. These critiques recommend a close study of the alternative, deontological ethical framework from which many of these critiques originate a framework contending that the right is prior to the good, in John Rawls words. But these critiques have also prompted spirited responses from consequentialists and sophisticated modifications to their theories; these responses are also worth exploring. The focus of this course is to consider and assess some of the important strands in this debate, including the suggestion that neither moral framework adequately captures human concerns about morality and value. We will begin by looking at some of the historical antecedents to the contemporary debate, starting with work by Bentham, Mill, and Sidgwick. We will then move forward to the contemporary debate, reading important critiques by John Rawls, Bernard Williams, Thomas Nagel, Philippa Foot and others, as well as responses by Peter Railton, Samuel Scheffler, and others. Finally, we will look at recent work by Susan Wolf that provides an alternative perspective on morality, value, and meaningfulness. Activity: Seminar 1 Course Unit
PHIL 203 Thinking with Models
When a flu pandemic strikes, who should get accinated first? What's our best strategy for minimizing the damage of global climate change? Why is Philadelphia racially segregated? Why do most sexually reproducing species have two sexes, in roughly even proportions? These and many other scientific and practical problems required us to get a handle on complex systems. And an important part of deepening our understanding and sharpening our intuitions requires us to think with models. Students in this laboratory-based course will learn about the varied practices of modeling, and will learn how to construct, analyze, and validate models.
For BA Students: Formal Reasoning and Analysis
Taught by: Weisberg
Course not offered every year
Also Offered As: OIDD 325
Activity: Seminar
1 Course Unit

PHIL 205 What is Meaning?
This course will survey several central topics in philosophy of mind and language, as well as investigate how these areas of philosophy interact with the scientific study of the mind. Among the questions we'll be asking are: What is it to have a mind? What is consciousness? What is it to think, to perceive, to act, to communicate, to feel emotions? What is the relationship between the mind and the brain? Can there be a science of the mind? Of language? What can it tell us? What can philosophy contribute to cognitive science? We will look for more precise ways of asking these questions, and we will study some canonical answers to them. We will also look for places where more precise ways of asking these questions build in hidden assumptions, and what that might mean for both a philosophy and a science of the mind.
Course not offered every year
Also Offered As: PHIL 294
Activity: Lecture
1 Course Unit

PHIL 209 Introduction to Plato
This course involves a close reading of the most important dialogues written by Plato, one of the greatest philosophers of all time. We will examine a wide range of topics in metaphysics, epistemology, and ethics: What is the nature of the soul? Is there an afterlife? What are the fundamental entities in the world? What are Plato's "forms"? What is knowledge and what can be known? Are we born as a blank slate or is something innate in us? What is the good life? What is the best way for us to live our lives? We will see how Plato attempts to answer these questions in his early, middle, and late dialogues, and we will ask whether and how exactly he is self-critical and changes his views over time.
Taught by: S.Meyer
Course not offered every year
Activity: Seminar
1 Course Unit

PHIL 210 Introduction to Aristotle
Aristotle (384-323 BCE) was one of the most important philosophers in Classical Greece, and his legacy had unparalleled influence on the development of the Western philosophical thought through the medieval period. We will study a selection of his works in natural philosophy, metaphysics, epistemology, psychology, ethics and politics. All texts will be read in English translation. No background in Greek philosophy or knowledge of Greek is required.
Taught by: S.Meyer
Course not offered every year
Also Offered As: CLST 210
Activity: Lecture
1 Course Unit

PHIL 211 Ancient Moral Philosophy
The Nicomachean Ethics is considered to be Aristotle’s major ethical work, and it is still counted among the most influential ethical texts altogether. This course will focus on Aristotle’s Nicomachean Ethics with a special emphasis on questions that are systematically relevant for problems discussed in contemporary approaches to virtue ethics. These questions concern, for example, the Aristotelian conception of virtue, the scope and nature of practical wisdom, and the relationship between virtue and justice.
For BA Students: Society Sector
Taught by: S.Meyer
Course not offered every year
Also Offered As: CLST 211
Activity: Seminar
1 Course Unit

PHIL 220 Proof in Mathematics, Philosophy and Law
Proofs are vital to many parts of life. They arise typically in formal logic, mathematics, the testing of medication, and convincing a jury. How do you prove that the earth is essentially a sphere (in particular, not flat)? In reality, proofs arise anywhere one attempts to convince others. However, the nature of what constitutes a proof varies wildly depending on the situation -- and on whom you are attempting to convince. Convincing your math teacher or a judge is entirely different from convincing your mother or a jury. The course will present diverse views of Proof. On occasion there may be guest lecturers.
Taught by: Weinstein
Course not offered every year
Also Offered As: MATH 220
Prerequisite: MATH 103 or PHIL 005
Activity: Seminar
1 Course Unit

PHIL 221 Philosophy East and West
Our goal in this course is to bring Western Philosophy and Eastern Philosophy into dialogue. Topics we will cover include skepticism and knowledge, ethics and the good life, moral responsibility and personal relationships, and political obligations and justice. Do the Western and Eastern philosophical traditions approach these topics in the same way? Do they even share an understanding of what the problems and issues at stake are? And what can we learn from comparative philosophy? This freshman seminar does not presuppose prior knowledge of philosophy. Examples of authors we will study include Descartes, Aristotle, Mencius, and Confucius.
Taught by: Tan.
Course not offered every year
Activity: Seminar
1 Course Unit
PHIL 223 Philosophy and Visual Perception
In this course, we’ll use the biology, psychology and phenomenology of vision to explore philosophical questions about color, such as these: Color vision helps us get around in our environments, but in what sense is it a window onto reality, if it is? Are colors properties of objects, or are they inherently private, subjective properties of minds? What can non-human forms of color vision teach us about the nature of color, and how should we empirically study color vision? Do we need to see in color to understand it? How do our ordinary ways of talking and thinking about colors relate to the experiences we have in color? How does color vision figure in aesthetic judgment? And to what degree can it be influenced by learning, or by social biases like sexist or racist prejudices?
Taught by: Hatfield, Connolly
Also Offered As: PHIL 423, VLST 223
Activity: Seminar
1 Course Unit

PHIL 225 Introduction to Philosophy of Science
A discussion of some philosophical questions that naturally arise in scientific research. Issues to be covered include: The nature of scientific explanation, the relation of theories to evidence, and the development of science (e.g., does science progress? Are earlier theories refuted or refined?).
Taught by: Domotor
One-term course offered either term
Also Offered As: STSC 108
Activity: Seminar
1 Course Unit

PHIL 226 Philosophy of Biology
This course consists of a detailed examination of evolutionary theory and its philosophical foundations. The course begins with a consideration of Darwin’s formulation of evolutionary theory and the main influences on Darwin. We will then consider two contemporary presentations of the theory: Richard Dawkins’ and Richard Lewontin’s. The remainder of the course will deal with a number of foundational issues including adaptation, the units of selection, the evolution of altruism, and the possibility of grounding ethics in evolutionary theory.
For BA Students: Natural Science and Math Sector
Taught by: Domotor, Spencer, Weisberg
Course not offered every year
Also Offered As: PHIL 521, PPE 225, PPE 421
Activity: Seminar
1 Course Unit

PHIL 227 Conceptions of the Self
Investigation of such topics as the unity of consciousness and personal identity. Some attention will be given to the relations between conceptions of the self and conceptions of morality.
Course not offered every year
Activity: Seminar
1 Course Unit

PHIL 228 Philosophy of Social Science
This course is about the foundations of contemporary social science. It focuses on the nature of social systems, the similarities and differences between social and natural sciences, the construction, analysis, and confirmation of social theories, and the nature of social explanations. Specific topics may include: What are social norms and conventions? What does it mean to have one gender rather than another, or one sexual orientation rather than another? Should social systems be studied quantitatively or qualitatively?
Taught by: Weisberg, Bicchieri
Course not offered every year
Prerequisites: PPE 008, ECON 001, ECON 002, PSCI 182, PPE 153, PPE 201
Activity: Lecture
1 Course Unit

PHIL 231 Epistemology
Two basic assumptions of academic research are that there are truths and we can know them. Epistemology is the study how knowledge, what it is, how it is produced, and how we can have it. Metaphysics, the study of the basic constituents of reality, the study of being as such. In this introduction to metaphysics and epistemology, we will ask hard questions about the nature of reality and knowledge. No philosophy background is required for this course.
Taught by: Singer
Course not offered every year
Activity: Seminar
1 Course Unit

PHIL 233 Philosophy of Economics
In this course, general philosophy of science issues are applied to economics, and some problems specific to economics are tackled. While analytical questions like "What is economics?" or "What is an economic explanation" must be pursued, the ultimate goal is practical: What is good economics? How can economists contribute to a better understanding of society, and a better society? How can we make economics better? Topics to be discussed include the following: specific object and method of economics as a social science; its relation with other disciplines (physics, psychology and evolutionary theory); values in economics (welfare, freedom, equality and neutrality); the role of understanding and possible limits of a quantitative approach to human behavior (purposefulness, freedom, creativity, innovation); prediction, unpredictability and the pretension of prediction; causation in econometrics and in economic theory (equilibrium); selfishness and utility maximization (cognitive and behaviorist interpretations); economic models and unrealistic assumptions (realism and instrumentalism); empirical basis of economics (observation and experiment); microeconomics and macroeconomics (reductionism and autonomy); pluralism in economics (mainstream economics and heterodox schools).
Course not offered every year
Also Offered As: PPE 333
Activity: Lecture
1 Course Unit
PHIL 234 Philosophy of Religion
This course will focus on arguments for and against the existence of God. It will begin by examining the ontological, cosmological, and design arguments for the existence of God. Included will be a discussion of purported evidence for the existence of God from modern biology and cosmology. It will then examine arguments against the existence of God based on human and animal suffering, followed by arguments against the existence of God arising from the scarcity of credible miracle claims.
Course not offered every year
Also Offered As: RELS 204
Activity: Seminar
1 Course Unit

PHIL 242 Freedom of the Will
A discussion of various challenges to our self-understanding that arise from thinking about persons and their actions as part of the order of nature. Questions to be considered include: what it is to be a free agent and what it means to have a free will, the degree to which our beliefs about physical causality undermine our beliefs about agency, the nature and importance of moral responsibility, and the relationship between freedom and responsibility. Readings are drawn from both historical and contemporary sources.
Course not offered every year
Activity: Seminar
1 Course Unit

PHIL 243 Topics in Metaphysics
In this class we employ science fiction thought experiments as a means of reflecting on questions like: What is reality? What is the nature of the self and mind? Might you be in a computer simulation (e.g., as in The Matrix)? Is time travel possible? Can your mind survive the death of your brain by uploading? Is time real or is it merely an illusion?
Taught by: Domotor
Course not offered every year
Prerequisites: PHIL 001 or PHIL 003 or PHIL 004, or permission of instructor.
Activity: Seminar
1 Course Unit

PHIL 244 Introduction to Philosophy of Mind
This course will survey several central topics in philosophy of mind, as well as investigating how philosophy of the mind interacts with scientific study of the mind. Among the questions we'll be asking are: What is it to have a mind? What is the relationship between the mind and the brain? Can there be a science of the mind? What can it tell us? What can philosophy contribute to a science of the mind? What is consciousness? What is it to think, to perceive, to act? How are perception, thought, and action related to one another?
Taught by: Domotor, Miracchi
One-term course offered either term
Also Offered As: PPE 244, VLST 221
Activity: Lecture
1 Course Unit

PHIL 245 Philosophy & Science Fiction
In this class we employ science fiction thought experiments as a means of reflecting on questions like: What is reality? What is the nature of the self and mind? Might you be in a computer simulation (e.g., as in The Matrix)? Is time travel possible? Can your mind survive the death of your brain by uploading? Is time real or is it merely an illusion?
Activity: Seminar
1 Course Unit

PHIL 247 Marx
Precious few, if any, communist states exist today as Karl Marx would have imagined them. Indeed, almost every part of the 19th-century culture Marx put under his philosophical microscope has in one way or another vanished or been radically transformed: the state, the school, even sex have been fundamentally altered during a long 20th century filled with revolutions of culture. This class asks: is there a future for a philosopher whose political projects seem so precarious—if they have not failed outright—in the face of global capitalism? We will try to answer this question by examining the origins and the implications of Marx's writings, but also his complex legacy, from Lenin through Guevara to Foucault and Zizek. The course will conclude with a consideration of the role of the radical in today's global politics and cultural sphere.
For BA Students: Humanities and Social Science S
Taught by: Jarosinski
Course not offered every year
Also Offered As: COML 247, GRMN 247
Activity: Lecture
1 Course Unit

PHIL 249 Philosophy of Education
The philosophy of education asks questions about the foundational assumptions of our formal institutions for the reproduction of culture. It ranges therefore, from epistemology and philosophy of mind to ethics and political philosophy. For instance: What is the nature of learning and teaching? How is it possible to come to know something we did not know already—and how can we aid others in doing that? How, if at all, should formal institutions of education be concerned with shaping students' moral and civic character? What is the proper relation between educational institutions and the state? We also ask questions more specific to our own time and context. For example: how, in a multicultural state, should we educate students of varied social identities, like race, gender, and religion? What is the relationship between education and justice.
Taught by: Detlefsen
Course not offered every year
Also Offered As: EDUC 576, GSWS 249
Activity: Seminar
1 Course Unit
PHIL 252 African American Philosophy
A new field has slowly begun to emerge within the traditional discipline of academic philosophy. African-American Philosophy. "African American Philosophy" refers here to conceptually and analytically rigorous philosophical studies of topics closely related to the social, legal, economic, historical, and cultural experiences of US peoples of African descent. The field has appeared in tandem with a striking increase in the number of professionally trained philosophers of African descent holding the Ph.D. in philosophy, and employed as full-time teachers and scholars. A recent estimate puts the number of philosophers of African descent working in the US at about one hundred; and about twenty of these are African-American women. A significant body of scholarship now describes, explains, critiques, and evaluates African American culture, slavery, oppression, discrimination, integration, segregation, equality, gender politics, labor, families, health, mental health, and the significance of race to identity, morality, ethics, politics, democracy, public policy, law, science, technology, the humanities and the arts. This unique lecture course will be a thematic introduction to African American Philosophy since 1960. Weekly topics will be chosen from among these clusters: Slavery, Colonialism, Oppression and Freedom; Segregation, Integration and Equality; Gender, Sex and Sexualities; Reproductive Rights and Responsibilities; Religion and Spiritualism; Rebellion, Protest, Social Movements and Citizenship; Economic Welfare, Labor and Inequality; Violence, Crime and Punishment; Education, Affirmative Action and Diversity; Reparations and Forgiveness; Identities and Stereotypes; Nature, Science and Health; Psychology, Psychiatry and Mental Health; Pragmatism; Existentialism; and the Sociology of Philosophy. We will read works by Cornell West, Adrian Piper, Charles Mills, Lewis Gordon, Anita Allen, Anthony Appiah, Lucius Outlaw, Naomi Zack, Lawrence Thomas, Bill Lawson, Michele Moody Adams and others. For most undergraduate students, evaluation in the course will be based on a mid-term and final exam with essay and objective components. Advanced students and graduate students enrolled in the course will have an opportunity to write a substantial supervised paper on a topic of their own choosing in lieu of the exams.
Taught by: Allen-Castellitto
Course usually offered in spring term
Also Offered As: AFRC 254, AFRC 552, PHIL 552
Activity: Seminar
1 Course Unit

PHIL 255 Topics in Continental Philosophy
Martin Heidegger is counted among the most controversial thinkers of the 20th century. He is best known, however, for his early book "Being and Time". This unfinished project was supposed to be completed by several works on major figures of western philosophy, one of which is Kant. In fact, only shortly after Being and Time, Heidegger published his first book on Kant: Kant and the Problem of Metaphysics. With this book Heidegger’s so called metaphysical phase (which lasted at least until the mid 1930’s) was initiated. In this course, we will read and discuss not only large parts of Being and Time but also a selection of these later works that are primarily concerned with the nature and object of Metaphysics.
Course not offered every year
Also Offered As: GRMN 255
Activity: Seminar
1 Course Unit

PHIL 257 Kant and the 19th Century
After an orientation to Kant's philosophy, we will examine Hegel, Feuerbach, Marx, and Nietzsche.
Course not offered every year
Prerequisite: PHIL 004
Activity: Seminar
1 Course Unit

PHIL 271 Global Justice
This course is an introduction to some of the central problems in global justice. Samples of these topics include: What are our duties to respond to world poverty and what is the basis of this duty? Is global inequality in itself a matter of justice? How universal are human rights? Should human rights defer to cultural claims at all? Is there a right to intervene in another country to protect human rights there? Indeed can intervention to protect human rights ever be a duty? Who is responsible for the environment? We will read some influential contemporary essays by philosophers on these topics with the goal of using the ideas in these papers as a springboard for our own further discussion and analysis.
Taught by: Tan
Course not offered every year
Also Offered As: PPE 271
Activity: Seminar
1 Course Unit

PHIL 272 Ethics & the Professions
Since Louise Brown, the first so-called "test tube baby" was born in 1978, reproductive technologies have generated many new ways to "make" babies. These technologies mean that a number of difficult ethical questions are inescapable, not only for individuals who otherwise couldn’t have children (due to biological and/or social constraints) but for the larger society. This course will consider the prenatal moral status and identity of the fetus. It explores prenatal (and pre-implantation) genetic interventions and their possible effects on the autonomy of the child later in life as well as the possible eugenic implications of such interventions. It examines the potential conflict between a mother’s autonomy and an infant’s prenatal harm in the larger context created by new kinds of parents and new forms of kinship. Finally, it investigates the market for sperm, eggs, embryos and gestation and reflects on the questions of justice they imply.
Taught by: Tan
Course not offered every year
Prerequisites: At least one of: PHIL 002, PHIL 009, PHIL 008 or equivalent.
Activity: Seminar
1 Course Unit

PHIL 273 Ethics in the Profession
This introductory course considers the ethical issues and challenges that arise in the professions. Topics may include Legal Ethics, Business Ethics, Medical Ethics, and Political Ethics. No prior background in Philosophy or Ethics is presupposed.
Course not offered every year
Also Offered As: PHIL 473
Activity: Seminar
1 Course Unit
PHIL 277 Justice, Law and Morality
The course will focus on the philosophical background to the individual rights protected by the U.S. Constitution, including 1st Amendment freedoms of religion, expression, and association; the 14th amendment guarantee of Due Process and the rights of privacy, abortion, assisted suicide, and marriage; the Equal Protection clause and equal political rights and the legitimacy of affirmative action; and the Takings and Contract clauses and their bearing on rights of private property and economic freedoms. In addition to Supreme Court decisions on these issues, we will read works by political philosophers and constitutional theorists, including J.S. Mill, Ronald Dworkin, Cass Sunstein, Martha Nussbaum, Katherine MacKinnon and others.
Taught by: Freeman, Allen
Course not offered every year
Also Offered As: PPE 277
Activity: Lecture
1 Course Unit

PHIL 279 Contemporary Political Philosophy
This course will examine contemporary theories of justice, including libertarianism, liberalism, contemporary Marxism and feminism. Examples of topics we will examine are distributive justice, liberty, human rights, republicanism, and global justice. Philosophers we will read include John Rawls, Ronald Dworkin, Robert Nozick, Michael Walzer, Martha Nussbaum, Susan Moller Okin, and G.A. Cohen.
Taught by: Hussain, Tan
Course not offered every year
Activity: Lecture
1 Course Unit

PHIL 280 Topics in Aesthetics
What is beauty? What is the relationship between beauty and goodness? What does aesthetic judgment tell us, if anything, about the world? This course addresses these and other questions by focusing predominantly on Kant's highly influential aesthetic theory. It situates this text in the context of other works on aesthetics. We begin with Plato's view expressed in The Symposium that beauty is a form to which humans gain (some) access through love. We then turn to essays by Shaftesbury and Hume that introduce key aesthetic notions that Kant will elaborate (and revise) -- including those of taste, common sense, harmony, and aesthetic disinterest. We also read selections from the work of Friedrich Schiller, John Dewey, and A. K. Coomaraswamy who offer alternative accounts of the relationship between beauty and ethical life -- a relationship that Kant acknowledges but considers to be importantly limited. The question of the relationship between ethics and aesthetics will form the backdrop for this semester's reading overall.
Course not offered every year
Also Offered As: ENGL 394
Activity: Seminar
1 Course Unit

PHIL 281 Philosophy of Race
Historically, philosophical questions about race have been about the nature and reality of race, the nature of racism, and social or political questions related to race or racism. In fitting with that history, the first part of the course will focus on the nature and reality of race, as understood in biology and as understood by ordinary people. We will begin by looking at biological race theories from Francois Bernier in 1684 to Pigliucci and Kaplan in 2003. Next, we will look at the philosophical work that has been done on the nature and reality of race as ordinarily understood in the contemporary United States. We will discuss racial anti-realism, social constructionism about race, and biological racial realism from well-known philosophers of race like Anthony Appiah, Sally Haslanger, and Joshua Glasgo. The second part of the course will focus on the nature of racism and social or political questions related to race or racism. In our discussion of racism, we will cover, at least, intrinsic racism, extrinsic racism, and institutional racism. In our discussion of social or political issues related to race or racism, we will look at whether any US racial groups should be used to diagnose, study, or treat genetic disorders.
Taught by: Spencer
Course not offered every year
Activity: Seminar
1 Course Unit

PHIL 294 The Human Animal
To ask "what is an animal?" entails wondering about what is being human. We have become increasingly aware that animals are not to be relegated to the category of pure otherness, can be disposed off and slaughtered at will, and that they may even have some rights. Taking a philosophical point of departure with Derrida (The Animal that therefore I am) and Agamben (The Open: Man and Animal), we will explore a literary corpus (with Aesop, Cervantes, Poe, Soseki, Ted Hughes, Marianne Moore, Kafka, J.M. Coetzee) as well as a few films, (The Fly, Grizzly Man) so as to question our usual assumptions about the limits separating humanity from animality.
Course not offered every year
Also Offered As: ENGL 394
Activity: Seminar
1 Course Unit

PHIL 295 Identity
The content of the course may include the following, and related, themes: what makes a human the same human over time? What constitutes our identities? Are gender, race, sexual orientation, and the like essential features of our identities, and if so, how do they become so? How do ethics, politics and identity interact? After learning this philosophical content, Penn students will develop lesson plans for introducing this content to Philadelphia public high school students. Mid way through the semester, Penn students will start to prepare the high school students to present their own original work on the philosophy of identity at a conference to be held at Penn in May 2017. Penn students will be assessed on their own written and other work for the course, and in no way on the written or oral work of the high school students. Enrollment by permit only. Please contact Professor Detlefsen detlefsen@sas.upenn.edu to schedule an interview for admission to the course.
Taught by: Detlefsen
Course not offered every year
Also Offered As: GSWS 205
Activity: Seminar
1 Course Unit
PHIL 299 Independent Study
Student arranges with a faculty member to pursue a program of reading and writing on a suitable topic.
One-term course offered either term
Activity: Independent Study
1 Course Unit

PHIL 300 Research Methods
An intensive research seminar for undergraduates, aimed at developing philosophical skills in the context of a supportive student community. Students will learn to present, discuss, and write philosophy, drawing on canonical texts in a range of philosophical areas and methods, along with readings which they identify in the course of articulating their own philosophical interests. The course may be taken alone or as part of a two-semester sequence, and with or without a stand-alone honors thesis. In addition to philosophy majors, the course is also suitable for less advanced students or majors in related fields who want to sharpen their analytic skills. Admission is by application only. Students should have demonstrated philosophical interest and ability, whether through past enrollment in upper-division philosophy courses or through other means; and should submit a transcript, the names of 1-2 supporting faculty, and a brief statement (300 words) describing how they expect the course to contribute to their philosophical and intellectual development, to Professor Karen Detlefsen (detlefsse@sas.upenn.edu) by November 2, 2012.
Activity: Seminar
1 Course Unit

PHIL 301 Directed Honors Research
Open only to senior majors in philosophy. Student arranges with a faculty member to do an honors thesis on a suitable topic.
One-term course offered either term
Activity: Independent Study
1 Course Unit

PHIL 325 Topics in Philosophy of Science
The aim of this course is to explore the relationships between philosophy and physics, with a focus on prominent foundational issues in modern physics. The course is organized around four main areas. In the first part, we focus on the philosophy and (classical and relativistic) structure of space and time, including the proliferations of physical geometries (Lobachevskian and Riemannian) of curved space time. Are space and time real? If so, what kind of entities are they? Metaphysically, we have a choice between presentism and eternalism, and regarding the nature of physical objects in space-time, there is a choice between endurantism and perdurantism. Is time travel possible? In the second part, we concentrate on the basic metaphysical and epistemological questions posed by physics: causality, determinism, randomness, and the nature of physical laws. How is cause conveyed from one physical body to another? Are the laws of physics true? In the third part, we turn to the principal philosophical issues raised by quantum physics: structural realism and the interpretations of quantum mechanics, non-locality and Bell's theorem, the infamous Schrodinger cat paradox, hidden variables, and quantum measurement. What is primary -- particles or waves? Finally in the fourth part, we investigate the metaphysics underlying Big Bang and Ekpyrotic cosmological theories, and evidence for a parallel universe and baby universes. All these philosophical issues will be addressed by looking at some simple examples or episodes taken from modern physics. The bulk of the readings will come from two textbooks (available at the Barnes & Nobel University Bookstore) and articles in journals.
PREREQUISITES: The course is entirely self-contained: All topics in physics that are necessary for understanding the pertinent philosophical problems will be reviewed in class.
Taught by: Weisberg
One-term course offered either term
Activity: Seminar
1 Course Unit
Notes: Department Majors Only

PHIL 330 Philosophy of Perception
Taking our perceptual experience as a given, what causes it? In a realistic mood, we accept that objects in the environment, or in the "external world," cause us to have the perceptual experiences that we do (as of a table with food, or of a garden with flowers in it). Yet on this realistic view, our perception is the result of a causal chain that leads from object to eye to brain to experiences, and we are only given the last element: the experience. So how do we really know how our experiences are caused, and where do we get the idea that they are caused by an external world of physical objects? The seminar will focus on the problem of the external world as examined by David Hume, Thomas Reid, G. E. Moore, and Bertrand Russell, along with recent authors.
Taught by: Hatfield
Course not offered every year
Also Offered As: VLST 222
Activity: Seminar
1 Course Unit
Notes: Department Majors Only
PHIL 331 Epistemology
A seminar for philosophy majors on some main problems of contemporary epistemology, with readings on justification, contextualism, non-conceptual content, normativity of rationality, and related topics. Student presentations are required as are regular attendance and active participation. There are brief written assignments on the readings and a final term paper on a topic approved by the instructor.
Course not offered every year
Activity: Seminar
1 Course Unit
Notes: Department Majors Only

PHIL 342 Topics in Metaphysics
Various topics in Metaphysics.
Taught by: Weisberg
Course not offered every year
Activity: Seminar
1 Course Unit
Notes: Department Majors Only

PHIL 343 Philosophy of Mind
This majors seminar will closely read Susan Hurley’s interesting and provocative 1998 book Consciousness in Action, along with some supplementary readings. This book touches on many central issues in philosophy of mind, including the relationship between the personal and sub-personal levels, the role of computation in understanding the mind, the relationship between the “inner” and “outer” world, the nature of mental architecture, and the relationship between perception, action, and consciousness.
Taught by: Miracchi
Course not offered every year
Activity: Seminar
1 Course Unit
Notes: Department Majors Only

PHIL 344 Wittgenstein: Mind and Language
In this class, we will engage in a close reading of Wittgenstein’s major writings: the Tractatus Logico-Philosophicus and the Philosophical Investigations. Some of the main topics to be considered include: how language relates to the world; what philosophy is and what it can accomplish; the nature of understanding; what is involved in following a rule; and the phenomenon of seeing-as. A distinctive feature of Wittgenstein’s approach to philosophy is his commitment to philosophy as an activity rather than a set of doctrines. In keeping with this, the main goal of this class is for you to learn to do philosophy: to read closely, to grapple with foundational questions, and to talk seriously with others. This class is very much a seminar, and I will avoid lecturing as much as possible.
One-term course offered either term
Activity: Seminar
1 Course Unit
Notes: Department Majors Only

PHIL 345 Topics in Theoretical Philosophy
This is an undergraduate research seminar covering interdisciplinary research in psychology, philosophy, sociology and behavioral economics related to social norms. Social norms are informal institutions that regulate social life. We will devote particular attention to the following questions: 1. What is a good, operational definition of social norms? 2. Is there a difference between social and moral norms? 3. How can we measure whether a norm exists, and the conditions under which individuals are likely to comply with it? 4. Are behavioral experiments a good tool to answer question 3? 5. How do norms emerge? 6. How are norms abandoned? 7. What is the role of trendsetters in norm dynamics?
Taught by: Spencer
Activity: Seminar
1 Course Unit
Notes: Department Majors Only

PHIL 361 Ancient Philosophical Figures
A study of selected topics, texts, and figures from classical Greek philosophy.
Taught by: S.Meyer
Course not offered every year
Prerequisite: PHIL 003
Activity: Seminar
1 Course Unit
Notes: Department Majors Only

PHIL 362 Modern Philosophical Figures
This seminar is dedicated to Kant’s critical philosophy. In particular, the Critique of Pure Reason, which is the first of three Critiques, ranks amongst the most important texts of modern philosophy. Even in contemporary debates, Kantian claims still play a crucial role and basic knowledge of Kant’s critical philosophy is often assumed. In this seminar, we will deal with central passages from different works which, taken together, give a good picture of Kant’s critical revision of classical metaphysics. We shall discuss important conceptions and ideas of Kant’s mature philosophy, such as the nature of transcendental aesthetics and the resulting distinction between a think-in-itself and appearance, the meaning and application of the categories, the justification and determination of human freedom, and the role of the moral law for Kant’s so-called practical metaphysics.
Taught by: Hatfield, Detlefsen
Course not offered every year
Also Offered As: GRMN 363, PHIL 565
Activity: Seminar
1 Course Unit
Notes: Department Majors Only

PHIL 366 Epistemology
A seminar for philosophy majors on some main problems of contemporary epistemology, with readings on justification, contextualism, non-conceptual content, normativity of rationality, and related topics. Student presentations are required as are regular attendance and active participation. There are brief written assignments on the readings and a final term paper on a topic approved by the instructor.
Course not offered every year
Activity: Seminar
1 Course Unit
Notes: Department Majors Only

PHIL 367 Kant and Hegel
We will examine the main theses of Kant’s theoretical and practical philosophy and the role of Hegel’s criticisms in them in the development of the latter’s system of philosophy. Subjects will include Kant’s theory of space, time, substance, and causation; his transcendental idealism; and his analysis of the fundamental principles of morality and his defense of freedom of the will. We will then examine Hegel’s attempt to overcome the dichotomies of Kant’s theoretical philosophy in his objective idealism and his criticism of the formalism of Kant’s practical philosophy.
Course not offered every year
Activity: Seminar
1 Course Unit
Notes: Department Majors Only
PHIL 368 Topics in German Idealism
The course will start with a brief review of some features of Kant's philosophy, will focus on Fichte and Schelling, and will end with a discussion of the reaction to Idealism by Schopenhauer and Nietzsche. Taught by: Horstmann
Course not offered every year
Activity: Seminar
1 Course Unit
Notes: Department Majors Only

PHIL 372 Topics in Ethics
This is a special course on topics in ethics. The content of the course will vary from semester to semester, but will focus on issues in applied ethics. Because of the interdisciplinary nature of the topics, readings may come from philosophy as well as other fields including sociology, public health, biology, and complex systems research. PHILOSOPHY MAJORS ONLY.
Taught by: Freeman,
Course not offered every year
Prerequisite: PHIL 002 (or consent of the instructor)
Activity: Seminar
1 Course Unit
Notes: Department Majors Only

PHIL 376 Justice
The course will focus on contemporary works on liberalism, democracy, capitalism, and distributive justice. Among the questions to be discussed: Which rights and liberties are fundamental in a constitutional democracy? What is equality and what requirements does it impose? Are economic rights of property and freedom of contract equally important as personal liberties of speech, religion, and association? Does capitalism realize a just distribution of income and wealth? What is socialism and is it potentially just, or necessarily unjust? Readings from works by John Rawls, Robert Nozick, Milton Friedman, and others.
Taught by: Freeman,
Course not offered every year
Activity: Seminar
1 Course Unit
Notes: Department Majors Only

PHIL 377 Philosophy and the Constitution
The aim of this course is to investigate the philosophical background of our constitutional democracy. What is the appropriate role and limits of majority legislative rule? How are we to understand First Amendment protections of freedom of religion, speech, and assembly? What is the conception of equality that underlies the 14th Amendment's Equal Protection Clause? Is there a right of privacy implicit in the Constitution? Do rights of property deserve the same degree of protection as other constitutional rights? To investigate these and other constitutional issues, we will read from both Supreme Court opinions and relevant philosophical texts.
Taught by: Freeman
One-term course offered either term
Activity: Seminar
1 Course Unit
Notes: For Philosophy and Philosophy, Politics, and Economics Majors (PPE) Only

PHIL 379 Topics in Political Philosophy
Various topics in political philosophy.
Taught by: Freeman, Tan
Course not offered every year
Activity: Seminar
1 Course Unit
Notes: Department Majors Only

PHIL 380 Topics in Aesthetics
This course will study particular periods in the history of aesthetics and the philosophy of art or particular current problems in the field. Examples of the former would be ancient, eighteenth-century, nineteenth-century, or twentieth-century aesthetics; examples of the latter would be the definition of art, the nature of representation and/or expression in the arts, and art and morality.
Course not offered every year
Activity: Seminar
1 Course Unit
Notes: Department Majors Only

PHIL 405 Philosophy of Language
This course provides an overview of 20th century analytic philosophy of language. Here are some of the questions we will ask: How do words refer? How do they combine to express thoughts? How do words relate to concepts or to thoughts more generally? What do words and sentences mean? How do we use them to communicate with each other? How does word and sentence meaning depend on the contexts in which they are spoken or heard, or on stable features of environments of linguistic speakers? Prerequisites: This course will be most suitable for advanced undergraduates and graduate students in philosophy or linguistics; others need instructor's permission. Familiarity with symbolic logic is highly recommended, but not required.
Taught by: Miracchi
Course not offered every year
Prerequisite: PHIL 005 or PHIL 505 or permission of instructor
Activity: Seminar
1 Course Unit

PHIL 407 Aristotle
A study of Aristotle's main writings on language, reality, knowledge, nature and psychology. All texts will be read in English translation. No background in Greek philosophy or knowledge of Greek is required, although previous work in philosophy is strongly recommended.
Taught by: S.Meyer
Course not offered every year
Activity: Seminar
1 Course Unit

PHIL 409 Plato's Selected Dialogues
A study of selected dialogues of Plato. All texts will be read in translation. No prior experience in Plato is required, but students should have some background in philosophy. The course will be run as a seminar. Topic for Spring 2017: Plato on Pleasure. We will read Plato's Gorgias, Protagoras, Republic (selections), Philebus, and Laws (selections). All these texts discuss pleasure, either its relation to the good or its role in human motivations.
Taught by: S.Meyer
Course not offered every year
Activity: Seminar
1 Course Unit
PHIL 410 Introduction to Logic and Computability
Taught by: Weinstein
Course not offered every year
Also Offered As: LGIC 310, MATH 570
Prerequisite: Math 371 or Math 503
Activity: Lecture
1 Course Unit

PHIL 412 Topics in Logic
This course will examine the expressive power of various logical languages over the class of finite structures. The course begins with an exposition of some fundamental results about first-order logic in the context of finite structures and then proceeds to consider various extensions of first-order logic including fixed-point operators, generalized quantifiers, infinitary languages, and higher-order languages. The expressive power of these extensions will be studied in detail and connections with the theory of computational complexity and with combinatorics will be explored.
Taught by: Weinstein
Course not offered every year
Also Offered As: CIS 518, CIS 682, LGIC 320, LGIC 499
Activity: Seminar
1 Course Unit

PHIL 414 Philosophy of Mathematics
The course will focus on the development of the foundations and philosophy of mathematics from the late nineteenth-century through the present day. Topics will include logicism, formalism, intuitionism, and the foundations of set theory. Ample consideration will be given to some of the fundamental results of mathematical logic, such as the Godel incompleteness theorems and the independence of the Continuum Hypothesis from Zermelo-Fraenkel set theory, that have had a profound impact on contemporary approaches to the philosophy of mathematics.
Taught by: Weinstein, Ewald
Course not offered every year
Activity: Seminar
1 Course Unit

PHIL 421 Philosophy of Biology
This course consists of a detailed examination of evolutionary theory and its philosophical foundations. The course begins with a consideration of Darwin's formulation of evolutionary theory and the main influences on Darwin. We will then consider two contemporary presentations of the theories of Richard Dawkins and Richard Lewontin. The remainder of the course will deal with a number of foundational issues and may include discussions of adaptation, what constitutes a species, evolutionary progress, the concept of fitness, the units of selection, the alleged reduction of classical genetics to molecular genetics, and the possibility of grounding ethics in evolutionary theory. The evolution of altruism will also be discussed, time permitting. PREREQUISITES: Either two philosophy courses OR Biology 101/102 (or equivalent)
Taught by: Weisberg
Course not offered every year
Also Offered As: PHIL 226, PPE 421
Prerequisite: Either two philosophy courses OR Biology 101/102 (or equivalent)
Activity: Lecture
1 Course Unit

PHIL 423 Philosophy and Visual Perception
The course starts with some central issues in the philosophy of perception from the modern period, which many include what we perceive, the meaningful content of perception, and its relation to a mind-independent external world. It will then focus on two or three more specific topics, yet to be chosen. These may include: (1) color perception and color metaphysics; (2) object perception in its interplay between Gestalt organizational factors and background knowledge; (3) the role of ecological regularities in the formation of our visual system and in the ongoing tuning of the system to the environment; (4) the geometry of visual space and the phenomenology of visual appearances of size and shape; (5) the problem of how visual scenes are experienced by means of means of images and the representational relation between images and things imaged, including the characteristics of linear perspective and its status as arbitrary convention or optically and naturally based system. Readings from authors such as Bertrand Russell, R. W. Sellars, Tim Crane, Evan Thompson, Robert Swartz, Wolfgang Metzger, Nelson Goodman, Richard Wollheim, and William Hopp, among others.
Taught by: Hatfield, Connolly
One-term course offered either term
Also Offered As: PHIL 223, VLST 223
Activity: Seminar
1 Course Unit
PHIL 425 Philosophy of Science.
This self-contained course (presupposing no substantive prior background in philosophy nor any extensive knowledge of science) provides an advanced introduction to the central philosophical questions concerning the nature of scientific knowledge and its relation to experience, and the metaphysical assumptions underlying the natural sciences. Topics to be covered include: science versus pseudoscience, laws of nature, causation, determinism and randomness, theories and models in science, scientific explanation, underdetermination of theories by observation and measurement, realism and antirealism, reductionism and intertheory relations, objectivity and value judgments in science, hypothesis testing and confirmation of scientific theories, and classical paradoxes in scientific methodology.
Taught by: Domotor
One-term course offered either term
Also Offered As: STSC 325
Prerequisites: Background in elementary logic and some rudiments of science
Activity: Seminar
1 Course Unit

PHIL 426 Philosophy of Psychology
An examination of major trends of thought in experimental psychology in relation to philosophy and the philosophy of science. Questions to be asked include: What is the subject matter and object of explanation of experimental psychology? What is the relation between psychology and neuroscience? How is scientific psychology related to traditional philosophical investigations of the mental? The course covers the classical systems and schools of psychology, starting with Wundt and James, and proceeding to behaviorism, Gestalt psychology, cognitive and perceptual psychology, and cognitive science. The second half of the course examines contemporary problems, including: introspection and consciousness; philosophical foundations of cognitive science (computation vs. information); theories of the extended and embodied mind; methodological and conceptual problems in investigating the evolution of mind, brain, and culture; and the relation between neuroscience and psychology, using cases from particular areas such as attention and memory. Readings will include works by Koehler, Skinner, Fodor, Shapiro, and others.
Taught by: Hatfield
Course not offered every year
Also Offered As: STSC 426
Activity: Seminar
1 Course Unit

PHIL 428 Philosophy of Social Science
An examination of fundamental philosophical issues concerning forms of social organization. Consideration of philosophical critiques of society.
Course not offered every year
Activity: Seminar
1 Course Unit

PHIL 430 Philosophy of Mind
This course studies particular topics in contemporary philosophy of mind and cognitive science. Examples include: the nature of consciousness, naturalistic accounts of intentionality, the nature scope of scientific explanation in studying the mind, the intersection of philosophy of mind and epistemology, and theories of agency. Typically, readings include both philosophy and empirical work from relevant sciences. Prerequisites: This course will be most suitable for advanced undergraduates and graduate students in philosophy or related sciences; others need instructor’s permission.
Taught by: Miracchi
Course not offered every year
Activity: Seminar
1 Course Unit

PHIL 431 Theory of Knowledge
This course introduces students to the field of formal epistemology. Although some formal methods will be used, the principal objective is to explore various conceptual issues arising in modeling and representing knowledge. Topics include: bridging the gap between mainstream and formal epistemology by exploring various versions of the familiar tripartite definition of knowledge (knowledge as justified true belief) in light of folksy examples and counterexamples, basic logical and probabilistic models of knowledge (Hintikka, Aumann, and Bayesian), and their multi-agent variants, logical omniscience and other problems (including the epistemic closure principle), attempts at formalizing joint and common knowledge, resource-bounded knowledge, knowledge under limited logical powers, and empirical knowledge obstructed by system complexity. There are no prerequisites for this course, except some logical maturity.
Taught by: Domotor
Course not offered every year
Activity: Seminar
1 Course Unit

PHIL 436 Hellenistic Philosophy
A survey of the natural philosophy, ethics, and epistemology of the three major schools of post-Aristotelian philosophy in the West in the period up to approximately 200 CE: the Stoics (followers of Zeno of Citium), the Epicureans (followers of Epicurus), and the Sceptics—both the “Academics” (later members of Plato’s Academy) and the “Pyrrhonists” (inspired by Pyrrho of Elis). Although less well known today, the Stoics, in particular, were influential in the development of early Christian philosophy, and all three schools were highly influential in the development of early modern philosophy. Authors to be read include Cicero, Seneca, Lucretius, Sextus Empiricus, and Stobaeus. All texts will be read in English translation. No Latin or Greek is required.
Taught by: S.Meyer
Course not offered every year
Also Offered As: CLST 436
Prerequisites: This course will be most suitable for advanced undergraduates and graduate students in Philosophy or Classics; others need instructor’s permission.
Activity: Lecture
1 Course Unit
PHIL 441 Metaphysics

Fictionalism: There are fictionalist accounts of morality, possible worlds, mathematical objects, and even truth. In this course we will examine these accounts and the metaphysical repercussions that the fictionalist strategy commits us to. We will be covering various case studies of fictionalism, and assessing the validity of such accounts. Authors read will include Sainsbury, Kalderon, Everett, and Friend.
Course not offered every year
Activity: Seminar
1 Course Unit

PHIL 442 Origins of Analytic Philosophy

This course will explore the history of analytic philosophy through the lens of two of its most influential figures: Gottlob Frege and Ludwig Wittgenstein. In the first half of the course, we will explore Frege's project in *The Foundations of Arithmetic* to ground the truths of mathematics in the truths of logic and the wider contributions to the philosophy of language and mind he made in attempting to carry out this project. In the second half of the course, we will explore Wittgenstein's *Philosophical Investigations* with particular attention to the skeptical worries about rule-following and its implications for the social basis of mental and linguistic representation. In addition to an in-depth study of these primary texts, secondary readings will be drawn from the work of Tyler Burge, Michael Dummett, Meredith Williams, Peter Hacker and others. The ultimate goal of the class is to both introduce students to the work of Frege and Wittgenstein, and to highlight the ways in which their different philosophical methodologies continue to animate debates in analytic philosophy.
Course not offered every year
Prerequisites: PHIL 005 and one other philosophy course, or permission of instructor
Activity: Seminar
1 Course Unit

PHIL 444 Wittgenstein

A study of the later philosophy of Ludwig Wittgenstein.
Course not offered every year
Activity: Seminar
1 Course Unit

PHIL 448 19th Century Philosophy

The aim of the course is to discuss major elements of Schopenhauer’s and Nietzsche’s philosophy, especially their epistemological and aesthetic teachings and their relation to other philosophers in the 18th and 19th century. Texts will include Schopenhauer’s *The World as Will and Representation*, Nietzsche’s *The Birth of Tragedy; Human, All Too Human; Beyond Good and Evil*.
Taught by: Horstmann
Course not offered every year
Also Offered As: GRMN 548
Activity: Seminar
1 Course Unit

PHIL 450 African, Latin American and Native American Philosophy

This course is an introduction to philosophical work from Africa, Latin America, and the indigenous peoples of North America, covering topics in ethics, metaphysics, epistemology, philosophy of mind, aesthetics, social philosophy, and political philosophy. The course aims to give work from these traditions greater exposure and to provide a chance for students to encounter work that might spark an interest in future research. We will cover in some depth views held by Akán, Axtec, Blackfoot, Dogon, Iroquois, Lakota, Navajo, Ojibwa, and Yoruba peoples. We will also read work by a number of philosophers, including: Kwame Anthony Appiah, Kwame Gyekye, Julius Nyerere, Sor Juanna Ines de la Cruz, Simon Bolívar, Jose Martí, Jose Vasconcelos, Enrique Dussel, Gregory Cajete, Anne Waters, and many others. Throughout, we will also engage with related meta-philosophical issues that emerge with work from all three areas, allowing for interesting cross-discussion. Are these really proper forgotten fields of philosophy? How do we make sense of the idea of African (or Latin American, or Native American) Philosophy as a field? Are there philosophically important differences between oral traditions and written traditions? How should we understand ethnophysics and cultural worldviews as philosophical contributions? How should we think of the "sage" figure in relation to philosophy? How do these traditions engage discussions of identity, autonomy, and post-colonialism? Should this work be incorporated into the mainstream philosophical canon?
Activity: Seminar
1 Course Unit

PHIL 460 Continental Rationalism

In this course, we will read closely some of the definitive texts of seventeenth century European philosophy, using the concept of the human being as our focal point. We will concentrate primarily on the human considered as a biological being (thus developing our understanding of the scientific advances of this century), as a conscious being (thus developing our understanding of theories of mind in this century), and (where relevant) as a moral being. We will focus our attention on Descartes, Spinoza and Leibniz, but draw as well upon texts from other thinkers, particularly Elisabeth, Malebranche and Cavendish. There will be two lectures per week, and discussion is strongly welcome.
Taught by: Hatfield, Detteisen
Course not offered every year
Prerequisite: PHIL 004 or permission of instructor
Activity: Seminar
1 Course Unit

PHIL 463 British Philosophy I

A study of epistemology and metaphysics in classical British philosophy. Authors studied included Bacon, Hobbes, Locke, Berkeley, Hume, Reid, and Mill.
Course not offered every year
Prerequisite: PHIL 004 or permission of instructor
Activity: Seminar
1 Course Unit

PHIL 464 British Philosophy II

A study of moral philosophy, political philosophy, and aesthetics in classical British philosophy. Authors studied include Hobbes, Locke, Hutcheson, Hume, Kames, Adam Smith, and Reid.
Course not offered every year
Prerequisite: PHIL 002 or PHIL 004 or permission of instructor
Activity: Seminar
1 Course Unit
PHIL 465 Kant I
The course will concentrate on the Critique of Pure Reason and discuss in detail Kant's conception of knowledge and experience, his criticism of traditional metaphysics and the resulting project of a system of transcendental philosophy.
Taught by: Hatfield, Horstmann
Course not offered every year
Also Offered As: GRMN 551
Prerequisites: PHIL 004, one advanced Philosophy course, or permission of instructor
Activity: Seminar
1 Course Unit

PHIL 466 Kant II
This course is a study of Kant's moral and political philosophy. The central theme of the course is Kant's conviction that freedom or "Autonomy" is our most basic value, and that the fundamental law of morality as well as the more particular principles of both justice and personal virtue are the means that are necessary in order to preserve and promote the existence and exercise of human freedom. Central questions will be how Kant attempts to motivate or prove the fundamental value of freedom and the connection between this normative issue and his metaphysics of free will. Texts will include Kant's Lectures on Ethics, Groundwork for the Metaphysics of Morals, Critique of Practical Reason, Religion within the Boundaries of Mere Reason, and Metaphysics of Morals. Written work for the course will include one short paper and one term paper.
Course not offered every year
Also Offered As: GRMN 552
Prerequisites: PHIL 002, PHIL 004, or permission of instructor
Activity: Seminar
1 Course Unit

PHIL 467 Topics in History of Philosophy
In this course, we will study figures and themes from the 17th through the 18th centuries, an especially fertile period in the history of philosophy. Topics will vary from year to year. Please see individual course descriptions.
Taught by: Hatfield, Delhefsen
Course not offered every year
Also Offered As: GRMN 567
Prerequisites: Previous course in Philosophy or History and Sociology of Science
Activity: Seminar
1 Course Unit

PHIL 468 Hegel
Hegel is famous (or rather infamous) for entertaining and endorsing startling and obscure claims like 'Contradiction is the rule of truth'. 'The Truth is the whole', 'What is rational is real, and what is real is rational'. Before one is in the position to evaluate, to criticize (and to dismiss) these claims one has to become familiar with their philosophical background. The aim of the seminar is to find out what is meant with claims like these and why Hegel thought of them as reasonable. In order to achieve this aim one has to get acquainted with the basic metaphysical assumptions of his philosophy and with the problems these assumptions are supposed to solve. The seminar will focus primarily on some of Hegel's early Jena writings, his Phenomenology of Spirit, on passages from different versions of Hegel's Logic and (maybe) on aspects of his Philosophy of Right. Topics that are dealt with include:
(1) Hegel's conception of philosophy, (2) the development of his system, (3) the problem of an introduction to his system (Phenomenology of Spirit), (4) Hegel's criticism of traditional metaphysics, (5) his notion of a 'concept' (Begriff), his theory of the Idea. Other topics might become of interest as well.
Taught by: Horstmann
Course not offered every year
Also Offered As: GRMN 583
Activity: Seminar
1 Course Unit

PHIL 472 Survey of Ethical Theory
Murder is wrong. Slavery is unjust. Everyone has reason not to torture their neighbor. Having inconsistent preferences is irrational. On these matters most agree. But what do we mean when we say these things? What state of mind are we in when we think these things? What, is anything, do these claims refer to in the world? Is it the same kind of things that we investigate when we do science? Do we know these things? If so, how? Are these claims even true? If they are ever true, are they true for everyone? These are some of the core questions of metaethics. This course is an investigation of the main questions and problems in metaethics since the turn of the 20th century. We will investigate questions about the metaphysics of morality, the philosophy of language of moral talk, the philosophy of mind of moral thought, the epistemology of morality, and the objectivity of morality.
Taught by: Lord
Course not offered every year
Activity: Seminar
1 Course Unit

PHIL 473 Topics in Ethics
Is abortion wrong? Or euthanasia? Are we justified in eating animals? Why, or why not? we will explore these and other "life and death" ethical problems in a systematic way, seeing how the reasons we give in answer to one question may influence what we can consistently say about others.
Taught by: Chappell
One-term course offered either term
Also Offered As: PHIL 273
Activity: Lecture
1 Course Unit
PHIL 475 Political Philosophy
This is a research seminar covering interdisciplinary research in psychology, philosophy, cognitive science and behavioral economics. Our focus will be on identifying and discussing issues of philosophical significance raised by recent work in moral psychology, experimental economics and behavioral decision making.
Taught by: Freeman, Bicchieri
Course not offered every year
Activity: Seminar
1 Course Unit

PHIL 477 Philosophy and the Law
This first half of the course will provide an introduction to the main currents of thought about the nature and function of law. It will consider, among other things, the classic problem of the source of law's authority, exploring whether an unjust law is still a law, and whether law does or ought to bear a close relation to morality. Should Nazi officials or East German border guards be punished if they were "just following orders"?
What about the judges who enforced the implementation of such laws? Do the conclusions we would reach in the foregoing contexts apply to the conduct of Americans in dealing with suspected terrorists or other detainees? We will consider the divergent answers to these questions suggested by the work of J.L. Austin, H.L.A. Hart, Ronald Dworkin, Joseph Raz, and others. After addressing these traditional jurisprudential inquiries, we will turn to more recent philosophical inquiries in philosophy of law. What is the justification for punishment and how do the various debates in this area play out in specific controversial cases? Is torture ever permissible, whether as part of a scheme of punishment or as part of a system of law enforcement? Is targeted killing a permissible part of just war theory? What should be our stance to government officials who violate the law? As we shall see, each one of these applied topics divides into deontological theorists, on the one hand, and utilitarian, or economic, theorists on the other. We will raise the question of whether these two theories exhaust the possible moves one might make on these various topics, or whether other approaches, such as a contractarian approach, are viable options. The course will require a final, take home exam, as well as attendance, preparation and participation in discussion. The latter will count towards roughly 10% of students' grades. This course is cross listed with LAW 544.
Taught by: Finkelstein
Course not offered every year
Activity: Lecture
1 Course Unit

PHIL 479 Modern Political Philosophy
A survey of several works in modern political philosophy, including Thomas Hobbes's, Leviathan; John Locke's, Second Treatise on Government and Letter Concerning Toleration; David Hume's Of the Original Contract and On Justice, John Stuart Mill's Utilitarianism, On Liberty, and The Subjection of Women; excerpts from Karl Marx's Capital and other writings; and John Rawls's A Theory of Justice.
Taught by: Freeman
Course not offered every year
Activity: Seminar
1 Course Unit

PHIL 480 Topics in Aesthetics
Walter Benjamin: Art, Philosophy, Literature. Walter Benjamin (1892-1940) is a philosopher whose writings on art, literature, and politics have had tremendous influence on cultural studies. He has been variously described as one of the leading German-Jewish thinkers, and a secular Marxist theorist. With the publication of a new four-volume collection of his works in English, many more of his writings have been made accessible to a wider public. Our seminar will undertake a survey of the work that begins with his studies on language and allegory, and continues with his autobiographical work, his writings on art and literature, and finally on the imaginary space of the nineteenth-century.
Course not offered every year
Also Offered As: COML 582, GRMN 580
Activity: Seminar
1 Course Unit

PHIL 485 Topics in Gender Theory
This course seeks to assemble some of the philosophical evidence for feminist claims that traditional political theories are fundamentally inadequate because they have not, and presumably cannot, deal with basic facts of gender and the oppression of women. we will begin by examining the nature of the distinction between sex and gender. This will take us through discussions of: the meaning and significance of categories being socially constructed, the possibility that sexual differences (and inequalities) are in some sense natural and what normative force this has. We will then consider varous attempts to describe the nature of women's oppression. What is it? How does it manifest itself in the lives of women? This will take us through discussions of freedom, constrained choice, ideology, "consciousness raising", androcentrism and the relation between, and methodological importance of, ideal and non-ideal theory. Along the way we will be constructing a version of the feminist framework known as the dominance approach and seeing how it analyzes three presumed sites of oppression: sexuality, reproduction and work/family. Among the authors we will be reading are: Elizabeth Anderson, Marily Frye, Sally Haslanger, Rae Langton, Anthony Laden, Catherine Mackinnon, and Susan Okin. The prerequisite for UNDERGRADUATES taking this course is: two philosophy courses (ONE of which is in moral or political philosophy) OR ONE of the following Gender Studies courses: GSWS/PHIL 028, GSWS/Polisci 280, GSWS 320. There will be one short paper (6-8 pages) with revision, a longer final paper (15 pages) and weekly one-page reflections on a topic from the previous week's discussion.
Course not offered every year
Also Offered As: GSWS 485
Activity: Seminar
1 Course Unit
PHIL 488 The Idea of Nationalism
Nationalism has been the most important geo-political phenomenon of the past two hundred years. Its continuing power has been amply demonstrated by recent events in many parts of the world. This seminar course will explore the ideology of nationalism, what it means, its philosophical foundations, underlying assumptions about the nature of human identity, moral implications, and political consequences. In the process, we will explore such questions as: What is a nation? Does every identifiable ethnic or national group have a valid claim to a nation-state of its own? How are claims to national self-determination justified? How do nations differ from states, peoples, groups, communities, and citizenries? How does nationalism relate to notions of “chosenness” or ethnic and cultural superiority? Why do nationalist movements seem to so often engender political extremism and violent ethno-political conflicts? Is national self-determination compatible with our commitments to individualism, rationality, and universal human rights?
Taught by: Steinberg
Course not offered every year
Activity: Seminar
1 Course Unit

PHIL 489 Ethnicity, Identity and Nationhood
Contemporary public discourse -- in politics, in the media, on the Internet, and throughout our culture -- gives expression to intense, sometimes violent, disagreements and conflicts that often frustrate the solution of important public policy questions, curtail productive public deliberation and dialogue, and profoundly challenge our leaders and institutions. This course will deepen our understanding of the role that political and cultural ideologies -- such as liberalism, conservativism, nationalism, totalitarianism, fundamentalism, etc. -- play in these conflicts and the psychology of ideological thinking that makes them so difficult to resolve. We will begin by considering a series of case studies in contemporary political, social and cultural conflict, drawn from contemporary events such as the 2012 political campaigns, the 2011 debt ceiling debate in Congress, nationalist movements around the globe, etc. We will identify and examine the ideologies driving such conflicts, and from these we will draw out the common philosophical characteristics and psychological features of ideological thinking. Throughout, we will seek to understand the deep attraction of ideological commitments and why they tend to push public discourse and behavior to extremes and even violence. Finally, we will consider efforts to reduce or resolve ideological conflicts through strategies of political compromise, dialogue, toleration, and democratic deliberation.
Course not offered every year
Activity: Seminar
1 Course Unit

PHIL 506 Formal Logic II
An introduction to first-order logic including the completeness, compactness, and Lowenheim-Skolem theorems, and Godel’s incompleteness theorems. UNDERGRADUATES NEED PERMISSION
Taught by: Weinstein
Course usually offered in spring term
Also Offered As: MATH 570, PHIL 006
Activity: Lecture
1 Course Unit
Notes: Undergraduates Need Permission.

PHIL 508 Early Plato
A study of Plato’s earlier dialogues, from the Apology to the Republic, focussing on the moral and political background motivating the doctrine of Forms, and tracing the emergence of that doctrine first as a theory of essences (in the dialogues of definition) and finally as a metaphysical theory in the Symposium, Phaedo and Republic. UNDERGRADUATES NEED PERMISSION
Course not offered every year
Activity: Seminar
1 Course Unit
Notes: Undergraduates Need Permission

PHIL 510 Late Plato
Tracing the development of Plato’s metaphysics from the Parmenides to the Timaeus, including key passages from the Theaetetus and Sophist.
Course not offered every year
Activity: Seminar
1 Course Unit
Notes: Undergraduates Need Permission

PHIL 513 Plotinus
A study of the thought of the major philosopher of late antiquity, founder of Neo-Platonism. Readings will include generous selections from the Enneads.
Course not offered every year
Activity: Seminar
1 Course Unit
Notes: Undergraduates Need Permission

PHIL 521 Philosophy of Biology
This course consists of a detailed examination of evolutionary theory and its philosophical foundations. The course begins with a consideration of Darwin’s formulation of evolutionary theory and the main influences on Darwin. We will then consider two contemporary presentations of the theory: Richard Dawkins’ and Richard Lewontin’s. The remainder of the course will deal with a number of foundational issues including adaption, the units of selection, the evolution of altruism, and the possibility of grounding ethics in evolutionary theory. UNDERGRADUATES NEED PERMISSION
Taught by: Weisberg
One-term course offered either term
Also Offered As: PHIL 226, PPE 225
Activity: Lecture
1 Course Unit
Notes: Undergraduates need permission

PHIL 522 Philosophy and Film
Taught by: Detlefsen
Course not offered every year
Also Offered As: CIMS 502
Activity: Seminar
1 Course Unit
Notes: Undergraduates Need Permission
PHIL 525 Topics in the Philosophy of Science
For the last four centuries, scientific research has provided our most reliable understanding of the world. Although the scientific revolution started modestly with attempts to understand stellar movement, we now know the age and constitution of the universe, the basis of heredity, and we can make and break chemical bonds at will. By all appearances, science seems to have made substantial progress from the scientific revolution to the global scientific enterprise of the 21st century. This course is about how science has generated this knowledge, and whether it has been as progressive and reliable as it seems. We will consider methodological issues such as the sources of scientific knowledge, objectivity, the growing importance of computation in the natural sciences, and the nature of modeling. We will examine products of scientific research: explanations, models, theories, and laws of nature. And we will discuss questions about science and values, including whether non-scientific values can and should enter scientific research, the relationship between science and religion, and the role of the public in guiding the scientific enterprise.
Taught by: Weisberg, Bicchieri
Course not offered every year
Also Offered As: COML 525
Prerequisites: Familiarity with behavioral game theory and psychology.
Activity: Seminar
1 Course Unit
Notes: Undergraduates Need Permission

PHIL 526 Philosophy of Psychology
Where is mind to be found in nature? Is it revealed by end-driven behavior, by mental contents, by the ability to perceive an external environment? This seminar will consider these and related questions as they arise in selected episodes from the history of philosophy and in contemporary discussions of the evolution of minds, brains, and behavior.
Taught by: Hatfield, Steinberg
Course not offered every year
Also Offered As: GRMN 527
Activity: Seminar
1 Course Unit
Notes: Undergraduates Need Permission

PHIL 527 Conceptual Foundations of Quantum Mechanics
Quantum theory provides the fundamental underpinning of modern physical science, yet its philosophical implications are so shocking that Einstein could not accept them. By following the historical development of 20th century quantum science, the student should gain an appreciation of how a scientific theory grows and develops, and of the strong interplay between scientific observation and philosophical interpretation. Although students will not be expected to carry out mathematical derivations, they should gain an understanding of basic quantum findings. Students enrolling in 527 must register for the recitation section that is reserved for that number, which is for graduate students.
Taught by: Hatfield, Steinberg
Course not offered every year
Activity: Lecture
1 Course Unit
Notes: Undergraduates Need Permission

PHIL 528 Philosophy of Social Science
Taught by: Bicchieri
Prerequisites: Familiarity with behavioral game theory and psychology.
Activity: Seminar
1 Course Unit
Notes: Undergraduates Need Permission

PHIL 530 Philosophy of Mind
Agent Architectures: In philosophy of mind, we spend a lot of time asking about particular kinds of mental states—about the nature of perception, belief, desire, intention, etc. But what about how it all fits together? How do you put the pieces together to get an intelligent agent out of it? And what does that in turn tell us about the nature of mental states? We will spend the first part of the course discussing some of the classical positions in philosophy of mind and artificial intelligence—especially functionalism and the classical "sandwich model" of AI. Then we will explore some new alternatives. We will investigate the possible role of the body, the environment, competences, and emotions in determining agent architectures. Of particular interest to us will be the question of whether we can understand the architecture of intelligent agents in a way that helps to explain how they might be improved upon and made more sophisticated (e.g. by evolution). UNDERGRADUATES NEED PERMISSION.
Taught by: Hatfield, Miracchi
Course not offered every year
Activity: Seminar
1 Course Unit
Notes: Undergraduates Need Permission

PHIL 531 Social Norms
This is a graduate research seminar covering interdisciplinary research in psychology, philosophy, sociology and behavioral economics related to social norms. Social norms are informal institutions that regulate social life. We will devote particular attention to the following questions: 1. What is a good, operational definition of social norms? 2. Is there a difference between social and moral norms? 3. How can we measure whether a norm exists, and the conditions under which individuals are likely to comply with it? 4. Are behavioral experiments a good tool to answer questions 3? 5. How do norms emerge? 6. How are norms abandoned? 7. What is the role of trendsetters in norm dynamics?
Taught by: Bicchieri
Course not offered every year
Activity: Seminar
1 Course Unit
Notes: Undergraduates Need Permission

PHIL 532 Topics in Epistemology
This is a graduate seminar intended for graduate students in Philosophy. It will cover some topics of interest to contemporary epistemologists, at the discretion of the instructor. Possible topics may include skepticism, accounts of knowledge and justification, virtue epistemology, formal epistemology, social epistemology, feminist epistemology, meta-epistemology and epistemic normativity.
Taught by: Singer
Course not offered every year
Activity: Seminar
1 Course Unit
Notes: Undergraduates Need Permission
PHIL 536 Stoicism
A study of some major texts in Ancient Greek Scepticism. We will begin with Plato’s Academy, more than a century after the death of its founder, when the head of the school Arcesilaus (315-240 BCE) advocates a turn away from “doctrinal Platonism” (that is, working out and defending the tenets of Plato’s philosophy) and a return to the critical stance of Socrates in many Platonic dialogues, who advances no doctrines himself but criticizes the claims of others. Much of the intellectual activity of the so-called “Sceptical Academy” is directed at contesting the doctrines of their contemporaries in Hellenistic Athens: Stoic, Epicurean, and Peripatetic philosophers, with particular emphasis on the Stoic doctrine of the “cognitive impression”, which the Stoics invoked as the foundation of all knowledge. Many of these debates are reported in Cicero’s On Academic Scepticism, which is the first text we will study. By the late first century BCE, the Academy departed far enough from this “skeptical stance” that in reaction, the Academic Aenesidemus left that institution to found Pyrrhonism, which takes the fourth-century figure Pyrrho of Elis (360-270 BCE) as its symbolic figure head. The fullest account of Pyrrhonist Scepticism is in the writings of a 2nd century CE physician, Sextus Empiricus, whose Outlines of Pyrrhonism and Against the Ethicists will be the other major texts studied in this course. All readings will be in English translation. No knowledge of Greek or Latin is required.

Taught by: S. Meyer
Course not offered every year
Activity: Seminar
1 Course Unit
Notes: Undergraduates Need Permission

PHIL 540 Topics in Philosophy of Language
Expressivism: Emotions, Evaluations, and Linguistic Meaning: In this seminar, we will explore the virtues and drawbacks of expressivism, broadly construed. Most contemporary philosophers of language analyze meaning in terms of truth-conditional content: how the world would have to be for an assertion or other speech act to be satisfied. But in many cases, it’s unclear just what ontologically respectable facts could make our utterances true. Further, much of our communicative activity appears to be aimed at affecting our interlocutors’ hearts and actions as much as their minds. If some aspects of conventional linguistic meaning involve the expression of evaluative or emotional attitudes rather than (just) truth-conditional content, how should a theory of meaning analyze this? We’ll begin with classic discussions of moral emotivism (e.g. Ayer, Hare) and more recent versions of expressivism in ethics (e.g. Gibbard, Blackburn), paying special attention to the Frege-Geach problem. Next, we’ll turn to recent discussions of epithets, especially racial slurs, in the philosophy of language (e.g. Williamson, Brandom, Hornsby), tracing out similarities and contrasts with moral expressivism.

Course not offered every year
Activity: Seminar
1 Course Unit
Notes: Undergraduates Need Permission

PHIL 547 Leibniz/Locke
This course focuses on topics in philosophy of the 17-18th centuries. Topics may include one of the following, according to the interests of the class: An examination of the development of a few topics in natural philosophy in the early modern period, such as: method (the evolution of hypotheses and their reception, the relation of theory to empirical work, and the importance of different kinds of empirical work, e.e. observation, experiment, use of instruments); the relation of metaphysics to the ‘sciences’ (including what is meant by “metaphysics”, and what falls under the scope of the various sciences); and the special role played by the life sciences.

Taught by: Detlefsen
Course not offered every year
Activity: Seminar
1 Course Unit
Notes: Undergraduates Need Permission

PHIL 550 Topics in Philosophy of Education
In this course, we will examine some of the most pressing problems in contemporary philosophy of education. These problems include: how much control over a child’s education ought to be allocated to parents and how much to the state; what role, if any, ought religion to play in education; how do race and gender impact individuals’ educational experiences and how should such issues be addressed in the classroom; what sort of (if any) civic education ought to be taught in schools (especially in wartime such as in the post 9-11 USA); and how should schools be funded? We will deal with a number of case studies, mostly recent, but some crucial historical cases as well. Our readings will be primarily philosophical texts, supplemented with those from other fields, such as psychology, history and sociology, in order to provide empirical context to the theoretical problems facing education today. As a seminar, the instructor welcomes student participation, including students bringing their own interests in educational theory to the classroom. At the same time, the instructor will lecture to the extent necessary to make classroom discussion especially rich.

Taught by: Detlefsen
Course not offered every year
Activity: Seminar
1 Course Unit
Notes: Undergraduates Need Permission

PHIL 551 Topics in Early Modern Philosophy
A seminar on Kant’s religious thought in the context of his metaphysics, epistemology, ethics, and philosophy of history. Topics include: theistic arguments; non-classical conceptions of God; radical evil; grace, forgiveness, and moral revolution; belief, faith, and hope; rational approaches to scripture and miracles; the threat of counterfeit service and priestcraft; religious community versus ethical community; the prospects for moral progress. Primary readings come from the pre-critical period, the Critiques, Religion within the Limits of Reason Alone, and various lectures and secondary sources. Some previous formal study of modern philosophy (17th-19th century) or Kant is recommended as preparation.

Taught by: Detlefsen, Chignell
Course not offered every year
Also Offered As: GRMN 560
Activity: Seminar
1 Course Unit
Notes: Undergraduates Need Permission
PHIL 552 African American Philosophy
A new field has slowly begun to emerge within the traditional discipline of academic philosophy: African-American Philosophy. "African American Philosophy" refers here to conceptually and analytically rigorous philosophical studies of topics closely related to the social, legal, economic, historical and cultural experiences of US peoples of African descent. The field has appeared in tandem with a striking increase in the number of professionally trained philosophers of African descent holding the Ph.D. in philosophy, and employed as full-time teachers and scholars. A recent estimate puts the number of philosophers of African descent working in the US at about one hundred; and about twenty of these are African-American women. A significant body of scholarship now describes, explains, critiques and evaluates African American culture, slavery, oppression, discrimination, integration, segregation, equality, gender politics, labor, families, health, mental health, and the significance of race to identity, morality, ethics, politics, democracy, public policy, law, science, technology, the humanities and the arts. This unique lecture course will be a thematic introduction to African American Philosophy since 1960. Weekly topics will be chosen from among these clusters: Slavery, Colonialism, Oppression and Freedom; Segregation, Integration and Equality; Gender, Sex and Sexualities; Reproductive Rights and Responsibilities; Religion and Spiritualism; Rebellion, Protest, Social Movements and Citizenship; Economic Welfare, Labor and Inequality; Violence, Crime and Punishment; Education, Affirmative Action and Diversity; Reparations and Forgiveness; Identities and Stereotypes; Nature, Science and Health; Psychology, Psychiatry and Mental Health; Pragmatism; Existentialism; and the Sociology of Philosophy. We will read works by Cornell West, Adrian Piper, Charles Mills, Lewis Gordon, Anita Allen, Anthony Appiah, Lucius Outlaw, Naomi Zack, Lawrence Thomas, Bill Lawson, Michele Moody Adams, and others. For most undergraduate students, evaluation in the course will be based on a mid-term and final exam with essay and objective components. Advanced students and graduate students enrolled in the course will have an opportunity to write a substantial supervised paper on a topic of their own choosing in lieu of the exams.
Taught by: Allen-Castellitto
Course usually offered in spring term
Also Offered As: AFRC 254, AFRC 552, PHIL 252
Activity: Seminar
1 Course Unit
Notes: Undergraduates Need Permission

PHIL 554 Contemporary Continental Philosophy
This seminar course is an introduction to 20th-century continental European philosophy, focusing on the origins and development of phenomenology, existentialism, hermeneutics, and deconstruction. The centrality of phenomenology (and its interpretation) to an understanding of these movements and other contemporary trends in European thought will be emphasized throughout. No previous background in philosophy is required. Human beings live in a world permeated and defined by meanings. How we create, communicate, and comprehend meaning has been one of the central questions of continental European philosophy for the past century. In this course, we will explore why meaning plays such a central role in all attempts to understand human experience and how this insight has profoundly influenced major trends in contemporary thought. We will begin the semester with an introduction to the phenomenology of Edmund Husserl and the contemporary debate over its proper interpretation. This will be followed by an examination of three existentialist critics of Husserl, whose philosophies have influenced much of recent continental thought: Martin Heidegger, Jean-Paul Sartre, and Maurice Merleau-Ponty. Finally, we will examine the important influence of phenomenology and existentialism on contemporary trends in continental philosophy as exhibited in works by Paul Ricoeur, Hans-Georg Gadamer, Jacques Derrida, Hannah Arendt, and Emmanuel Levinas.
Course not offered every year
Also Offered As: GRMN 580
Activity: Seminar
1 Course Unit
Notes: Undergraduates Need Permission

PHIL 558 Truth & Concealment
This course is an exploration of traditional philosophical questions concerning objectivity in science. We will start by addressing central questions in feminist philosophy of science, such as what is objective reality and what is objective knowledge? Next, we will explore whether science discovers objective real entities or relations, which is a central topic in the scientific realism debate. We will also explore whether scientific knowledge is objective. We will read mostly 20th and 21st century philosophers of science, such as Goodman, Kuhn, Psillos, and Longino. We will also apply what we learn to at least one case study.
UNDERGRADUATES NEED PERMISSION
Taught by: Spencer
Course not offered every year
Activity: Seminar
1 Course Unit
Notes: Undergraduates need permission.

PHIL 560 Descartes
In this course, we will undertake an intensive study of the thought of Descartes, one of philosophy’s most important figures. We will read his major works - Rules for the Direction of the Mind, The World, Discourse on Method, Meditation on First Philosophy, Principles of Philosophy, and Passions of the Soul - as well as some less well-known works and some of his correspondence. We will study his ideas on method and epistemology, metaphysics, physics and the life sciences, medicine, the nature of the human being, and value theory. While our primary aim will be to understand his philosophy as a whole and how his thoughts developed and changed through his life, we will devote some time to evaluating his legacy.
Taught by: Hatfield
Course not offered every year
Activity: Seminar
1 Course Unit
Notes: Undergraduates Need Permission
PHIL 562 MLA Proseminar in Philosophy
In sixteenth century Europe, what we now think of as philosophy, science and religion were all part of a single integrated way of studying the world. By the late eighteenth to early nineteenth century, these three areas of study, had to a large degree, diverged into distinct disciplines. In this course we will study this separation of disciplines in order to come to some understanding about how and why this radical shift in western thought occurred.
Taught by: Detlefsen
Course not offered every year
Activity: Seminar
1 Course Unit

PHIL 565 Kant's Critique of Metaphysics
A study of Kant's critique of metaphysics and theory of regulative ideas in the "Transcendental Dialectic" and related texts such as CRITIQUE OF JUDGEMENT, ONLY POSSIBLE PROOF OF THE EXISTENCE OF GOD, and LECTURES ON PHILOSOPHICAL THEOLOGY. Collateral readings in such authors as Descartes, Leibniz, Spinoza, Wolff, Baumgarten, Mendelssohn, Bayle, and Hume.
Course not offered every year
Also Offered As: PHIL 465 or permission of instructor
Activity: Seminar
1 Course Unit
Notes: Undergraduates Need Permission

PHIL 567 Development of German Idealism
This course will start with a brief review of some features of Kant's philosophy and will focus on Fichte and Schelling, and will end with a discussion of the reaction to Idealism by Schopenhauer and Nietzsche.
Taught by: Horstmann
Course not offered every year
Also Offered As: GRMN 525
Activity: Seminar
1 Course Unit
Notes: Undergraduates Need Permission

PHIL 568 Hegel
Hegel's "Lectures on Aesthetics" are a seminal work in the philosophy of art. They conceptualize the different kinds of art, and they understand art in the context of a philosophy of history that is centered on the concept of freedom. We will explore the intellectual background of Hegel's thinking, especially Kant, Schiller, and Schlegel, and investigate the conceptual articulation of art with which Hegel provides us.
Taught by: Horstmann.
Course not offered every year
Also Offered As: GRMN 568
Activity: Seminar
1 Course Unit
Notes: Undergraduates Need Permission

PHIL 572 Contemporary Ethics
A venerable idea throughout the history of ethics is that rationality is a fundamental or foundational part of the metaphysics of the normative. The course will be an investigation of several different strains of this rationalist idea. We'll discuss four rationalist views of the nature of normative reasons (Kantian, Humean, Aristotelian, and new-fangled constructivism). Our aim will be to investigate the plausibility of these rationalist views against the backdrop of a more recent hypothesis about the metaphysics of the normative—viz., the claim that normative reasons themselves are the fundamental constituents of the normative.
Taught by: Freeman, Meyer
Course not offered every year
Activity: Seminar
1 Course Unit
Notes: Undergraduates Need Permission

PHIL 576 Rationality, Morality and Law
This class will be dedicated to investigating topics related to rationality in its many forms. Potential areas of study are metaethics, epistemology, moral psychology, and the philosophies of mind, language and action.
Taught by: Freeman, Lord
Course not offered every year
Activity: Seminar
1 Course Unit
Notes: Undergraduates need permission.

PHIL 577 Topics in Philosophy of Law
This seminar will examine leading academic theories of constitutional interpretation, starting with classic texts by (for illustration) Thayer, Wechsler, Ely, Bobbitt, Dworkin, and Scalia, and emphasizing current debates within originalism and between originalists and their critics. While the focus will be on American constitutional interpretation, we will also see how that literature is currently running up against, and possibly contributing to, more "philosophical" or "jurisprudential" accounts of the contents of law. Consistent with the nature of the material, the reading load is likely to be somewhat heavier and more demanding than in the average seminar. Students will be expected to read the assigned material carefully and to participate actively in class discussions; they will have the option of submitting either a single research paper or several shorter papers.
Taught by: Perry, Berman, Finkelstein
Course not offered every year
Also Offered As: LAW 918, LAW 949, LAW 992
Activity: Seminar
1 Course Unit
Notes: Undergraduates Need Permission

PHIL 578 Topics in Political Philosophy
Three Liberalisms: In this course we will investigate and compare three types of liberalism: (1) the Classical Liberalism of classical and modern economists such as F.A. Hayek and Milton Friedman; (2) the Libertarianism of Robert Nozick and similar advocates of absolute property and contract rights, and (3) the High Liberal Tradition of John Rawls and other advocates of progressive economic systems and egalitarian justice.
Taught by: Freeman, Tan
Course not offered every year
Activity: Seminar
1 Course Unit
Notes: Undergraduates Need Permission
PHIL 579 Social Philosophy
During the last dozen years there has been an explosion of interest in empirically informed moral psychology. In this seminar, we will review some of the cutting empirical and theoretical work that is being done in moral psychology and explore its philosophical implications. About half of the sessions of the seminar will be led by Professor Bicchieri, Professor Harman or Professor Stitch. The other half will be led by leading philosophers and scientists from other departments and other universities.
Taught by: Bicchieri
Activity: Seminar
1 Course Unit
Notes: Undergraduates Need Permission

PHIL 600 Proseminar.
An intensive seminar for first-year doctoral students, with readings drawn from recent and contemporary eistemology and metaphysics, broadly construed. Students will develop their abilities to present and discuss philosophical texts, and to write and revise their own papers.
Course usually offered in fall term
Activity: Seminar
1 Course Unit
Notes: Graduate Students Only

PHIL 601 Consortium Course
For graduate students taking courses at other institutions belonging to the Philadelphia area Philosophical Consortium.
One-term course offered either term
Activity: Lecture
1 Course Unit
Notes: Graduate Students Only

PHIL 607 Presocratic Philosophy
Close study of fragments and doxography for the earliest Greek philosophers in the original texts.
Course not offered every year
Activity: Seminar
1 Course Unit

PHIL 609 Plato's Republic
A close reading and discussion of Plato's work. As much as possible of the text will be read in Greek.
Course not offered every year
Also Offered As: COML 609
Activity: Seminar
1 Course Unit

PHIL 610 Plato's Symposium and Phaedrus
A close reading and analysis of Plato's two major dialogues on love.
Course not offered every year
Activity: Seminar
1 Course Unit

PHIL 611 Plato's Philebus
A close reading of the text of one of Plato's latest and most difficult dialogues. Questions to be discussed include: the unity of the dialogue, relation to other late dialogues (such as the TIMAEUS), relation to the doctrine of Forms, relation to the "unwritten doctrines". Knowledge of Greek is not required.
Course not offered every year
Activity: Seminar
1 Course Unit

PHIL 612 Topics in Hellenistic Philosophy
The ancient Stoics famously rejected the tripartite psychology of Plato and the Aristotelian division of the psyche into rational and non-rational parts. Everything we think, say, feel, and do is an exercise of reason, specifically, an assent to an impression. This includes the pathe--emotions such as fear, anger, and pity and love. According to the Stoic doctrine of apatheia, we should eradicate the pathe from our lives. But there are some emotions of which the Stoics approve: the so-called "good feelings" (eupatheiai) which include joy, reverence, and goodwill. We will examine the difference between the pathe and the eupatheia in the context of their Stoic doctrine of "impulse" (horne), and of their ethical theory more generally. All texts will be read in translation, and will include selections from: Cicero: Tusculan Disputations, On Ends, On Duties, Epicctetus: Discourses, Seneca: Letters, Stobaeus: Eclogues, Galen: On the Doctrines of Hippocrates and Plato.
Taught by: S. Meyer
Course not offered every year
Activity: Seminar
1 Course Unit

PHIL 613 Topics in Medieval Philosophy
Close reading of selected texts in medieval philosophy.
Course not offered every year
Also Offered As: LAW 618
Activity: Seminar
1 Course Unit

PHIL 625 Contemporary Metaphysical Problems
An examination of selected problems at the intersection of philosophy of psychology, philosophy of mind, and metaphysics.
Taught by: Hatfield
Course not offered every year
Activity: Seminar
1 Course Unit

PHIL 626 Topics in Philosophy of Psychology
We will investigate the notions of function, adaptation, and teleology as found in biology and as analyzed in the philosophy of biology; we will then apply these notions to selected problems in the philosophy of psychology pertaining to representation and content.
Taught by: Hatfield
Course not offered every year
Activity: Seminar
1 Course Unit

PHIL 630 Topics in Philosophy of Mind
Topics will vary, and may be historical or contemporary.
Taught by: Hatfield
Course not offered every year
Activity: Seminar
1 Course Unit

PHIL 633 Colloquium in American History
HIST 610 is a topics course. When the subject is appropriate, the course will be cross-listed with Philosophy. Please refer to the current timetable.
Taught by: Kuklick, B.
Course not offered every year
Also Offered As: HIST 610
Activity: Seminar
1 Course Unit
PHIL 642 Contemporary Metaphysics
This course will deal with the nature of necessity, essentialism, idealism and the concept of truth from a contemporary perspective.
Course not offered every year
Activity: Seminar
1 Course Unit

PHIL 643 Carnap
A survey of Carnap's writings, with special attention to The Logical Construction of the World and The Logical Syntax of Language.
Course not offered every year
Activity: Seminar
1 Course Unit

PHIL 644 Quine
A survey of Quine's philosophy with special attention to the critique of analyticity, truth and reference, indeterminacy of translations, ontological relativity, and physicalism.
Course not offered every year
Activity: Seminar
1 Course Unit

PHIL 645 Reference
Contemporary discussions of reference with special attention to referential inscrutability, first person authority, and anti-individualism.
Readings from Quine, Davidson, Putnam, Field, Wallace, Burge, and McDowell.
Course not offered every year
Activity: Seminar
1 Course Unit

PHIL 646 Topics in Early Analytic Philosophy
Selected interpretive and philosophical issues from Frege, Russell, and early Wittgenstein.
Course not offered every year
Activity: Seminar
1 Course Unit

PHIL 647 Hume's Philosophy of Mind
An examination of Hume's theory of mind, focusing on the Treatise and first Enquiry.
Taught by: Hatfield
Course not offered every year
Activity: Seminar
1 Course Unit

PHIL 648 Kant's Theoretical Philosophy
This course will study not Kant's system of philosophy but his philosophy of system, that is, the role of the concept of systematicity throughout his philosophical work. Special topics will include the role of systematicity in empirical knowledge and science, practical reasoning, and meta-philosophy, where systematicity functions as the criterion of the adequacy of philosophical theories themselves. Some prior acquaintance with the main themes of Kant's theoretical and practical philosophy will be assumed.
Course not offered every year
Activity: Seminar
1 Course Unit

PHIL 672 Topics in Ethics
PHIL 672 will be a workshop on writing papers for submission to either conferences or journals. Papers may address any topic in value theory, broadly construed, and some participants may choose to revise papers written for previous seminars. All participants will be responsible for generating short bibliographies and then leading class discussions on their topics, providing drafts of their papers for critique by the class, and presenting their papers to the class. Students who have passed their prelims are encouraged to participate as auditors.
Taught by: S.Meyer
Course not offered every year
Activity: Seminar
1 Course Unit

PHIL 674 Topics in Bioethics
Topics will vary.
Course not offered every year
Activity: Lecture
1 Course Unit

PHIL 678 Advanced Topics in Political Philosophy
In this course, we will examine various problems and questions in political philosophy. The focus will be on contemporary topics. This is an advanced seminar for graduate students who want to develop a professional-level paper on a particular subject, and the course will consist of readings on selected topics (selected by students) and students presenting their own papers (in various stages) on these topics. For graduate students in Philosophy only.
Taught by: Tan
Course not offered every year
Activity: Seminar
1 Course Unit

PHIL 679 Liberalism and its Critics
This course will examine some of the fundamental these of liberalism and some of the criticisms they have encountered. In particular, we will examine the classical formulation of liberal theory in Immanuel Kant as well as his near-contemporaries Moses Mendelssohn and Wilhelm von Humboldt, and criticisms of this view by writers like G.W.F. Hegel and F.H. Bradley; we will then examine modern versions of liberalism in John Rawls and Ronald Dworkin, and its criticism, especially by "communitarians" like Michael Sandel, Charles Taylor, Alasdair MacIntyre, and Michael Walzer. We will be concerned with differences between the classical (Kantian) and contemporary (Rawlsian) foundations of liberalism as well as with the validity of the criticisms which have been made of each.
Taught by: Freeman
Course not offered every year
Activity: Seminar
1 Course Unit

PHIL 680 History of Aesthetics
A study of 18th century aesthetics focussing on Kant, his contemporaries, and successors.
Course not offered every year
Activity: Seminar
1 Course Unit
PHIL 681 Philosophy of Literature
This course will begin with a survey of current topics and writings in the philosophy of literature: what is a narrative? what makes literary language expressive? what can we learn from fiction or poetry? The text here will consist largely of selected readings from the new Blackwell Companion to the Philosophy of Language. We will then explore the relation between philosophy and literature in more depth by discussing Eva Dadlez’s new book, “Mirrors to one another: emotion and value in Jane Austen and David Hume.”
Course not offered every year
Activity: Seminar
1 Course Unit

PHIL 699 Independent Study
Directed readings in consultation with individual faculty members.
One-term course offered either term
Activity: Independent Study
1 Course Unit

PHIL 700 Dissertation Workshop
Registration required for all third-year doctoral students. Fourth year students and beyond attend and present their work in the Dissertation Seminar. From time to time, topics pertaining to professional development and dissertation writing will be discussed.
Taught by: Freeman, Hatfield, Singer
Two terms. student must enter first term.
Activity: Seminar
1 Course Unit

PHIL 990 Masters Thesis
Taught by: Staff.
One-term course offered either term
Activity: Masters Thesis
1 Course Unit

PHIL 995 Dissertation
Ph.D. candidates, who have completed all course requirements and have an approved dissertation proposal, work on their dissertation under the guidance of their dissertation supervisor and other members of their dissertation committee.
One-term course offered either term
Activity: Dissertation
1 Course Unit

PHIL 998 Teaching Practicum (Independent Study)
Supervised teaching experience. Four semesters are required of all Doctoral students in philosophy.
One-term course offered either term
Activity: Independent Study
1 Course Unit

PHIL 999 Independent Study
One-term course offered either term
Activity: Independent Study
1 Course Unit
Notes: May be repeated for credit
PPE 062 Soviet and Post-Soviet Economy
The course will cover the development and operation of the Soviet centrally planned economy—one of the grandest social experiments of the 20th century. We will review the mechanisms of plan creation, the push for the collectivization and further development of Soviet agriculture, the role of the Soviet educational system and the performance of labor markets (including forced labor camps—GULags). We will discuss the strengths and weaknesses of the Soviet system and the causes of its collapse. Privatization, called by some “piratization,” will be one of the central issues in our consideration of the transition from central planning to a market economy in the early 1990s. Even though our main focus will be on the Soviet economy and post-Soviet transition, we will occasionally look back in time to the tsarist era and even further back to find evidence to help explain Soviet/Russian economic development.
Taught by: Vekker
Also Offered As: RUSS 189
Activity: Lecture
1 Course Unit

PPE 072 Biomedical Ethics
This course is an introduction to bioethics, focusing on ethical questions arising at the beginning and end of life. Topics will include procreative responsibilities, the question of wrongful life, and prenatal moral status as well as questions of justice related to markets for sperm, eggs and gestation. We will also attend to dilemmas at the end of life, including the authority of advance directives, euthanasia and the allocation of life-saving therapies.
For BA Students: Society Sector
Taught by: Gibbons
Course not offered every year
Also Offered As: PHIL 072
Activity: Lecture
1 Course Unit

PPE 073 Topics in Ethics
This course examines some of the central theoretical and applied questions of ethics. For example, what is the good life? By what measure or principles do we evaluate the rightness and wrongness of actions? How does ethical reasoning help us understand and address real world problems such as world hunger, social injustice, sex and race discrimination, allocation of scarce resources and the like. The course can be organized around an applied topic or practical issue such as global ethics, just war, biomedical ethics or environmental ethics.
Taught by: Gibbons, M.Meyer
Course not offered every year
Also Offered As: PHIL 073
Activity: Seminar
1 Course Unit

PPE 140 Introduction to Cognitive Science
How do minds work? This course surveys a wide range of answers to this question from disciplines ranging from philosophy to neuroscience. The course devotes special attention to the use of simple computational and mathematical models. Topics include perception, learning, memory, decision making, emotion and consciousness.
Also Offered As: CIS 140, COGS 001, LING 105, PHIL 044, PSYC 207
Prerequisites: An introductory course in Computer Science, Linguistics, Neuroscience, Philosophy or Psychology
Activity: Lecture
1 Course Unit
Notes: This is a Formal Reasoning course.

PPE 153 Judgment and Decisions
Thinking, judgment, and personal and societal decision making, with emphasis on fallacies and biases.
One-term course offered either term
Also Offered As: PSYC 253
Prerequisite: One semester of statistics OR microeconomics
Activity: Lecture
1 Course Unit
Notes: An LPS section may be given

PPE 225 Philosophy of Biology
This course consists of a detailed examination of evolutionary theory and its philosophical foundations. The course begins with a consideration of Darwin’s formulation of evolutionary theory and the main influences on Darwin. We will then consider two contemporary presentations of the theory: Richard Dawkins’ and Richard Lewontin’s. The remainder of the course will deal with a number of foundational issues including adaptation, the units of selection, the evolution of altruism, and the possibility of grounding ethics in evolutionary theory.
For BA Students: Natural Science and Math Sector
Taught by: Domotor, Spencer, Weisberg
Course not offered every year
Also Offered As: PHIL 226, PHIL 521
Activity: Lecture
1 Course Unit

PPE 232 Political Economy
This course examines the political and economic determinants of government policies. The course presents economic arguments for government action in the private economy. How government decides policies via simple majority voting, representative legislatures, and executive veto and agenda-setting politics will be studied. Applications include government spending and redistributive policies.
Course usually offered in spring term
Also Offered As: ECON 232
Prerequisites: ECON 101; MATH 104 and MATH 114 or MATH 115. ECON 103 is recommended.
Activity: Lecture
1 Course Unit

PPE 244 Introduction to Philosophy of Mind
This course will survey several central topics in philosophy of mind, as well as investigating how philosophy of the mind interacts with scientific study of the mind. Among the questions we’ll be asking are: What is it to have a mind? What is the relationship between the mind and the brain? Can there be a science of the mind? What can it tell us? What can philosophy contribute to a science of the mind? What is consciousness? What is it to think, to perceive, to act? How are perception, thought, and action related to one another?
Taught by: Domotor, Miracchi
Course not offered every year
Also Offered As: PHIL 244
Activity: Lecture
1 Course Unit
PPE 270 Constitutional Law: Public Power & Civil Rights to 1912
This course explores the creation and transformations of the American constitutional system's structures and goals from the nation's founding through the period of Progressive reforms, the rise of the Jim Crow system, and the Spanish American War. Issues include the division of powers between state and national governments, and the branches of the federal government; economic powers of private actors and government regulators; the authority of governments to enforce or transform racial and gender hierarchies; and the extent of religious and expressive freedoms and rights of persons accused of crimes. We will pay special attention to the changing role of the Supreme Court and its decisions in interpreting and shaping American constitutionalism, and we will also read legislative and executive constitutional arguments, party platforms, and other influential statements of American constitutional thought.
Taught by: Smith
One-term course offered either term
Also Offered As: PSCI 271
Activity: Recitation
1 Course Unit

PPE 271 Global Justice
This course is an introduction to some of the central problems in global justice. Samples of these topics include: What are our duties to respond to world poverty and what is the basis of this duty? Is global inequality in itself a matter of justice? How universal are human rights? Should human rights defer to cultural claims at all? Is there a right to intervene in another country to protect human rights there? Indeed can intervention to protect human rights ever be a duty? Who is responsible for the environment? We will read some influential contemporary essays by philosophers on these topics with the goal of using the ideas in these papers as a springboard for our own further discussion and analysis.
Taught by: Tan
Course not offered every year
Also Offered As: PHIL 271
Activity: Seminar
1 Course Unit

PPE 275 Introduction to Political Psychology
This course will explore psychological approaches to understanding political beliefs, attitudes, and actions at the levels of both individual citizens and national leaders. It will also explore the possibility that psychological science itself is not immune to the political debates swirling around it. Specific topics will include: the workings of belief systems (and their power to shape what we "see"), cognitive biases (and their power to cause miscalculations), sacred values and their role in stabilizing belief systems and social interaction, personality and ideology (the linkages between the personal and the political), and clashing conceptions of morality and distributive and corrective justice (striking variations among people in what they consider to be fair). We shall also explore some topics that have sparked controversy in the psychological research literature and that tend to polarize opinion along political lines, including work on intelligence and unconscious bias.
Taught by: Tetlock
One-term course offered either term
Also Offered As: PSYC 275
Prerequisite: PSYC 001 or COGS 001
Activity: Lecture
1 Course Unit
Notes: NOTE: Students who are more interested in business-related issues may want Wharton 276x which is a modified version of this course specifically for Wharton undergraduates.

PPE 277 Justice, Law and Morality
The course will focus on the philosophical background to the individual rights protected by the U.S. Constitution, including 1st Amendment freedoms of religion, expression, and association; the 14th amendment guarantee of Due Process and the rights of privacy, abortion, assisted suicide, and marriage; the Equal Protection clause and equal political rights and the legitimacy of affirmative action; and the Takings and Contract clauses and their bearing on rights of private property and economic freedoms. In addition to Supreme Court decisions on these issues, we will read works by political philosophers and constitutional theorists, including J.S. Mill, Ronald Dworkin, Cass Sunstein, Martha Nussbaum, Katherine MacKinnon and others.
Taught by: Freeman, Allen
Course not offered every year
Also Offered As: PHIL 277
Activity: Lecture
1 Course Unit

PPE 311 Strategic Reasoning
This course is about strategically interdependent decisions. In such situations, the outcome of your actions depends also on the actions of others. When making your choice, you have to think what the others will choose, who in turn are thinking what you will be choosing, and so on. Game Theory offers several concepts and insights for understanding such situations, and for making better strategic choices. This course will introduce and develop some basic ideas from game theory, using illustrations, applications, and cases drawn from business, economics, politics, sports, and even fiction and movies. Some interactive games will be played in class. There will be little formal theory, and the only pre-requisites are some high-school algebra and having taken Econ 1. However, general numeracy (facility interpreting and doing numerical graphs, tables, and arithmetic calculations) is very important. This course will also be accepted by the Economics department as an Econ course, to be counted toward the minor in Economics (or as an Econ elective).
Taught by: Dillenberger
Course usually offered in fall term
Also Offered As: ECON 013
Prerequisites: Some high school algebra, ECON 001.
Activity: Lecture
1 Course Unit
Notes: This course may NOT be taken concurrently with or after Econ 212.

PPE 312 The Public Policy Process
This course introduces students to the theories and practice of the policy-making process. There are four primary learning objectives. First, understanding how the structure of political institutions matter for the policies that they produce. Second, recognizing the constraints that policy makers face when making decisions on behalf of the public. Third, identifying the strategies that can be used to overcome these constraints. Fourth, knowing the toolbox that available to participants in the policy-making process to help get their preferred strategies implemented. While our focus will primarily be on American political institutions, many of the ideas and topics discussed in the class apply broadly to other democratic systems of government.
Taught by: Levendusky, Meredith
Course usually offered in fall term
Also Offered As: PSCI 236
Activity: Recitation
1 Course Unit
PPE 313 Behavioral Economics and Psychology
Our understanding of markets, governments, and societies rests on our understanding of choice behavior, and the psychological forces that govern it. This course will introduce you to the study of choice, and will examine in detail what we know about how people make choices, and how we can influence these choices. It will utilize insights from psychology and economics, and will apply these insights to domains including risky decision making, intertemporal decision making, and social decision making.
Taught by: Bhatia
One-term course offered either term
Also Offered As: PSYC 265
Prerequisites: ECON 001.
Activity: Lecture
1 Course Unit
Notes: Prerequisite: ECON 1

PPE 314 Philosophy of Social Science
This course is about the foundations of contemporary social science. It focuses on the nature of social systems, the similarities and differences between social and natural sciences, the construction, analysis, and confirmation of social theories, and the nature of social explanations. Specific topics may include: What are social norms and conventions? What does it mean to have one gender rather than another, or one sexual orientation rather than another? Should social systems be studied quantitatively or qualitatively?
Taught by: Bicchieri, Weisberg
Course usually offered in spring term
Also Offered As: PHIL 228
Prerequisites: ECON 001, ECON 002, PHIL 008 and PPE 201.
Activity: Lecture
1 Course Unit

PPE 333 Philosophy of Economics
In this course, general philosophy of science issues are applied to economics, and some problems specific to economics are tackled. While analytical questions like "What is economics?" or "What is an economic explanation" must be pursued, the ultimate goal is practical: What is good economics? How can economists contribute to a better understanding of society, and a better society? How can we make economics better? Topics to be discussed include the following: specific object and method of economics as a social science; its relation with other disciplines (physics, psychology and evolutionary theory); values in economics (welfare, freedom, equality and neutrality); the role of understanding and possible limits of a quantitative approach to human behavior (purposefulness, freedom, creativity, innovation); prediction, unpredictability and the pretension of prediction; causation in econometrics and in economic theory (equilibrium); selfishness and utility maximization (cognitive and behaviorist interpretations); economic models and unrealistic assumptions (realism and instrumentalism); empirical basis of economics (observation and experiment); microeconomics and macroeconomics (reductionism and autonomy); pluralism in economics (mainstream economics and heterodox schools).
Course not offered every year
Also Offered As: PHIL 233
Activity: Lecture
1 Course Unit

PPE 401 Independent Study
Student arranges with a faculty member to pursue a research project on a suitable topic. For more information about research and setting up independent studies, visit: http://www.sas.upenn.edu/ppe/Requirements/PPEmajor/research.html
One-term course offered either term
Activity: Independent Study
1 Course Unit

PPE 402 Research in Philosophy, Politics & Economics
Led by postdoctoral fellows in the Philosophy, Politics and Economics program, this course teaches students how to conduct research in PPE with an emphasis on creating a well-formed research question, determining what kinds of data or scholarly research bears on that question, and how to carry out an interdisciplinary, research-driven project on that question.
One-term course offered either term
Activity: Seminar
1 Course Unit

PPE 421 Philosophy of Biology
This course consists of a detailed examination of evolutionary theory and its philosophical foundations. The course begins with a consideration of Darwin's formulation of evolutionary theory and the main influences on Darwin. We will then consider two contemporary presentations of the theories of Richard Dawkins' and Richard Lewontin's. The remainder of the course will deal with a number of foundational issues and may include discussions of adaptation, what constitutes a species, evolutionary progress, the concept of fitness, the units of selection, the alleged reduction of classical genetics to molecular genetics, and the possibility of grounding ethics in evolutionary theory. The evolution of altruism will also be discussed, time permitting. PREREQUISITES: Either two philosophy courses OR Biology 101/102 (or equivalent)
Taught by: Weisberg
Course not offered every year
Also Offered As: PHIL 226, PHIL 421
Prerequisite: Either two philosophy courses OR Biology 101/102 (or equivalent)
Activity: Lecture
1 Course Unit

PPE 460 Experiments in Behavioral Ethics
In reality, our understanding of different mechanisms and (economic) relationships is hampered by the lack of data. More often than not, either the observation itself is difficult or the data is not reliable. Over the last decades, economic experiments have become a vital part of the scientific discourse, facilitating our understanding of the world we live in (much like in Biology, Chemistry, Physics or the like). Economic experiments allow exploring economic behavior under controlled conditions by generating observations under different experimental designs and controlled conditions. Pioneering this field of research, Daniel Kahneman and Vernon Smith were awarded the Nobel memorial prize in recognition of their work on behavioral and experimental economics. In this course, we provide you with the methodology of how to develop a research idea and a proper experimental design that allows to explore this idea. Essentially, you will learn how to think about ideas, generate predictions, and how to use economic experiments to test them.
Taught by: Bicchieri, Dimant
Activity: Seminar
1 Course Unit
PPE 470 Capstone: Social Policy
Social policy is the study of human wellbeing and is concerned with the
effects in areas of health care, criminal justice, inequality, and education,
among others. As a PPE Capstone, this is an integrative senior seminar
(open to others by departmental permission).
Taught by: Dimant
Course usually offered in fall term
Activity: Seminar
1 Course Unit

PPE 471 Capstone: Political Economy
Political Economy studies the relationships between individuals and
society and between markets and the state.
Taught by: Sontuoso
Course usually offered in spring term
Activity: Seminar
1 Course Unit
Notes: As a PPE Capstone, this is an integrative senior seminar (open to
others by departmental permission).

PPE 472 Capstone: Networks
Network Theory studies graphs as a representation of the structure of
relationships between social entities. It can be used to examine how the
of individuals in a socio-economic system affects - and is affected by -
the structure of connections of the system.
Taught by: Sontuoso
Course usually offered in fall term
Activity: Seminar
1 Course Unit
Notes: As a PPE Capstone, this is an integrative senior seminar (open to
others by departmental permission).

PPE 473 Capstone: Modeling
Modeling provides a way to identify and analyze the salient features of
complex problems or dynamic social situations. Using models can further
provide a way to see what strategies may be rational over time.
Taught by: Funcke
Course usually offered in spring term
Activity: Seminar
1 Course Unit
Notes: As a PPE Capstone, this is an integrative senior seminar (open to
others by departmental permission).

PPE 474 Capstone: Judgment and Decision Making
The interdisciplinary study of individuals’ and groups’ judgments and
decisions, including normative, descriptive, and prescriptive theories.
Taught by: Hart
Course usually offered in fall term
Activity: Seminar
1 Course Unit
Notes: As a PPE Capstone, this is an integrative senior seminar (open to
others by departmental permission).

PPE 475 Capstone: Philosophy, Politics and Economics
This is an integrative senior seminar (open to others by departmental
permission). The following website will give descriptions of the
specific capstone courses that will be offered each semester: http://
www.sas.upenn.edu/ppe/Courses/general
Course usually offered in fall term
Also Offered As: PSCI 418
Activity: Seminar
1 Course Unit
Notes: As a PPE Capstone, this is an integrative senior seminar (open to
others by departmental permission).

PPE 476 Capstone: Social Psychology
Social psychology explores how an individual’s judgments and behaviors
can be influenced or determined by others and their social context.
Taught by: Royzman
Course usually offered in spring term
Also Offered As: PSYC 478
Activity: Seminar
1 Course Unit
Notes: As a PPE Capstone, this is an integrative senior seminar (open to
others by departmental permission).

PPE 477 Capstone: Political Science
A PPE capstone offered by faculty in Political Science.
Activity: Seminar
1 Course Unit
Notes: As a PPE Capstone, this is an integrative senior seminar (open to
others by departmental permission).

PPE 478 Capstone: Psychology
A PPE Capstone offered by faculty in Psychology.
Activity: Seminar
1 Course Unit
Notes: As a PPE Capstone, this is an integrative senior seminar (open to
others by departmental permission).

PPE 479 Capstone: Economics
A PPE Capstone seminar offered by faculty in Economics.
Activity: Seminar
1 Course Unit
Notes: As a PPE Capstone, this is an integrative senior seminar (open to
others by departmental permission).

PPE 480 Capstone: Philosophy
A PPE Capstone seminar offered by faculty in Philosophy.
Activity: Seminar
1 Course Unit
Notes: As a PPE Capstone, this is an integrative senior seminar (open to
others by departmental permission).

PPE 481 Capstone: Political Science
A PPE capstone offered by faculty in Political Science.
Activity: Seminar
1 Course Unit
Notes: As a PPE Capstone, this is an integrative senior seminar (open to
others by departmental permission).

PPE 482 Capstone: Psychology
A PPE Capstone offered by faculty in Psychology.
Activity: Seminar
1 Course Unit
Notes: As a PPE Capstone, this is an integrative senior seminar (open to
others by departmental permission).

PPE 483 Capstone: Economics
A PPE Capstone seminar offered by faculty in Economics.
Activity: Seminar
1 Course Unit
Notes: As a PPE Capstone, this is an integrative senior seminar (open to
others by departmental permission).

PPE 484 Capstone: Philosophy
A PPE Capstone seminar offered by faculty in Philosophy.
Activity: Seminar
1 Course Unit
Notes: As a PPE Capstone, this is an integrative senior seminar (open to
others by departmental permission).

PPE 485 Capstone: Political Science
A PPE Capstone offered by faculty in Political Science.
Activity: Seminar
1 Course Unit
Notes: As a PPE Capstone, this is an integrative senior seminar (open to
others by departmental permission).

PPE 486 Capstone: Psychology
A PPE Capstone offered by faculty in Psychology.
Activity: Seminar
1 Course Unit
Notes: As a PPE Capstone, this is an integrative senior seminar (open to
others by departmental permission).

PPE 487 Capstone: Economics
A PPE Capstone seminar offered by faculty in Economics.
Activity: Seminar
1 Course Unit
Notes: As a PPE Capstone, this is an integrative senior seminar (open to
others by departmental permission).
PPE 498 Directed Honors Research
Student arranges with a faculty member to do an honors thesis on a suitable topic. For more information on honors visit: http://www.sas.upenn.edu/ppe/Requirements/honors.html
One-term course offered either term
Activity: Independent Study
1 Course Unit

PPE 499 Advanced Research
This course may be taken by a PPE student for advanced research. Enrollment by permit only.
Course not offered every year
Activity: Independent Study
1 Course Unit

Physics (PHYS)

PHYS 008 Physics for Architects I
An introduction to the classical laws of mechanics, including static equilibrium, elasticity, and oscillations, with emphasis on topics most relevant to students in architecture. Credit is awarded for only one of the following courses: PHYS 008, PHYS 101, PHYS 150, or PHYS 170. Students with AP or Transfer Credit for PHYS 091 or 093 who complete PHYS 008 will thereby surrender the AP or Transfer Credit.
For BA Students: Physical World Sector
Course offered fall; odd-numbered years
Prerequisites: Entrance credit in algebra and trigonometry.
Activity: Lecture
1 Course Unit
Notes: Credit is awarded for only one of the following courses: PHYS 008, PHYS 101, PHYS 150, or PHYS 170. Students with AP or Transfer Credit for PHYS 091 or 093 who complete PHYS 008 will thereby surrender the AP or Transfer Credit.

PHYS 009 Physics for Architects II
A continuation of PHYS 008 introducing waves, sound, light, fluids, heat, electricity, magnetism, and circuits, with emphasis on topics most relevant to students in architecture. Credit is awarded for only one of the following courses: PHYS 009, PHYS 102, PHYS 151, or PHYS 171. Students with AP or Transfer Credit for PHYS 092 or 094 who complete PHYS 008 will thereby surrender the AP or Transfer Credit.
For BA Students: Physical World Sector
Course offered spring; even-numbered years
Prerequisites: Entrance credit in algebra and trigonometry.
Activity: Lecture
1 Course Unit
Notes: Credit is awarded for only one of the following courses: PHYS 009, PHYS 102, PHYS 151, or PHYS 171. Students with AP or Transfer Credit for PHYS 092 or 094 who complete PHYS 008 will thereby surrender the AP or Transfer Credit.

PHYS 009 Physics for Architects II
A continuation of PHYS 008 introducing waves, sound, light, fluids, heat, electricity, magnetism, and circuits, with emphasis on topics most relevant to students in architecture. Credit is awarded for only one of the following courses: PHYS 008, PHYS 101, PHYS 150, or PHYS 170. Students with AP or Transfer Credit for PHYS 091 or 093 who complete PHYS 008 will thereby surrender the AP or Transfer Credit.
For BA Students: Physical World Sector
Course offered spring; even-numbered years
Prerequisites: Entrance credit in algebra and trigonometry.
Activity: Lecture
1 Course Unit
Notes: Credit is awarded for only one of the following courses: PHYS 008, PHYS 101, PHYS 150, or PHYS 170. Students with AP or Transfer Credit for PHYS 091 or 093 who complete PHYS 008 will thereby surrender the AP or Transfer Credit.

PHYS 016 Energy, Oil, and Global Warming
The developed world's dependence on fossil fuels for energy production has extremely undesirable economic, environmental, and political consequences, and is likely to be mankind's greatest challenge in the 21st century. We describe the physical principles of energy, its production and consumption, and environmental consequences, including the greenhouse effect. We will examine a number of alternative modes of energy generation - fossil fuels, biomass, wind, solar, hydro, and nuclear - and study the physical and technological aspects of each, and their societal, environmental and economic impacts over the construction and operational lifetimes. No previous study of physics is assumed. For BA Students: Natural Science and Math Sector
One-term course offered either term
Prerequisites: Algebra and Trigonometry
Activity: Lecture
1 Course Unit
Notes: May be counted as Science Studies for students in Class of 2009 and prior. Target audience: Non-science majors (although science/engineering students are welcome).

PHYS 050 Physics Laboratory I
Experiments in classical mechanics.
One-term course offered either term
Prerequisites: AP score of 5 on the Physics B or Physics C - Mechanics exam, or transfer credit for PHYS 91 or PHYS 93. Only for students with above prerequisites.
Activity: Laboratory
0.5 Course Units
Notes: Course carries .5 course unit and student receives grade. Permit required. Only for students with above prerequisites.

PHYS 051 Physics Laboratory II
Experiments in electromagnetism and optics.
One-term course offered either term
Prerequisites: AP score of 5 on the Physics B or Physics C - Electricity and Magnetism exam, or transfer credit for PHYS 92 or PHYS 94. PHYS 050. Only for students with above prerequisites.
Activity: Laboratory
0.5 Course Units
Notes: Course carries .5 course unit and student receives grade. Permit required. Only for students with above prerequisites.

PHYS 101 General Physics: Mechanics, Heat and Sound
An introduction to the classical laws of motion requiring a background in calculus. Suggested for students in a pre-health program. Credit is awarded for only one of the following courses: PHYS 008, PHYS 101, PHYS 150, or PHYS 170. Students with AP or Transfer Credit for PHYS 91 or PHYS 93 who complete PHYS 101 will thereby surrender the AP or Transfer Credit.
For BA Students: Physical World Sector
Course offered summer, fall and spring terms
Prerequisites: Entrance credit in algebra and trigonometry, and a background in calculus.
Corequisite: PHYS 101 LAB
Activity: Lecture
1.5 Course Unit
Notes: Credit is awarded for only one of the following courses: PHYS 008, PHYS 101, PHYS 150, or PHYS 170. Students with AP or Transfer Credit for PHYS 91 or PHYS 93 who complete PHYS 101 will thereby surrender the AP or Transfer Credit.
PHYS 102 General Physics: Electromagnetism, Optics, and Modern Physics
A continuation of PHYS 101 emphasizing an introduction to classical electricity and magnetism, relativity theory, optics, and the quantum theory of matter, requiring a background in calculus. Suggested for students in a pre-health program. Credit is awarded for only one of the following courses: PHYS 009, PHYS 102, PHYS 151, or PHYS 171. Students with AP or Transfer Credit for PHYS 92 or PHYS 94 who complete PHYS 102 will thereby surrender the AP or Transfer Credit.
For BA Students: Physical World Sector
Course offered summer, fall and spring terms
Prerequisite: PHYS 101
Corequisite: PHYS 102 LAB
Activity: Lecture
1.5 Course Unit
Notes: Credit is awarded for only one of the following courses: PHYS 009, PHYS 102, PHYS 151, or PHYS 171. Students with AP or Transfer Credit for PHYS 92 or PHYS 94 who complete PHYS 102 will thereby surrender the AP or Transfer Credit.

PHYS 137 Community Physics Initiative
This is an Academically Based Community Service Course (ABCS). It will be aligned to the Philadelphia School District curriculum in introductory physics at University City High School (UCHS). The UCHS curriculum roughly parallels the contents of first semester introductory physics (non-calculus) at Penn.
Course usually offered in fall term
Activity: Lecture
1 Course Unit

PHYS 140 Principles of Physics I (without laboratory)
Classical laws of motions; interactions between particles; conservation laws and symmetry principles; particle and rigid body motion; gravitation, harmonic motion. Engineering students only.
One-term course offered either term
Corequisite: MATH 104
Activity: Lecture
1 Course Unit
Notes: For Engineering students whose course of study does not require a physics laboratory course. Those who are enrolled in a dual degree program with the College must register for the lab-based version of this course, PHYS 150.

PHYS 141 Principles of Physics II (without laboratory)
Electric and magnetic fields; Coulomb's law, Ampere's law, and Faraday's law; Maxwell's equations; emission, propagation, and absorption of electromagnetic radiation; interference, reflection, refraction, scattering, and diffraction phenomena. Engineering students only.
Course offered summer, fall and spring terms
Prerequisite: PHYS 140
Corequisite: MATH 114
Activity: Lecture
1 Course Unit
Notes: For Engineering students whose course of study does not require a physics laboratory course. Those who are enrolled in a dual degree program with the College must register for the lab-based version of this course, PHYS 151.

PHYS 150 Principles of Physics I: Mechanics and Wave Motion
This calculus-based course is recommended for science majors and engineering students. Classical laws of motion; interactions between particles; conservation laws and symmetry principles; particle and rigid body motion; gravitation, harmonic motion. Credit is awarded for only one of the following courses: PHYS 008, PHYS 101, PHYS 150, or PHYS 170. Students with AP or Transfer Credit for PHYS 91 or PHYS 93 who complete PHYS 150 will thereby surrender the AP or Transfer Credit.
For BA Students: Physical World Sector
One-term course offered either term
Prerequisites: Students in PHYS 150 should already have taken MATH 104 or the equivalent, or be taking it simultaneously with PHYS 150
Corequisite: PHYS 150 LAB
Activity: Lecture
1.5 Course Unit
Notes: Credit is awarded for only one of the following courses: PHYS 008, PHYS 101, PHYS 150, or PHYS 170. Students with AP or Transfer Credit for PHYS 91 or PHYS 93 who complete PHYS 150 will thereby surrender the AP or Transfer Credit.

PHYS 151 Principles of Physics II: Electromagnetism and Radiation
The topics of this calculus-based course are electric and magnetic fields; Coulomb's, Ampere's, and Faraday's laws; Maxwell's equations; emission, propagation, and absorption of electromagnetic radiation; interference, reflection, refraction, scattering, and diffraction phenomena. Credit is awarded for only one of the following courses. PHYS 009, PHYS 102, PHYS 151, or PHYS 171. Students with AP or Transfer Credit for PHYS 92 or PHYS 94 who complete PHYS 151 will thereby surrender the AP or Transfer Credit.
For BA Students: Physical World Sector
Course offered summer, fall and spring terms
Prerequisite: PHYS 150
Corequisite: PHYS 151 LAB
Activity: Lecture
1.5 Course Unit
Notes: Credit is awarded for only one of the following courses. PHYS 009, PHYS 102, PHYS 151, or PHYS 171. Students with AP or Transfer Credit for PHYS 92 or PHYS 94 who complete PHYS 151 will thereby surrender the AP or Transfer Credit.

PHYS 170 Honors Physics I: Mechanics and Wave Motion
This course parallels and extends the content of PHYS 150, at a significantly higher mathematical level. Recommended for well-prepared students in engineering and the physical sciences, and particularly for those planning to major in physics. Classical laws of motion: interaction between particles; conservation laws and symmetry principles; rigid body motion; non-inertial reference frames; oscillations. Credit is awarded for only one of the following courses: PHYS 008 PHYS 101, 150, or PHYS 170. Students with AP or Transfer Credit for PHYS 91 or PHYS 93 who complete PHYS 170 will thereby surrender the AP or Transfer Credit.
For BA Students: Physical World Sector
Course usually offered in fall term
Prerequisites: MATH 104 or permission of the instructor.
Corequisite: MATH 114 or permission of instructor
Activity: Seminar
1.5 Course Unit
Notes: Benjamin Franklin Seminar. Credit is awarded for only one of the following courses: PHYS 008 PHYS 101, 150, or PHYS 170. Students with AP or Transfer Credit for PHYS 91 or PHYS 93 who complete PHYS 170 will thereby surrender the AP or Transfer Credit.
PHYS 171 Honors Physics II: Electromagnetism and Radiation
This course parallels and extends the content of PHYS 151, at a somewhat higher mathematical level. Recommended for well-prepared students in engineering and the physical sciences, and particularly for those planning to major in physics. Electric and magnetic fields; Coulomb’s, Ampere’s, and Faraday’s laws; special relativity; Maxwell’s equations, electromagnetic radiation. Credit is awarded for only one of the following courses: PHYS 009, PHYS 102, PHYS 151, or PHYS 171. Students with AP or Transfer Credit for PHYS 092 or PHYS 094 who complete PHYS 171 will thereby surrender the AP or Transfer Credit.
For BA Students: Physical World Sector
Course usually offered in spring term
Prerequisites: MATH 114 and PHYS 150 or PHYS 170, or permission of instructor
Corequisite: MATH 240 or permission of instructor
Activity: Seminar
1.5 Course Unit
Notes: Benjamin Franklin Seminar. Credit is awarded for only one of the following courses: PHYS 009, PHYS 102, PHYS 151, or PHYS 171. Students with AP or Transfer Credit for PHYS 092 or PHYS 094 who complete PHYS 171 will thereby surrender the AP or Transfer Credit.

PHYS 230 Principles of Physics III: Thermal Physics and Waves
Elementary thermodynamics and statistical physics including heat engines and the Maxwell-Boltzmann distribution, independent and forced harmonic motion, coupled oscillators, normal modes, longitudinal and transverse sound and light waves, interference and diffraction, and elementary Fourier analysis and the uncertainty principle.
Course usually offered in fall term
Prerequisites: PHYS 150/151 or PHYS 170/171 and MATH 104, MATH 114 or 116
Corequisite: MATH 240
Activity: Lecture
1 Course Unit

PHYS 240 Principles of Physics IV: Modern Physics (without laboratory)
Special relativity, an introduction to the principles of quantum mechanics, properties of electrons, protons, neutrons, and the elements of atomic structure and nuclear structure. Electromagnetic radiation and photons; interaction of photons with electrons, atoms, and nuclei.
Course usually offered in spring term
Prerequisites: PHYS 150/151 or PHYS 170/171
Corequisite: MATH 240 (Note: MATH 240 will become a prerequisite in Spring 2019)
Activity: Lecture
1 Course Unit

PHYS 250 Principles of Physics IV: Modern Physics
Special relativity, an introduction to the principle of quantum mechanics, properties of electrons, protons, neutrons, and the elements of atomic structure and nuclear structure. Electromagnetic radiation and photons; interaction of photons with electrons, atoms, and nuclei.
Course usually offered in spring term
Prerequisites: PHYS 150/151 or PHYS 170/171
Corequisites: MATH 240. (Note: MATH 240 will become a prerequisite in Spring 2019)
Activity: Lecture
1.5 Course Unit
Notes: PHYS 250 students take a two-hour lab

PHYS 280 Physical Models of Biological Systems
Classic case studies of successful reductionistic models of complex phenomena, emphasizing the key steps of making estimates, using them to figure out which physical variables and phenomena will be most relevant to a given system, finding analogies to purely physical systems whose behavior is already known, and embodying those in a mathematical model, which is often implemented in computer code. Topics may include bacterial genetics, genetic switches and oscillators; systems that sense or utilize light; superresolution and other microscopy methods; and vision and other modes of sensory transduction.
Course usually offered in fall term
Also Offered As: BCHE 280
Prerequisites: PHYS 101 (or higher), MATH 104-MATH 114 or MATH 104-MATH 115 or MATH 116. Recommended: previous or concurrent PHYS 102; basic background in chemistry and biology.
Activity: Lecture
1 Course Unit

PHYS 299 Independent Study
Special projects and independent study under the direction of faculty member.
One-term course offered either term
Activity: Independent Study
1 Course Unit
Notes: Repetitive credit

PHYS 314 Ocean-Atmosphere Dynamics and Implications for Future Climate Change
This course covers the fundamentals of atmosphere and ocean dynamics, and aims to put these in the context of climate change in the 21st century. Large-scale atmospheric and oceanic circulation, the global energy balance, and the global hydrological cycle. We will introduce concepts of fluid dynamics and we will apply these to the vertical and horizontal motions in the atmosphere and ocean. Concepts covered include: hydrostatic law, buoyancy and convection, basic equations of fluid motions, Hadley and Ferrel cells in the atmosphere, thermohaline circulation, Sverdrup ocean flow, modes of climate variability (El-Nino, North Atlantic Oscillation, Southern Annular Mode). The course will incorporate student led discussions based on readings of the 2007 Intergovernmental Panel on Climate Change (IPCC) report and recent literature on climate change. Aimed at undergraduate or graduate students who have no prior knowledge of meteorology or oceanography or training in fluid mechanics. Previous background in calculus and/or introductory physics is helpful. This is a general course which spans many subdisciplines (fluid mechanics, atmospheric science, oceanography, hydrology).
Taught by: Marinov
Also Offered As: ENVS 312, ENVS 640
Prerequisites: MATH 114 or permission of the instructor.
Activity: Lecture
1 Course Unit

PHYS 351 Analytical Mechanics
An intermediate course in the statics and dynamics of particles and rigid bodies. Lagrangian dynamics, central forces, non-inertial reference frames, and rigid bodies.
Course usually offered in spring term
Prerequisites: PHYS 150/151 or PHYS 170/171, MATH 104/114, and MATH 240, or permission of instructor.
Activity: Lecture
1 Course Unit
PHYS 361 Electromagnetism I: Electricity and Potential Theory
An intermediate course. Electrostatic fields and potentials, dielectrics, and direct currents.
Course usually offered in fall term
Also Offered As: PHYS 561
Prerequisites: PHYS 151 or 171, and MATH 241
Activity: Lecture
1 Course Unit

PHYS 362 Electromagnetism II: Magnetism, Maxwell's Equations, and Electromagnetic Waves
Course usually offered in spring term
Also Offered As: PHYS 562
Prerequisite: PHYS 361
Activity: Lecture
1 Course Unit

PHYS 364 Laboratory Electronics
A laboratory-intensive survey of analog and digital electronics, intended to teach students of physics or related fields enough electronics to be comfortable learning additional topics on their own from a reference such as Horowitz and Hill. Specific topics will vary from year to year from the selection of topics listed below. Analog topics may include voltage dividers, impedance, filters, operational amplifier circuits, and transistor circuits. Digital topics may include logic gates, finite-state machines, programmable logic devices, digital-to-analog and analog-to-digital conversion, and microcomputer concepts. Recommended for students planning to do experimental work in physical science.
Course usually offered in fall term
Also Offered As: PHYS 564
Prerequisites: Familiarity with electricity and magnetism at the level of PHYS 102, 141, 151 or 171.
Activity: Lecture
1 Course Unit

PHYS 401 Thermodynamics and the Introduction to Statistical Mechanics and Kinetic Theory
Temperature, entropy and generalized potentials, phase transitions, and introduction to ensemble theory and distribution functions.
Course usually offered in fall term
Also Offered As: PHYS 581
Prerequisite: PHYS 240 or 250
Activity: Lecture
1 Course Unit

PHYS 411 Introduction to Quantum Mechanics I
An introduction to the principles of quantum mechanics designed for physics majors and graduate students in physics-related disciplines. The Schrodinger equation operator formalism, central field problem, angular momentum, and spin. Application to one-dimensional and central field problems.
Course usually offered in fall term
Also Offered As: PHYS 511
Prerequisites: PHYS 150 or 170, 240 or 250, and MATH 241
Activity: Lecture
1 Course Unit

PHYS 412 Introduction to Quantum Mechanics II
Perturbation theory, variational principle, application of the quantum theory to atomic, molecular, and nuclear systems, and their interaction with radiation.
Course usually offered in spring term
Also Offered As: PHYS 512
Prerequisite: PHYS 411
Activity: Lecture
1 Course Unit

PHYS 414 Laboratory in Modern Physics
Supervised experiments in modern physics.
Course usually offered in spring term
Also Offered As: PHYS 521
Prerequisite: PHYS 411
Activity: Lecture
1 Course Unit

PHYS 421 Modern Optics
Interaction of light with matter. Interference and diffraction, absorption and dispersion, stimulated emission and coherence, spectroscopy, nonlinear processes.
Course offered spring; even-numbered years
Also Offered As: PHYS 529
Prerequisites: PHYS 240 or 250 and 362, or permission of instructor
Activity: Lecture
1 Course Unit

PHYS 433 Order of Magnitude Physics
This course focuses on the art of estimating physical quantities to within the nearest factor of ten. Problem solving techniques such as dimensional analysis and scaling relations will be covered and applied to a wide range of topics including fluid mechanics, waves and sound, atomic physics, material properties, astrophysics, everyday life, and more. The course is intended for advanced undergraduate students.
One-term course offered either term
Prerequisite: Prerequisites: PHYS 411 or permission from instructor
Activity: Lecture
1 Course Unit

PHYS 499 Senior Honor Thesis
Experimental and theoretical research projects in various areas of physics planned by student in consultation with a member of faculty. A written thesis and an oral presentation and defense are required.
One-term course offered either term
Prerequisites: PHYS 412 and 414
Activity: Independent Study
1 Course Unit

PHYS 500 Mathematical Methods of Physics
A discussion of those concepts and techniques of classical analysis employed in physical theories. Topics include complex analysis. Fourier series and transforms, ordinary and partial equations, Hilbert spaces, among others.
Course usually offered in fall term
Also Offered As: MATH 594
Activity: Lecture
1 Course Unit
PHYS 501 Introduction to Research
Introduction to research in particle, nuclear, condensed matter and astrophysics. Selected current topics from journals.
One-term course offered either term
Activity: Lecture
0 Course Units
Notes: Taken by all first-year graduate students. This is a required seminar that does not carry credit or a grade.

PHYS 503 General Relativity
This is a graduate level, introductory course in general relativity. The basics of general relativity will be covered with a view to understanding the mathematical background, the construction of the theory, and applications to the solar system, black holes, gravitational waves and cosmology. The latter part of the course will cover some of the basic modern topics in modern cosmology, including the current cosmological model, the accelerating universe, and open questions driving current research.
One-term course offered either term
Activity: Lecture
1 Course Unit

PHYS 505 Introduction to Cosmology
Introduction to physical cosmology emphasizing recent ideas on the very early evolution of the universe. The course will introduce standard big bang cosmology, new theories of the very early universe, and the key observations that have tested and will be testing these ideas. No prior knowledge of astrophysics, cosmology, general relativity, or particle physics will be assumed, although aspects of each will be introduced as part of the course. The course is intended for graduate students and advanced undergraduates.
Course not offered every year
Prerequisite: Graduate standing in physics or permission of instructor
Activity: Lecture
1 Course Unit

PHYS 506 Electromagnetic Phenomena
Survey of electrodynamics, focusing on applications to research done in the Department. Topics include mathematical structure and relativistic invariance properties of Maxwell equations, tensor methods, and the generation and scattering of radiation, in vacuum and in materials. Applications vary from year to year but include optical manipulation, astrophysical phenomena, and the generalizations from Maxwell's theory to those of other fundamental interactions (strong, electroweak, and gravitational forces).
Course usually offered in spring term
Activity: Lecture
1 Course Unit

PHYS 516 Modern Optical Physics and Spectroscopy
Introduction to contemporary optics. Topics include propagation and guiding of light waves, interaction of electromagnetic radiation with matter, lasers, non-linear optics, coherent transient phenomena, photon correlation spectroscopies and photon diffusion.
Course offered spring; odd-numbered years
Activity: Lecture
1 Course Unit

PHYS 517 Particle Cosmology
This introduction to cosmology will cover standard big bang cosmology, formation of large-scale structure, theories of the early universe and their observational predictions, and models of dark energy. It is intended for graduate students or advanced undergraduates. No prior knowledge of general relativity or field theory will be assumed, although aspects of each will be introduced as part of the course.
One-term course offered either term
Activity: Lecture
1 Course Unit

PHYS 518 Introduction to Condensed Matter Physics
An introduction to condensed matter physics designed primarily for advanced undergraduate and graduate students desiring a compact survey of the field. Band theory of solids, phonons, electrical magnetic and optical properties of matter, and superconductivity.
Course usually offered in spring term
Prerequisites: Undergraduate training in quantum mechanics and statistical thermodynamics
Activity: Lecture
1 Course Unit

PHYS 521 Advanced Laboratory
Directed experiments in classical and modern physics designed to acquaint the student with modern laboratory instrumentation and techniques.
Course usually offered in spring term
Also Offered As: PHYS 414
Activity: Lecture
1 Course Unit

PHYS 522 Introduction to Elementary Particle Physics
An introduction to elementary particles (photons, leptons, hadrons, quarks), their interactions, and the unification of the fundamental forces.
Course not offered every year
Prerequisites: Permission of instructor required.
Activity: Lecture
1 Course Unit

PHYS 526 Astrophysical Radiation
This is a course on the theory of the interaction of light and matter designed primarily for graduate and advanced undergraduate students to build the basic tools required to do research in astrophysics. Topics to be discussed include structure of single- and multi-electron atoms, radiative and collisional processes, spectral line formation, opacity, radiation transfer, analytical and numerical methods, and a selection of applications in astrophysics based on student research interest.
Course offered fall; even-numbered years
Activity: Lecture
1 Course Unit

PHYS 528 Introduction to Liquid Crystals
Overview of liquid crystalline phases, their elasticity, topology, and dynamics.
One-term course offered either term
Activity: Lecture
1 Course Unit

PHYS 530 Modern Optical Physics and Spectroscopy
Introduction to contemporary optics. Topics include propagation and guiding of light waves, interaction of electromagnetic radiation with matter, lasers, non-linear optics, coherent transient phenomena, photon correlation spectroscopies and photon diffusion.
Course offered spring; odd-numbered years
Prerequisites: Working knowledge of electricity and magnetism and quantum mechanics.
Activity: Lecture
1 Course Unit

Notes: Graduate level course designed for beginning or intermediate graduate students in physics, but it is likely to be of use to a broader community including beginning graduate students whose research involves light scattering in electrical engineering, chemistry, and biophysics, and advanced undergraduates.
PHYS 531 Quantum Mechanics I
Wave mechanics, complementarity and correspondence principles, semi-classical (WKB) approximation, bound state techniques, periodic potentials, angular momentum, scattering theory, phase shift analysis, and resonance phenomena.
Course usually offered in fall term
Prerequisites: A minimum of one semester of quantum mechanics at the advanced undergraduate level.
Activity: Lecture
1 Course Unit

PHYS 532 Quantum Mechanics II
Spin and other two dimensional systems, matrix mechanics, rotation group, symmetries, time independent and time dependent perturbation theory, and atomic and molecular systems.
Course usually offered in spring term
Prerequisite: PHYS 531
Activity: Lecture
1 Course Unit

PHYS 533 Topics in Cosmology
This course aims to survey three or four topics of current research interest in cosmology, mostly at the level of review articles. The topics will be covered in greater depth and with more connections to ongoing research than the introductory cosmology course, ASTR 525. The course will be largely accessible to first and second year graduate students. Some exposure to cosmology and general relativity will be helpful but the first two weeks will attempt to bridge that gap. The topic selection will be done in part with input from the students. For the Fall 2009 semester, Dark Energy will be the first topic, Nonlinear Dynamics the likely second topic and Gravitational Lensing (focus on strong lensing) a possible third topic. A few short problem sets and a presentation/write-up on a topic of interest, based on a review article or selected papers, will make up the course requirement.
Course not offered every year
Activity: Lecture
1 Course Unit

PHYS 535 Topics in Theory of Living Systems
The goal of this course is to discuss broad conceptual theories that address complex phenomena of living systems. Example questions include: what is the molecular architecture of information processing in cells and developing organisms? What is the functional architecture of cooperative organization from molecules in a cell to whole organism social interactions? How is complex multi-factorial information represented in organisms? The course will meet once a week and students will research relevant papers, lead discussions, and generate synopsis of group discussions. At the end of the semester, faculty and students are expected to co-author a review report of the discussed topics.
Taught by: Kim, Goulian, Akcay, Balasubramanian, Raj, Mossel
Course not offered every year
Also Offered As: BIOL 535
Prerequisite: Permission of instructor
Activity: Seminar
0.5 Course Units

PHYS 536 Laboratory Electronics
A laboratory-intensive survey of analog and digital electronics, intended to teach students of physics or related fields enough electronics to be comfortable learning additional topics on their own from a reference such as Horowitz and Hill. Specific topics will vary from year to year from the selection of topics listed below. Analog topics may include voltage dividers, impedance, filters, operational amplifier circuits, and transistor circuits. Digital topics may include logic gates, finite-state machines, programmable logic devices, digital-to-analog and analog-to-digital conversion, and microcomputer concepts. Recommended for students planning to do experimental work in physical science.
Course usually offered in fall term
Also Offered As: PHYS 364
Activity: Lecture
1 Course Unit

PHYS 580 Biological Physics
The course will explore the basic physical principles behind the structure and function of life across many length and time scales (molecule, cell, organism, population). Emphasis will be given on overarching physical themes such as entropy and biological noise, and how they affect the organization of living matter and its emergent properties. Topics may include biopolymers and single molecule biophysics, molecular motors, gene and transcription networks, pattern formation in biological systems, phyllotaxis, neural computing and evolution.
Course not offered every year
Also Offered As: BCHE 580
Prerequisites: MATH 240 and MATH 241 (or equivalent preparation), PHYS 401 or familiarity with statistical mechanics and thermodynamics.
Activity: Lecture
1 Course Unit
Notes: Recommended: Basic background in biology.
PHYS 585 Theoretical and Computational Neuroscience
This course will develop theoretical and computational approaches to structural and functional organization in the brain. The course will cover: (i) the basic biophysics of neural responses, (ii) neural coding and decoding with an emphasis on sensory systems, (iii) approaches to the study of networks of neurons, (iv) models of adaptation, learning and memory, (v) models of decision making, and (vi) ideas that address why the brain is organized the way that it is. The course will be appropriate for advanced undergraduates and beginning graduate students. A knowledge of multi-variable calculus, linear algebra and differential equations is required (except by permission of the instructor). Prior exposure to neuroscience and/or Matlab programming will be helpful.
Course usually offered in spring term
Also Offered As: BE 530, BIBB 585, NGG 594, PSYC 539
Activity: Lecture
1 Course Unit

PHYS 601 Introduction to Field Theory
Elementary relativistic quantum field theory of scalar, fermion, and Abelian gauge fields. Feynman Diagrams.
Course usually offered in fall term
Activity: Lecture
1 Course Unit

PHYS 611 Statistical Mechanics
Course usually offered in fall term
Prerequisites: PHYS 401, 531, or equivalent
Activity: Lecture
1 Course Unit

PHYS 612 Advanced Statistical Mechanics
In depth study of classical and quantum lattice spin models, perturbation techniques, and the renormalization group.
Course not offered every year
Prerequisite: PHYS 611 or equivalent
Activity: Lecture
1 Course Unit

PHYS 622 Introduction to Elementary Particle Physics
Introduction to the phenomenology of elementary particles, strong and weak interactions, symmetries.
Course not offered every year
Prerequisite: PHYS 601
Activity: Lecture
1 Course Unit

PHYS 632 Relativistic Quantum Field Theory
Advanced topics in field theory, including renormalization theory.
Course not offered every year
Prerequisite: PHYS 601
Activity: Lecture
1 Course Unit

PHYS 633 Relativistic Quantum Field Theory
A continuation of PHYS 632, dealing with non-Abelian gauge theories.
Course not offered every year
Prerequisite: PHYS 632
Activity: Lecture
1 Course Unit

PHYS 661 Solid State Theory I
This course is intended to be an introductory graduate course on the physics of solids, crystals and liquid crystals. There will be a strong emphasis on the use and application of broken and unbroken symmetries in condensed matter physics. Topics covered include superconductivity and superfluidity.
Course not offered every year
Activity: Lecture
1 Course Unit

PHYS 662 Solid State Theory II
A continuation of PHYS 661.
Course not offered every year
Activity: Lecture
1 Course Unit

PHYS 696 Advanced Topics in Theoretical Physics
Course not offered every year
Activity: Lecture
1 Course Unit

PHYS 990 Masters Thesis
One-term course offered either term
Activity: Masters Thesis
1 Course Unit

PHYS 995 Dissertation
One-term course offered either term
Activity: Dissertation
1 Course Unit

PHYS 999 Independent Study
One-term course offered either term
Activity: Independent Study
1 Course Unit

Political Science (PSCI)

PSCI 009 Critical Writing Seminar in Political Science
This is a critical writing seminar. It fulfills the writing requirement for all undergraduates. As a discipline-based writing seminar, the course introduces students to a topic within its discipline but throughout emphasizes the development of critical thinking, analytical, and writing skills. For current listings and descriptions, visit the Critical Writing Program's website at http://writing.upenn.edu/critical.
For BA Students: Writing Requirement Course
Course not offered every year
Also Offered As: WRIT 076
Activity: Seminar
1 Course Unit

PSCI 010 Freshman Seminars
Freshmen seminars are small, substantive courses taught by members of the faculty and open only to freshmen. These seminars offer an excellent opportunity to explore areas not represented in high school curricula and to establish relationships with faculty members around areas of mutual interest. See www.college.upenn.edu/admissions/freshmen.php
One-term course offered either term
Also Offered As: AFRC 010, GSWS 010, LALS 107
Activity: Seminar
1 Course Unit
PSCI 105 The Study of Politics
This course introduces fundamental political questions, including the nature of political authority and political rights, the relationship between power and values, variation in the role and quality of government, origins of political institutions, and dynamics of international politics. Substantial consideration is given to contributions by classical political thinkers as well as contemporary political scientists. Attention is also paid to how the systematic study of politics – comparative politics, international politics, and political philosophy – can deepen our understanding of complex public policy questions.
For BA Students: Society Sector
One-term course offered either term
Activity: Recitation
1 Course Unit

PSCI 107 Introduction to Data Science
Understanding and interpreting large, quantitative data sets is increasingly central in political and social science. Whether one seeks to understand political communication, international trade, inter-group conflict, or a host of other issues, the availability of large quantities of digital data has revolutionized the study of politics. Nonetheless, most data-related courses focus on statistical estimation, rather than on the related but distinctive problems of data acquisition, management and visualization - in a term, data science. This course seeks to address that imbalance by focusing squarely on the tools of data science. Leaving this course, students will be able to acquire, format, analyze, and visualize various types of political data using the statistical programming language R. This course is not a statistics class, but it will increase the capacity of students to thrive in future statistics classes. ENTERING THIS CLASS... students are expected to have a basic familiarity with computation. While no background in statistics, political science is required, students are expected to be generally familiar with contemporary computing environments (e.g., know how to use a computer) and have a willingness to learn a wide variety of data science tools.
Taught by: Hopkins
Course not offered every year
Activity: Recitation
1 Course Unit

PSCI 110 Introduction to Comparative Politics
This course is designed to introduce students to comparative political analysis. How can the political behavior, circumstances, institutions, and dynamic patterns of change that people experience in very different societies be analyzed using the same set of concepts and theories? Key themes include nationalism, political culture, democratization, authoritarianism, and the nature of protracted conflict.
For BA Students: Society Sector
One-term course offered either term
Also Offered As: PSCI 412
Activity: Recitation
1 Course Unit

PSCI 113 Intro To Decision Theory
For BA Students: Formal Reasoning and Analysis
Course not offered every year
Activity: Seminar
1 Course Unit

PSCI 115 Comparative Western European Politics
Comparative analysis of the political systems of Britain, France and West Germany, focusing on the making and implementation of public policy.
Taught by: Kennedy
One-term course offered either term
Activity: Lecture
1 Course Unit

PSCI 116 Political Change in the "Third World"
This is a comparative politics course that examines political and socio-economic change in the so-called "Third World" defined here as post-colonial developing areas in Asia, Africa and Latin America. The course is not as concerned with keeping up with current events as with analyzing the relationships between colonial legacies, the initial challenges of post-colonial political and socioeconomic development, and how these interact with contemporary problems and global trends. Although chiefly concerned with "political change" within countries, it will also devote substantial attention to economic, socio-cultural and international factors. The course is divided into three parts. The first examines the common and distinctive features of colonial rule in different regions as well as the varying challenges of political and economic development in diverse post-colonial settings. The second part focuses on elaborating on the themes developed in the first by looking more closely at the developmental experiences of Brazil, India, Algeria, Iran, Nigeria, and South Korea (with passing references to other countries as comparative referents). The third part focuses on trends and challenges that have emerged over the last two decades - including market reforms, democratization, and problems related to gender and the environment.
For BA Students: Society Sector
Taught by: Sil
One-term course offered either term
Activity: Recitation
1 Course Unit

PSCI 130 Introduction to American Politics
This course is intended to introduce students to the national institutions and political processes of American government. What are the historical and philosophical foundations of the American Republic? How does American public policy get made, who makes it, and who benefits? Is a constitutional fabric woven in 1787 good enough for today? How, if at all, should American government be changed, and why? What is politics and why bother to study it? If these sorts of questions interest you, then this course will be a congenial home. It is designed to explore such questions while teaching students the basics of American politics and government.
For BA Students: Society Sector
One-term course offered either term
Activity: Recitation
1 Course Unit

PSCI 131 American Foreign Policy
This course analyzes the formation and conduct of foreign policy in the United States. The course combines three elements: a study of the history of American foreign relations; an analysis of the causes of American foreign policy such as the international system, public opinion, and the media; and a discussion of the major policy issues in contemporary U.S. foreign policy, including terrorism, civil wars, and economic policy.
Taught by: Horowitz, Vitalis
One-term course offered either term
Activity: Recitation
1 Course Unit
PSCI 133 Introduction to African American Politics
This course is designed to provide an introduction to contemporary African American politics. We will examine how the underlying theory and structure of American political institutions affect African Americans' efforts to organize for effective political action. We will also analyze some of the political behaviors and strategies utilized by African Americans as they seek to impact the political system.
Course usually offered in fall term
Activity: Recitation
1 Course Unit

PSCI 134 United States Political Parties
This course is an analysis of parties in the United States, with special attention to democratic theory, the electoral process, electronic media, as well as political organizations and their influence on government decisions.
Course usually offered in spring term
Activity: Lecture
1 Course Unit

PSCI 135 The Politics of Food and Agriculture
Students will use course readings and their community service to analyze the institutions, ideas, interests, social movements, and leadership that shape the "politics of food" in different arenas. Service opportunities include work with the Urban Nutrition Initiative, Community School Student Partnerships, and the possibility of other placements as approved by the professors.
Taught by: Summers
Course not offered every year
Also Offered As: HSOC 135
Activity: Lecture
1 Course Unit

PSCI 136 Urban Politics in the United States
This course explores the political character of contemporary urban American life. Particular attention is given to the relationship between urban politics and policymaking – including the structural and ideological factors (e.g., dynamics of political economy, race, ethnicity, pluralism and gender) that constrain the policy context and shape the urban environment as a terrain for commingling, competition and conflict over uses of space. It makes considerable use of case studies to throw into relief the complex and sometimes subtle processes that shape urban life.
For BA Students: Society Sector
Taught by: Reed
Course usually offered in spring term
Also Offered As: AFRC 136, URBS 136
Activity: Lecture
1 Course Unit

PSCI 137 Politics Of Poverty & Development
This academically based community service seminar will explore the ideas and theories, alliances and opposition that have shaped policy and organizing efforts addressed to the problems associated with urban poverty in the United States. There will be a special focus on the issues of increasing inequality, education, low wage work, health and nutrition, welfare reform and social security. Students will evaluate contemporary policy debates and programs in the light of selected case studies, readings, and their own experience working with community groups, institutions, and federal programs in West Philadelphia.
For BA Students: Humanities and Social Science S
Taught by: Summers
Course not offered every year
Activity: Seminar
1 Course Unit

PSCI 138 Policymaking in the US
This course is an opportunity for students to combine the major theoretical perspectives on the policy process with practical application to current policy issues. Students will gain the theoretical tools to explain policy change, a comprehensive understanding of the actors that influence policymaking and politics, an overview of the major policy issues being debated, and experience writing policy documents.
Taught by: Martinez
Course usually offered in fall term
Activity: Seminar
1 Course Unit

PSCI 139 Introduction to International Relations
This course is an introduction to the major theories and issues in international politics. The goals of the course are to give students a broad familiarity with the field of international relations, and to help them develop the analytical skills necessary to think critically about international politics. The course is divided into four parts: 1) Concepts and Theories of International Relations; 2) War and Security; 3) The Global Economy; and 4) Emerging Issues in International Relations.
For BA Students: Society Sector
Taught by: Mansfield, Stanton
One-term course offered either term
Activity: Recitation
1 Course Unit
PSCI 151 International Security
This lecture course introduces students to the subfield of international security or strategic studies. In order to grasp the usefulness of the theoretical ideas presented in readings and lectures, abstract concepts are linked with a study of the national security policies states have adopted in the decades following World War II. Topics include current debates about nuclear proliferation, terrorism, the Iraq war, Europe’s changing international role, the rise of China, Asian “flashpoints” (Korea, the Taiwan Strait), and US security policy for the 21st century - considering some of the main strategic alternatives to the US as well as their implications for the types of forces deployed (the impact of the “revolution in military affairs,” the future of missile defense, and the economic burden to be shouldered).
Taught by: Goldstein
One-term course offered either term
Activity: Recitation
1 Course Unit

PSCI 152 International Political Economy
This course examines the politics of international economic relations. The course will analyze the interplay between politics and economics in three broad areas: international trade, international finance, and economic development. In each section, we will first discuss economic theories that explain the causes and consequences of international commerce, capital flows, and economic growth. We will then explore how political interests, institutions, and ideas alter these predictions, examining both historical examples and current policy debates.
Taught by: Gray
Course not offered every year
Activity: Recitation
1 Course Unit

PSCI 153 International Law & Institutions
This lecture course examines the role that international law and institutions play in international relations. The course begins by exploring broad theoretical questions - questions about why states create international law and international institutions; how states design institutions; the impact that institutional design may have on the effectiveness of international institutions; and the conditions under which states are likely to comply with the rules set out by international institutions and the dictates of international law. Specific topics include collective security institutions such as the League of Nations, the United Nations, and NATO; human rights law; the laws of war; international intervention and peacekeeping; international justice and the International Criminal Court; environmental law; international trade law and the World Trade Organization; economic development and the World Bank; and international finance and the role of the International Monetary Fund.
Taught by: Stanton
One-term course offered either term
Activity: Recitation
1 Course Unit

PSCI 154 Politics of Global Environment
This course explores the emerging politics of global ecological decay and restoration occurring at the individual, local, nation-state, and international levels.
One-term course offered either term
Activity: Recitation
1 Course Unit

PSCI 155 Terrorism
This course is designed to stimulate an interest in the philosophy and methods of terrorism; to illustrate the varieties of conditions under which methods of terrorism are used; to outline the institutional conditions which permit and support the use of terrorism; and to understand the problems involved in "solving" the terrorism dilemma.
One-term course offered either term
Activity: Lecture
1 Course Unit

PSCI 156 Terrorism
This course will provide an overview of major figures and themes of modern political thought. We will focus on themes and questions pertinent to political theory in the modern era, particularly focusing on the relationship of the individual to community, society, and state. Although the emergence of the individual as a central moral, political, and conceptual category arguably began in earlier eras, it is in the seventeenth century that it takes firm hold in defining the state, political institutions, moral thinking, and social relations. The centrality of "the individual" has created difficulties, even paradoxes, for community and social relations, and political theorists have struggled to reconcile those throughout the modern era. We will consider the political forms that emerged out of those struggles, as well as the changed and distinctly "modern" conceptualizations of political theory such as freedom, responsibility, justice, rights and obligations, as central categories for organizing moral and political life.
For BA Students: History and Tradition Sector
Taught by: Hirschmann, Kennedy, Norton
Course not offered every year
Also Offered As: CLST 185
Activity: Recitation
0 Course Units

PSCI 180 Ancient Political Thought
Through reading texts of Plato (Socrates), Aristotle, Augustine and Aquinas, the student encounters a range of political ideas deeply challenging to--and possibly corrosive of--today's dominant democratic liberalism. Can classical and medieval thinking offer insight into modern impasses in political morality? Is such ancient thinking plausible, useful, or dangerous?
For BA Students: History and Tradition Sector
Taught by: Kennedy, Norton
Course not offered every year
Also Offered As: PSCI 681
Activity: Recitation
1 Course Unit

PSCI 181 Modern Political Thought
This course will provide an overview of major figures and themes of modern political thought. We will focus on themes and questions pertinent to political theory in the modern era, particularly focusing on the relationship of the individual to community, society, and state. Although the emergence of the individual as a central moral, political, and conceptual category arguably began in earlier eras, it is in the seventeenth century that it takes firm hold in defining the state, political institutions, moral thinking, and social relations. The centrality of "the individual" has created difficulties, even paradoxes, for community and social relations, and political theorists have struggled to reconcile those throughout the modern era. We will consider the political forms that emerged out of those struggles, as well as the changed and distinctly "modern" conceptualizations of political theory such as freedom, responsibility, justice, rights and obligations, as central categories for organizing moral and political life.
For BA Students: History and Tradition Sector
Taught by: Hirschmann, Kennedy, Norton
Course not offered every year
Also Offered As: CLST 185
Activity: Recitation
1 Course Unit
PSCI 183 American Political Thought
Whether America begins with the Puritans and the Mayflower Compact, or with the Declaration of Independence and the Revolution, it is founded in resistance to empire. In the generations between, Americans have desired, dreaded and debated empire. This course will focus on empire and imperialism in American political thought. We will read primary texts addressing empire: from the departure and dissent of the Puritans, and Burke’s Speech on Conciliation with the Colonies, to twentieth and twenty-first century debates over America’s role in the world. These texts will include political pamphlets and speeches, poetry, novels, policy papers and film.
For BA Students: Humanities and Social Science S
Taught by: Norton
Course not offered every year
Activity: Recitation
1 Course Unit

PSCI 198 Selected Topics in Political Science
Consult department for detailed descriptions. More than one course may be taken in a given semester. Recent titles have included: The Analysis of Presidential Elections, Conservative Political Economy, and Political Geography.
One-term course offered either term
Activity: Seminar
1 Course Unit

PSCI 201 Politics, Society and Social Science
Everyday human behavior poses puzzles that political scientists, economists, sociologists, and other social scientists have attempted to answer. Often their respective answers or "theories" differ widely; and sometimes even their most widely agreed-upon answers seem to defy common sense or ask us to believe in highly improbable findings. This new lecture course familiarizes students with different approaches to understanding politics, society, and social science in relation to everyday questions, intriguing puzzles, and improbable findings about human behavior. It focuses on contemporary American politics and society, and draws mainly on literatures featuring work by leading U.S. social scientists. In addition, the course explores the conceptual boundaries between the political, social, and economic domains in which people interact with one another; the differences among and between different much-acclaimed models for understanding human behavior; and the philosophical underpinnings and moral implications associated with schools of thought about how best to describe, analyze, and evaluate what people do—and why they do it!
Taught by: Dilulio
Course usually offered in fall term
Activity: Recitation
1 Course Unit

PSCI 204 Political Participation
The course offers a broad understanding of the political tactics citizens implement to voice their policy preferences to government. This course introduces students to the mode, scope, and theoretical perspectives of political engagement. Analyzing political behavior that ranges from voting behavior to political protest, the course will address a variety of questions: Who engages in politics and why? What are the individual factors that hinder or facilitate engagement in the political arena? How have citizens political actions changed over time? While the course will mainly focus on the United States setting, it does offer a comparative perspective by considering political engagement in non-democratic regimes.
Taught by: Gillion
Course usually offered in fall term
Activity: Lecture
1 Course Unit

PSCI 208 International Organizations in Latin America
International Organizations play a powerful role in mitigating conflict at the global level. What role do they play in solving problems related to global politics, economic development, corruption, inequality and civil society in Latin America? How much power, influence and control do they possess in the region? This course examines the role and impact of international organizations have had on Latin America since the mid-20th century. After a review of theoretical and methodological perspectives on the significance of IOs in international relations, students will examine the workings, issues and often controversies surrounding IOs in Latin America, including the IMF, World Bank, UN, OAS and ICC as well as regional organizations such as the Inter-American Court of Human Rights and area trade blocs and agreements of Mercosur, NAFTA and others. Students will also explore the regional impact of transnational civil society organizations, such as human rights organizations and the International Olympic Committee. Students will be invited to participate in the Washington Model OAS from April 10-17.
Taught by: Bartch
Also Offered As: LALS 208
Activity: Seminar
1 Course Unit

PSCI 210 Contemporary African Politics
This class provides an introduction to contemporary African politics. The core questions that motivate the course are (i) to what extent are political outcomes in contemporary Africa a consequence of its history, culture and geography? (ii) Why are state structures and institutions weaker in Africa than elsewhere? (iii.) What accounts for Africa's relatively slow economic growth? (iv.) Why have some African countries been plagued by high levels of political violence while others have not? (v.) What explains the behavior of key African actors: parties or politicians?
Taught by: Grossman
One-term course offered either term
Also Offered As: AFRC 257, AFST 257
Activity: Lecture
1 Course Unit
PSCI 211 Politics in the Contemporary Middle East
This course is an introduction to the most prominent historical, cultural, institutional, and ideological features of Middle Eastern politics. Typical of the questions we shall address are why processes of modernization and economic change have not produced liberal democracies, why Islamic movements have gained enormous strength in some countries and not others, why conflicts in the region—between Israel and the Arabs, Iran and Iraq, or inside of Lebanon—have been so bitter and protracted; why the era of military coups was brought to an end but transitions to democracy have been difficult to achieve; why Arab unity has been so elusive and yet so insistently a theme; and why oil wealth in the Gulf, in the Arabian Peninsula, and in North Africa, has not produced industrialized or self-sustaining economic growth.
Taught by: Vitalis or Lustick
One-term course offered either term
Also Offered As: JWST 211
Activity: Recitation
1 Course Unit

PSCI 212 Japanese Politics
This course examines the politics and policies of contemporary Japan, applying a range of theoretical perspectives to analyze both recent history and current events. We will survey the core political institutions of the postwar era, examine patterns of political interaction, and investigate current debates over policy. The 1990s have been marked by political change at many different levels in Japan and the course will investigate the significance of these changes, as well as enduring continuities.
Recent changes have included the introduction of a new electoral system, shift from one party rule to coalition government rule, breaking the bureaucracy, a financial crisis and prolonged economic stagnation. In the latter part of the course, we will focus in particular on the puzzle of how Japan's political economic structures and policies could have proven so successful for so long and yet so disastrous of late. Throughout the course, students will be encouraged to think about Japanese politics in a comparative context and to consider the functioning of the Japanese political system in the context of more theoretical debates in political science.
Taught by: Amyx
Course not offered every year
Also Offered As: EALC 559, PSCI 512
Activity: Recitation
1 Course Unit

PSCI 213 Latin American Politics
This course examines the dynamics of political and economic change in twentieth century Latin America, with the goal of achieving an understanding of contemporary politics in the region. We will analyze topics such as the incorporation of the region to the international economy and the consolidation of oligarchic states (1880s to 1930s), corporatism, populism, and elict pacts (1930s and 1940s), social revolution, democratic breakdown, and military rule (1960s and 1970s), transitions to democracy and human rights advocacy (1980s), makret-oriented reforms (1990s), and the turn to the left of current governments (2000s). The course will draw primarily from the experiences of Argentina, Brazil, Colombia, Chile and Mexico. No prior knowledge of the region is required.
Taught by: Falleti
One-term course offered either term
Also Offered As: LALS 213
Activity: Recitation
1 Course Unit

PSCI 214 Political Economy of East Asia
This course examines the interplay between politics and economics in East Asia. A major course objective is to reconcile the region's past success with the difficulties experienced in many of these countries more recently. Another primary objective is to consider in what ways and to what degree the growth experiences of the high-performing economies in East Asia shed light on the prospects for long-term success of reforms currently underway in China and Vietnam. The first half of the course begins by exploring the causes and consequences of the rise of industrial Asia. The second half of the course examines the challenges to sustained growth faced by many countries in this region in recent years. The course concludes by examining the challenges faced by China and Vietnam today in their attempt to embrace more market-oriented economic systems.
Taught by: Wang, Amyx
Course not offered every year
Also Offered As: EALC 104, EALC 504, PSCI 514
Activity: Recitation
1 Course Unit

PSCI 215 The European Union
This lecture course, after introductory sessions which outline the EU's core institutions, is built on an exposition of the works of major thinkers who have reflected on the European Union's origins, outcomes and significance. It critically reviews their arguments, especially their relevance to major recent crises, notably: the failure of the European Constitution, the current crisis of credibility facing the Euro. Whether the European Union is a confederation, a federation, an empire, or a novel external relations it represents a novel form of soft power.
Taught by: O'Leary
Course not offered every year
Activity: Recitation
1 Course Unit

PSCI 216 Government and Politics of East Asia
The course will examine the relationship between culture, state, and economy of Japan, North Korea, and South Korea. It will also analyze the nature and workings of political institutions (including political parties and bureaucracy).
One-term course offered either term
Activity: Lecture
1 Course Unit
PSCI 217 Russian Politics
This course will present an in-depth examination of political, economic and social change in post-Soviet Russia within a historical context. After a brief discussion of contemporary problems in Russia, the first half of the course will delve into the rise of communism in 1917, the evolution of the Soviet regime, and the tensions between ideology and practice over the seventy years of communist rule up until 1985. The second part of the course will begin with an examination of the Gorbachev period and the competing interpretations of how the events between 1985 and 1991 may have contributed to the collapse of the Soviet Union.
We will then proceed to make sense of the continuities and changes in politics, economics and society in contemporary Russia. Important topics will include the confrontations accompanying the adoption of a new constitution, the emergence of competing ideologies and parties, the struggle over economic privatization, the question of federalism and nationalism, social and political implications of economic reform, and prospects for Russia's future in the Putin and post-Putin era.
Taught by: Sil
Course usually offered in spring term
Also Offered As: PSCI 517, RUSS 217
Activity: Recitation
1 Course Unit

PSCI 218 Politics of Post War Western Europe
This course examines political institutions, processes and events in postwar Western Europe. The focus will be a comparative analysis of such topics as political parties and systems, electoral behavior, as well as social and economic policy. We will also examine the way in which domestic processes and policies interact with membership in the European Union.
Taught by: Lynch
Course not offered every year
Activity: Recitation
1 Course Unit

PSCI 219 Contemporary Chinese Politics
This lecture course introduces students to the politics of the Peoples Republic of China. Complementing offerings in other departments, this course emphasizes events in the period since the Chinese Communist Party established its regime in 1949. In addition to surveying the political history of contemporary China, we will assess the meaning of these events by drawing upon theories about the nature and significance of ideology and organization in communist regimes, factionalism and its relationship to policy formulation and implementation, and general issues of political and economic development. Although the principal focus is on the domestic politics of the PRC, the course includes several lectures examining China's international relations.
Taught by: Goldstein
One-term course offered either term
Activity: Recitation
1 Course Unit

PSCI 220 Comparative South Asian Politics
The comparative study of South Asian politics begins with many antecedent questions. What are the reasons why a strong national political identity in the Indian subcontinent was no consolidated and territorial boundaries defined until the advent of the British Raj?
Alternatively, given major regional diversities, why did the subcontinent not become differentiated into a large number of national states on the model of Europe? To what extent was the movement toward a unified territorial state weakened by colonial policies that recast social groups in terms of new pan-Indian categories based on caste and religious identities? What factors led to the partition of the subcontinent at the time of independence on the basis of religion, and what consequences did partition have for the strategies adopted by each state to develop an overarching national identity and universal principles of legitimate state power? Although the greater part of the course will address these questions by analyzing the social and political dynamics of democracy in India, they are equally relevant for understanding the difficulties encountered by Pakistan in defining a core identity and a stable form of government.
Taught by: Frankel
Course not offered every year
Activity: Lecture
1 Course Unit

PSCI 221 Comparative Health Politics
This course examines the relationship between politics and the health of populations in the world's rich democracies, including the United States. The key questions the course addresses are how and why countries differ in their health care policies, public health policies, and policies that affect the social determinants of health. There are no prerequisites, but prior coursework in comparative politics at the 100 or 200 level will be helpful.
Taught by: Lynch
Course not offered every year
Activity: Lecture
1 Course Unit

PSCI 223 Issues Comp Pol/Gender
Struggles over gender roles and rights have been prominent in the Middle East and North Africa since the 19th century and continue to mark contemporary political and social discourses. Since the colonial period, gender categories and sexualities have been critiqued and negotiated on behalf of empire, the nation, modernity, personal freedom; today debates and struggles over global rights, Islamic law, and modernity continue to mark politics. Despite the particularity of ideas and events in the region, a comparative framework helps to overcome exoticization of the region and develop a more acute understanding. The topics of the course include engagement with the discourse of the Exotic Other, the effects of modernity, the role of nationalism and the state, state-society negotiation, Islamic formulations, and continuously, the question: where does change come from? Issues of the veil and Islamic dress the expansion of anti-gay laws, the disciplining of bodies in state and social settings - these issues of gender and sexuality extend the realm of the political into intimate spaces. Assignments include a midterm and a short paper that develops research and analytical skills. The course is 200 level. While background in the study of the Middle East or gender is not necessary, an introductory political science or social science course is required.
Taught by: Harold
Course not offered every year
Also Offered As: GSWS 225
Activity: Seminar
1 Course Unit
PSCI 224 Political Economy of Development
The course surveys some of the principal themes in the political economies of lower income countries. The questions we shall seek to address cover a broad terrain. Who are the key actors? What are their beliefs, interests and motivations? What are their constraints? How are these being affected by closer economic linkages between national economies? While there is no single integrative framework or paradigm into which these themes neatly fit, a common thread is the changing dynamics and interplay between the local, the national, and the global. A familiarity with basic economic concepts will be helpful, but is not necessary.
Taught by: Kapur
Course not offered every year
Activity: Recitation
1 Course Unit

PSCI 228 Education for Democracy in Latin America and the U.S.
Taught by: Batch
Course not offered every year
Also Offered As: LALS 227
Activity: Seminar
1 Course Unit

PSCI 229 China’s Domestic Politics
This is an advanced course on the main issues of contemporary Chinese politics, economy and social change. There is a strong focus on the reform period (post 1978). We will spend considerable time and energy on understanding the major themes and challenges of China's reforms, including the political system, the legal system, the inequality, foreign direct investment, village elections, lawmaking, environmental degradation, social opposition, corruption, and religion. We also investigate the many political and social consequences of reform and changing landscape of Chinese politics. A prior course on Chinese politics (for example, PSCI219) is highly recommended.
Taught by: Hou
Course not offered every year
Prerequisite: PSCI 219 or equivalent highly recommended
Activity: Recitation
1 Course Unit

PSCI 231 Race and Ethnic Politics
Taught by: Gillion
Course not offered every year
Also Offered As: AFRC 232
Activity: Lecture
1 Course Unit

PSCI 232 Introduction to Political Communications
This course is an introduction to the field of political communication, conceptual approaches to analyzing communication in various forms, including advertising, speech making, campaign debates, and candidates’ and office-holders’ uses of news. The focus of this course is on the interplay in the U.S. between television and politics. The course includes a history of televised campaign practices from the 1952 presidential contest onward.
Taught by: Jamieson
Course not offered every year
Also Offered As: COMM 226
Activity: Lecture
1 Course Unit

PSCI 233 Introduction to African American Politics
This course is an historical survey of the main bases and substances of politics among black Americans and the relation of black politics to the American political order. Its two main objectives are: 1) to provide a general sense of pertinent historical issues and relations as a way of helping to make sense of the present and 2) to develop criteria for evaluating political scientists’ and others’ claims regarding the status and characteristics of black American political activity.
Taught by: Reed
Course not offered every year
Activity: Lecture
1 Course Unit

PSCI 234 Changing American Electorate
In 1960, a Democratic candidate won a very narrow Presidential victory with just 100,000 votes; in 2000, the Democratic candidate lost but received 500,000 more votes than his opponent. Still, contemporary scholars and journalists have made a variety of arguments about just how much the American political landscape changed in the intervening 40 years, often calling recent decades a transformation. This course explores and critically evaluates those arguments. Key questions include: how, if at all, have Americans political attitudes and ideologies changed? How have their connections to politics changed? What has this meant for the fortunes and strategies of the two parties? How have the parties base voters and swing voters changed? What changes in American society have advantaged some political messages and parties at the expense of others? Focusing primarily on mass-level politics, we consider a wide range of potential causes, including the role of race in American politics, suburbanization, economic transformations, the evolving constellation and structure of interest groups, declining social capital, the changing role of religion, immigration, and the actions of parties and political elites. For three weeks in the semester, we will take a break from considering broader trends to look at specific elections in some depth.
Taught by: Hopkins
Course not offered every year
Activity: Recitation
1 Course Unit

PSCI 236 The Public Policy Process
This course introduces students to the theories and practice of the policy-making process. There are four primary learning objectives. First, understanding how the structure of political institutions matter for the policies that they produce. Second, recognizing the constraints that policy makers face when making decisions on behalf of the public. Third, identifying the strategies that can be used to overcome these constraints. Fourth, knowing the toolbox that available to participants in the policy-making process to help get their preferred strategies implemented. While our focus will primarily be on American political institutions, many of the ideas and topics discussed in the class apply broadly to other democratic systems of government.
Taught by: Levendusky, Meredith
Course usually offered in fall term
Activity: Recitation
1 Course Unit
PSCI 237 The American Presidency
This course surveys the institutional development of the American presidency from the Constitutional convention through the current administration. It examines the politics of presidential leadership, and how the executive branch functions. An underlying theme of the course is the tensions between the presidency, leadership, and democracy.
Taught by: Gottschalk
Course usually offered in fall term
Activity: Lecture
1 Course Unit

PSCI 238 Congress
This course is designed to introduce students to the study of Congress and of legislative behavior generally. The course will examine legislative procedures, congressional institutions (committees, subcommittees, leadership structure), campaigns and elections, legislative behavior (voting, constituency service, policy leadership), and the policymaking environment (interest groups, executive branch, media). Particular emphasis will be placed on consideration of whether and how electoral concerns affect legislative behavior and the structure of congressional institutions. In addition, the course will consider congressional behavior within a broader context of representation. There are no prerequisites for this class, but students are expected to have at least a rudimentary understanding of American politics and government.
Taught by: Lapinski
One-term course offered either term
Activity: Recitation
1 Course Unit

PSCI 242 Business Govt & Pub Pol.
Course not offered every year
Activity: Lecture
1 Course Unit

PSCI 244 Elections & Engagement
Activity: Recitation
1 Course Unit

PSCI 250 Inter-American Relations
Course not offered every year
Activity: Seminar
1 Course Unit

PSCI 251 Arab Israeli Relations
In this course the Arab-Israeli dispute from 1948 to the present will serve as a vehicle for understanding how domestic and global political processes interact to shape, contain, or aggravate Middle Eastern wars between states and non-state actors. Particular stress will be placed on understanding how wars affect international politics in states and political organizations and how ideological and structural features of states and organizations find expression in wars and complicate or enable the search for peace. In addition, the key features of the conflict will be interpreted as both a clash between the political interests of national and/or religious groups and as a reflection of global political power struggles. Attention will be given toward the end of the course to alternative ideas about possible resolution of the conflict as well as to the increasingly prominent argument that, in this case, there is no solution.
Taught by: Lustick
One-term course offered either term
Also Offered As: JWST 248
Activity: Recitation
1 Course Unit

PSCI 252 War, Strategy and Politics
This class examines the strategy and politics of warfare, focusing on the way actors plan military campaigns and the factors that are likely to lead to victory and defeat. The course readings center in particular on the factors driving changes in warfare and civil-military relations. The course will cover a wide range of topics from theories of war-fighting to historical military campaigns to insurgency warfare, terrorism, and the future of war.
Taught by: Horowitz
One-term course offered either term
Activity: Recitation
1 Course Unit

PSCI 253 International Politics of the Middle East
This course will focus primarily on episodes of external intervention by Great Powers in the politics of Middle Eastern states. We shall begin by examining the emergence of the Middle Eastern state system after the disappearance of the Ottoman Empire in the early part of the 20th century. This discussion will provide opportunities to develop key concepts in the study of international politics and will serve as crucial historical background. We shall then turn our attention to the primary concern of the course - a systematic consideration of the motives, operational results, and long-term implications of a number of important examples of intervention by Great Powers in the Middle East. Among the episodes to be considered will be British policies toward the end of World War I, in Palestine in the 1930s, and, along with the French, in Suez in 1956. Soviet intervention in the first Arab-Israeli war, in 1948, will be analyzed along with Soviet policies toward Egypt in the early 1970s. American intervention in Iran in 1953 and in the Gulf War in 1991 will also be examined.
Taught by: Lustick
Course usually offered in spring term
Also Offered As: JWST 253, PSCI 553
Activity: Recitation
1 Course Unit

PSCI 254 Politics of the European Union
This course explores the political economy of European integration. It is organized in three parts: First, we analyze the political and economic forces that have driven the process of European integration since World War II. We review the milestones of European integration in historical perspective and discuss different theoretical perspectives explaining the path and outcome of European integration. Second, the course takes an in-depth look at the institutions and decision-making processes of the European Union (EU). It analyzes the structure and operation of the Council of Ministers, the European Commission, the European Parliament, and the European Court of Justice, and explores how these institutions interact to shape EU policy. Third, we examine EU policymaking in key policy areas, including regulatory policies, redistributive politics, economic and monetary affairs, and external relations.
Course not offered every year
Activity: Lecture
1 Course Unit
PSCI 255 The Causes of War & Peace
The existence and endurance of war provides one of the most important puzzles of politics: why is it that people keep making use of such a destructive and painful way of resolving their disputes? This course addresses this question and the related question of what factors contribute to peace, focusing on both academic and popular explanations for conflict, including among others anarchy, over-optimism, shifting power, diversionary war, the malevolent influence of war profiteers, and a variety of explanations grounded in culture, religion and other ideational variables. In this discussion, we will focus on both interstate and civil wars, and on both the onset and the eventual termination of war. At various points in the course we will discuss a wide range of historical and contemporary cases, including the World Wars, Vietnam, the Gulf War, the Iraq War, the various Arab-Israeli wars, the India-Pakistan rivalry, and a number of recent civil conflicts such as the wars in Yugoslavia, Congo, and Sudan. The course concludes with a discussion of strategies for managing ongoing conflicts and for securing peace in post war settings.

Taught by: Frankel
One-term course offered either term
Activity: Recitation
1 Course Unit

PSCI 256 International Relations of the United States and Asia
This course is one of the first arising out of scholarship on cold war international history. It draws on declassified government documents and other archival records to provide a window into the world-view of decision-makers who need to make national security policy based on incomplete information about ambiguous threats. The materials reveal a great deal about the importance of divergent historical perspectives and strategic cultures in the foreign policy-making process. The main focus of the course is on the intersection of the cold war and the rise of Asian nationalism. At the core of the analysis is the clash between America’s global strategy of military containment against the Soviet Union and the assertion of Indian, and Chinese nationalism, concerned with preventing the United States from succeeding to Great Britain's imperial rule. The course examines new patterns of power after the Cold War, especially the emergence of two major powers in Asia - China and India - and the issues raised by the U.S. unilateralist use of military power to preserve its predominant position.

Taught by: Frankel
One-term course offered either term
Activity: Lecture
1 Course Unit

PSCI 257 International Relations of South Asia
One of the great accidents of history is the Partition of the subcontinent into the two states of India and Pakistan, and the onset of the cold war as a global struggle between the United States and the Soviet Union. Indo-Pakistan wars over Kashmir, the dismantling of Pakistan by India and the creation of Bangladesh, Pakistan's support for Al Qaeda and other terrorist groups, and the acquisition by both countries of nuclear arsenals has marked the region as potentially the most dangerous area in the world. This course analyzes the changing security environment from 1947 until the present including the involvement of the United states, Soviet Union/Russia and China, and assesses the prospects for averting chaos in greater South Asia.

Taught by: Frankel
One-term course offered either term
Activity: Lecture
1 Course Unit

PSCI 258 International Human Rights
What exactly should be considered a fundamental "human right"? What is the basis for something is a fundamental human right? This course will examine not only broad conceptual debates, but will also focus on specific issue areas (e.g., civil rights, economic rights, women's rights), as well as the question of how new rights norms emerge in international relations.

Taught by: Doherty-Sil
One-term course offered either term
Also Offered As: PSCI 558
Activity: Recitation
1 Course Unit

PSCI 259 Chinese Foreign Policy
This seminar examines the influences on and patterns of China's international relations. Topics to be covered include the following: theoretical approaches to analyzing foreign policy; the historical legacy and evolution of China's foreign policy; contemporary China's foreign policy on traditional national security concerns as well as economic, environmental, and humanitarian issues; China's military modernization; China's foreign policy in Asia, Africa, Europe, and Latin America; China's rise and its implications for relations with the United States. The class is a seminar in which student preparation and participation will essential. Students planning to enroll in the course must have taken PSCI 219 (or, with the instructor's permission, its equivalent). You are expected to complete all required readings each week and come to seminar meetings prepared to discuss them.

Taught by: Goldstein
Course not offered every year
Prerequisite: MUST HAVE TAKEN PSCI 219 OR EQUIVALENT
Activity: Seminar
1 Course Unit

PSCI 267 Int'l Aff: Russia & Eastern Europe
For BA Students: Society Sector
Also Offered As: EEUR 152, RUSS 123
Activity: Lecture
1 Course Unit

PSCI 271 Constitutional Law: Public Power & Civil Rights to 1912
This course explores the creation and transformations of the American constitutional system's structures and goals from the nation's founding through the period of Progressive reforms, the rise of the Jim Crow system, and the Spanish American War. Issues include the division of powers between state and national governments, and the branches of the federal government; economic powers of private actors and government regulators; the authority of governments to enforce or transform racial and gender hierarchies; and the extent of religious and expressive freedoms and rights of persons accused of crimes. We will pay special attention to the changing role of the Supreme Court and its decisions in interpreting and shaping American constitutionalism, and we will also read legislative and executive constitutional arguments, party platforms, and other influential statements of American constitutional thought.

Taught by: Smith
One-term course offered either term
Also Offered As: AFRC 269, PPE 270
Activity: Recitation
1 Course Unit
**PSCI 272 American Constitutional Law II**
This course examines American constitutional development from the eve of WWI through the second Obama administration. Topics include the growth of the New Deal and a Great Society regulatory and redistributive state, struggles for equal rights for racial and ethnic minorities, women and GLBT Americans, contests over freedoms of religion and expression, criminal justice issues, the Reagan Revolution and the revival of federalism and property rights, and issues of national security powers after September 11, 2001. Lectures are on videos and class time is devoted to in-depth discussions.
Taught by: Smith
Activity: Recitation
1 Course Unit

**PSCI 275 Muslim Political Thought**
This seminar offers an introduction to Muslim political thought. Chronologically the course ranges from the medieval period to the present. Particular attention will be given in the later part of the course to the renaissance of Muslim political thought in recent years and to the development of political Islam, including the work of such thinkers as Said Qutb and Hasan Turabi. We will also study the roots of this renaissance in classical philosophy of the medieval period (Al Farabi, Al Ghazali, Ibn Khaldun, Ibn Tufayl) and the liberal age.
Taught by: Norton
Course not offered every year
Also Offered As: NELC 282, RELS 243
Activity: Seminar
1 Course Unit

**PSCI 280 Feminist Political Thought**
This course is designed to provide an overview of the variety of ideas, approaches, and subfields within feminist political thought. Readings and divided into three sections: contemporary theorizing about the meaning of "feminism"; women in the history of Western political thought; and feminist theoretical approaches to practical political problems and issues, such as abortion and sexual assault.
For BA Students: Society Sector
Taught by: Hirschmann
Course not offered every year
Also Offered As: GSWS 280
Activity: Lecture
1 Course Unit

**PSCI 282 Lying, Cheating, Stealing, and Killing: How to Think About Professional Ethics**
Professionals - in business, medicine, law, and politics - face myriad ethical dilemmas in their daily work life that challenge, and sometimes conflict with, the moral commitments that guide their everyday life. This course systematically examines the ethical dimensions of these four professional roles, asking questions such as: Are there limits to what we should sell? How far should competitors go to "win"? Who should get ventilators in a flu pandemic? Is it morally permissible for physicians to assist in suicide? Should lawyers represent terrorists or child killers? How far does attorney-client privilege go? Is it morally justifiable to torture enemy combatants? Should politicians lie?
Taught by: Allen/Emanuel/Hirschmann/Strudler
Also Offered As: BIOE 282
Activity: Lecture
1 Course Unit

**PSCI 298 Selected Topics in Political Science**
Consult department for detailed descriptions. More than one course may be taken in a given semester. Recent titles have included: Leadership & Democracy; Conservative Regimes.
One-term course offered either term
Activity: Seminar
1 Course Unit

**PSCI 312 Democracy in Africa**
In this course, we will examine the impact of historical context, leadership, constitutionalism, political parties, civil society, economic reform, regime legitimacy, and the international community of the democratic transition process in sub-Saharan Africa. Specific country case studies will be examined both comparatively and regionally, given the increasingly interdependent nature of political and economic transition on the continent. The goal of the seminar is to provide students with the tools necessary to understand the democratic transition process in Africa in a way that is also relevant to other regions in the world.
Course not offered every year
Activity: Seminar
1 Course Unit

**PSCI 314 Democracy in Latin America**
Since the inception of the twenty first century, Latin America has undergone major economic, social, and political transformations. Many of the neoliberal policies of the last quarter of the twentieth century were reversed or revisited, economic inequality decreased significantly across the region, and anumber of governments turned to the left of the political spectrum, often instituting major public policy and constitutional reforms. How have those changes affected citizenship and democracy in the region? In particular, have citizens' channels for representation and participation changed in the recent past? What has happened to local participatory institutions since the return to the right in some countries of the region? The course will explore these and related questions. Students will develop their own research projects throughout the semester.
While not a requirement, the ability to read Spanish or Portuguese will significantly enhance students' learning experience.
Taught by: Falleti
One-term course offered either term
Also Offered As: LALS 314
Activity: Seminar
1 Course Unit

**PSCI 320 Who Gets Elected and Why? The Science of Politics**
What does it take to get elected to office? What are the key elements of a successful political campaign? What are the crucial issues guiding campaigns and elections in the U.S. at the beginning of the 21st century? This class will address the process and results of electoral politics at the local, state, and federal levels. Course participants will study the stages and strategies of running for public office and will discuss the various influences on getting elected, including: Campaign finance and fundraising, demographics, polling, the media, staffing, economics, and party organization. Each week we will be joined by guest speakers who are nationally recognized professionals, with expertise in different areas of the campaign and election process. Students will also analyze campaign case studies and the career of the instructor himself. Edward G. Rendell is the former Mayor of Philadelphia, former Chair of the Democratic National Committee, and former Governor of Pennsylvania.
Taught by: Rendell
One-term course offered either term
Also Offered As: GAFL 509, URBS 320
Activity: Lecture
1 Course Unit
PSCI 327 Modern India
Also Offered As: PSCI 527
Activity: Seminar
1 Course Unit

PSCI 330 PIW Semester Core Seminar: Conducting Public Policy Research in Washington DC
This seminar is taught in Washington D.C. for students enrolled in the Washington Semester Program. It includes an orientation to observation and research in the Washington Community and a major independent research project on the politics of governance.
Taught by: Martinez
One-term course offered either term
Activity: Seminar
2 Course Units

PSCI 331 Latino Politics
Also Offered As: LALS 331
Activity: Seminar
1 Course Unit

PSCI 332 Survey Research & Design
Survey research is a small but rich academic field and discipline, drawing on theory and practice from many diverse fields including political science and communication. This course canvasses the science and practice of survey methods, sampling theory, instrument development and operationalization, and the analysis and reporting of survey data. Major areas of focus include measurement and research on survey errors, application to election polling, new frontiers in data collection, overall development of data management and introductory statistics.
Taught by: Dutwin
Course not offered every year
Also Offered As: COMM 332
Activity: Seminar
1 Course Unit

PSCI 333 Political Polling
Course not offered every year
Also Offered As: COMM 393
Activity: Seminar
1 Course Unit

PSCI 334 Emergency Response
Also Offered As: COMM 375
Activity: Seminar
1 Course Unit

PSCI 335 Healthy Schools
This Fox Leadership and academically based community service seminar will use course readings and students’ own observations and interviews in their service learning projects in West Philadelphia schools to analyze the causes and impact of school health and educational inequalities and efforts to address them. Course readings will include works by Jonathan Kozol, studies of health inequalities and their causes, and studies of No Child Left Behind, the CDC’s School Health Index, recess, school meal, and nutrition education programs. Course speakers will help us examine the history, theories, politics and leadership behind different strategies for addressing school-based inequalities and their outcomes. Service options will focus especially on the West Philadelphia Recess Initiative. Other service options will include work with Community School Student Partnerships and the Urban Nutrition Initiative.
Taught by: Summers
Course not offered every year
Also Offered As: HSOC 335
Activity: Seminar
1 Course Unit

PSCI 336 Congress, Elections and American Democracy
Taught by: Lapinski
Activity: Seminar
1 Course Unit

PSCI 337 Pres. Primaries & Elections
Activity: Seminar
1 Course Unit

PSCI 338 Statistical Methods PSCI
The goal of this class is to expose students to the process by which quantitative political science research is conducted. The class will take us down three separate, but related tracks. Track one will teach some basic tools necessary to conduct quantitative political science research. Topics covered will include descriptive statistics, sampling, probability and statistical theory, and regression analysis. However, conducting empirical research requires that we actually be able to apply these tools. Thus, track two will teach how to implement some of these basic tools using the computer program Stata. However, if we want to implement these tools, we also need to be able to develop hypotheses that we want to test. Thus, track three will teach some basics in research design. Topics will include independent and dependent variables, generating testable hypotheses, and issues in causality. Students are expected to have one semester of Calculus or permission of instructor. The class satisfies the College of Arts and Science Quantitative Data Analysis requirement.
Taught by: Meredith
Course not offered every year
Activity: Seminar
1 Course Unit

PSCI 357 Intern. Develop. Pol.
Activity: Seminar
1 Course Unit

PSCI 358 International Law
This course intends to familiarize the student with the concept of “law”, its use as a constitutive and regulative force in the international arena, and the expanding scope of international law through the inclusion of transnational law and human rights.
Course not offered every year
Activity: Lecture
1 Course Unit
PSCI 374 Communication & Congress
Taught by: Felzenberg
Course not offered every year
Also Offered As: COMM 374
Activity: Seminar
1 Course Unit

PSCI 397 Topics in International Politics
One-term course offered either term
Activity: Seminar
1 Course Unit

PSCI 398 Selected Topics in Political Science
Consult department for detailed descriptions. More than one course may be taken in a given semester. Recent titles have included: Sustainable Environmental Policy & Global Politics; Shakespeare and Political Theory.
One-term course offered either term
Also Offered As: COMM 393
Activity: Seminar
1 Course Unit

PSCI 402 Us-Latin American Rel
Course not offered every year
Also Offered As: LALS 402
Activity: Lecture
1 Course Unit

PSCI 404 Media and Politics
One-term course offered either term
Also Offered As: COMM 404
Activity: Seminar
1 Course Unit

PSCI 410 Compar Pol Communication
Course usually offered in spring term
Also Offered As: COMM 403
Activity: Seminar
1 Course Unit

PSCI 412 Comparative Politics
This seminar focuses on comparative political systems. Themes include political participants, leadership, institutions, instability, and system transformation in developed and less developed countries.
Course not offered every year
Also Offered As: AFRC 417
Activity: Lecture
1 Course Unit

PSCI 413 Evidence Based Policies of Economic and Political Development
This class provides a "hands-on" introduction to the promises and limitations of using Randomized Control Trials (RCTs) to inform policy makers, practitioners, and academics of the conditions under which policies likely would have a positive effect on economic and political outcomes, in the context of international development. This course has three parts: the first is devoted to understanding the "nuts and bolts" of running field experiments / RCTs in developing countries.
In part, we will be reading Glennester and Takavarasha's Running Randomized Evaluations: A Practical Guide. In addition, we will discuss core behavioral concepts from both behavioral economics and social psychology (prospect theory). The second part of the course will be devoted to demonstrating how schools have used RCTs to inform core policy debates (e.g. What are some effective ways to reduce corruption? How can we improve the performance of frontline service providers? How can politicians be more responsive to their constituents?) In the third part, students will be presenting their own research proposals, explicitly designed to address either a core policy question in the developing world or--for those interested--in the USA. Here students will have an opportunity to partner with the Social and Behavioral Sciences Team (https://sbst.gov), which is under the National Science and Technology Council.
Taught by: Grossman
One-term course offered either term
Also Offered As: GAFL 530
Activity: Seminar
1 Course Unit

PSCI 415 Comm & Democratization
One-term course offered either term
Also Offered As: COMM 433
Activity: Seminar
1 Course Unit

PSCI 418 Evolution, Politics and Computer Simulation
In this course we shall explore how recent developments in evolutionary theory relate to larger questions raised by students of complexity and complex adaptive systems. We shall study how they together provide a basis for important critiques of standard approaches in political science and enable fascinating and powerful understandings of politics and political phenomena – including national identity and identity change, state formation, revolution, globalization, and leadership. An important vehicle for the application of these insights for understanding politics is computer simulations featuring agent-based modeling. Students will use "PS-I" an agent based computer simulation platform, to develop their own models, conduct experiments, test hypotheses, or produce existence proofs in relation to popular theoretical positions in contemporary political science. No knowledge of computer programming is required.
Taught by: Lustick
One-term course offered either term
Also Offered As: PPE 476
Activity: Seminar
1 Course Unit
PSCI 419 Democ & Decentralization
Are decentralization reforms fostering local community participation and improving the quality of democracy in Latin America? Are they, instead, posing a threat to democracy and development? In the last thirty years, Latin American countries have undergone major reforms that devolved fiscal resources, administrative responsibilities, and political authority from the central governments to the states and municipalities. These decentralization reforms have radically altered the political landscape in Latin America, even in the countries that have since then tried to recentralize power, such as Venezuela. What were the main causes of the decentralization movement? Who were the main national and international actors who pushed forward these reforms? What have the main political, fiscal, and policy consequences of decentralization been? These are some of the questions this course will focus on. The experiences of decentralization in Argentina, Brazil, Colombia, Bolivia, Venezuela, and Mexico will be studied. Although prior knowledge of Latin American politics is not required, additional readings will be assigned to the students who have not taken at least one introductory course in Latin American politics, history or cultures.
Course not offered every year
Also Offered As: LALS 419
Activity: Seminar
1 Course Unit

PSCI 431 Leadership & Democracy
Activity: Lecture
1 Course Unit

PSCI 433 Social Movements
Course not offered every year
Also Offered As: AFRC 433
Activity: Seminar
1 Course Unit

PSCI 434 Advanced Topics in American Politics
This seminar is designed to serve as a "capstone" experience for advanced undergraduates interested in American politics. It exposes students to some of the issues currently being studied and debated by the leading scholars in the field. For each topic we will read works that take competing or opposing positions on an issue; for example we will examine the current controversy over the causes and consequences of divided government. Students will write a research paper analyzing one of the debates.
Taught by: Gillion
Course not offered every year
Also Offered As: AFRC 434
Activity: Seminar
1 Course Unit

PSCI 436 Political Psychology
How do campaign advertisements influence voters’ perceptions and behavior? What roles do emotions play in politics? Do we all harbor some measure of racism, sexism, or homophobia, and what role do these stereotypes play in political behavior? How and why do ideologies form, and how does partisanship influence the way that voters understand the political world? How do people perceive threat, and what are the psychological consequences of terrorism? These questions, and many others, are the province of political psychology, an interdisciplinary field that uses experimental methods and theoretical ideas from psychology as tools to examine the world of politics. In this course, we will explore the role of human thought, emotion, and behavior in politics and examine the psychological origins of citizens' political beliefs and actions from a variety of perspectives. Most of the readings emphasize politics in the United States, though the field itself speaks to every aspect of political science.
Taught by: Margolis
Course not offered every year
Activity: Seminar
1 Course Unit

PSCI 437 Race & Criminal Justice
Why are African Americans and some other minority groups disproportionately incarcerated and subjected to penal sanctions? What are the political, social and economic consequences for individuals, communities, and the wider society of mass incarceration in the United States? What types of reforms of the criminal justice system are desirable and possible? This advanced seminar analyzes the connection between race, crime, punishment, and politics in the United States. The primary focus is on the role of race in explaining why the country’s prison population increased six-fold since the early 1970s and why the United States today has the highest incarceration rate in the world. The class will likely take field trips to a maximum-security jail in Philadelphia and to a state prison in the Philadelphia suburbs.
Taught by: Gottschalk
Course not offered every year
Also Offered As: AFRC 437, AFRC 638, PSCI 638
Activity: Seminar
1 Course Unit

PSCI 439 Exper Methods of Inquiry
Course not offered every year
Also Offered As: COMM 498, PSCI 635
Activity: Seminar
1 Course Unit

PSCI 441 Theory Practice&Purpose
Activity: Seminar
1 Course Unit

PSCI 442 LEADERSHIP
Taught by: DIULIO
Course not offered every year
Activity: Seminar
1 Course Unit
PSCI 470 Executive Power in Metropolitan American Politics
Focusing on presidents, governors, and big-city mayors, this course will explore a wide range of historical and recent examples of executive leadership and decision-making. How do their actions in office shape and get shaped by long-term historical and political forces? How and why do executive office holders use (and occasionally abuse) their power? What opportunities exist to transform both policy and public opinion? What kinds of constraints circumscribe the options available and limit the impact of executive choices? Exploring presidents such as Franklin Roosevelt, Lyndon Johnson and Barack Obama, governors including Ronald Reagan, Nelson Rockefeller and Bill Clinton and mayors like Richard Daley, Sr. and Jr., Ed Koch, and Ed Rendell, this course at once examines the personalities and predilections of individuals as well as the political ideas and institutions that shape their time in office. Registration in this course is by permission of the instructors only. To seek a permit for the course please provide a short personal statement of not more than one page with the following information: your name and contact information; your year; your major; other courses you have taken on related subjects; how this course would fit into your larger academic and intellectual development; any other personal or extenuating circumstances you think it would be useful for us to know about you. Email personal statements to Peter Siskind (siskind@sas.upenn.edu) no later than April 3 and enrollment decisions will be made by April 18.
Taught by: Rendell; Siskind
Course not offered every year
Activity: Seminar
1 Course Unit

PSCI 481 Political Theory & Public Policy
This course will explore the relevance of canonical work in modern political theory - Locke, Kant, Mill, and Marx - to various public policy and practical political issues. We will consider what political philosophy has to contribute to practical issues: not only what philosophy can tell us about the ethics of practical issues, but also how public policy makers might utilize political philosophy to create better policy. We will also explore whether and how reading political philosophy in light of specific concrete issues encourages us to look at both the theories and the policies differently than if each were considered on their own.
Taught by: Hirschmann
Course not offered every year
Activity: Seminar
1 Course Unit

PSCI 484 Meaning of Democracy
This course provides a broad, humanistic survey to some of the most important ideas, debates, and problems connected to the study of democracy. The course is divided into three segments: the democratic citizen (in which we explore ethical issues pertaining to the experience of democracy as a way of life); the democratic People (in which we investigate some of the best and most recent attempts to come to grips with the difficult, yet fundamental, notion of the People); and the democratic world (in which we examine issues pertaining to democratization and development, including the tension between democracy and individual liberty and the relationship between democracy and global capitalism).
Taught by: Green
Course not offered every year
Activity: Seminar
1 Course Unit

PSCI 496 Dcc Research Seminar
Course not offered every year
Activity: Seminar
0.5 Course Units

PSCI 497 Political Science Honors
This is a mandatory seminar for all students planning to submit an honors thesis for the purpose of possibly earning distinction in Political Science upon graduation. The course is aimed at helping students identify a useful and feasible research question, become familiar with the relevant literatures and debates pertaining to that question, develop a basic understanding of what might constitute "good" and "original" research in different subfields, and set up a plan for conducting and presenting the research. The course is also aimed at building a community of like-minded student researchers, which can complement and enrich the honor student's individual experience of working one-on-one with a dedicated faculty thesis advisor. Students apply in the spring of their junior year for admissions to the honors program and enrollment in PSCI497.
Taught by: Doherty-Sil
One-term course offered either term
Activity: Seminar
1 Course Unit

PSCI 498 Selected Topics in Political Science
Consult department for detailed descriptions. Recent topics include: Globalization; Race & Criminal Justice; Democracy & Markets in Postcommunist Europe.
One-term course offered either term
Activity: Seminar
1 Course Unit

PSCI 504 Urban Politics
The intention of this course is to prepare students for urban research in any setting. It is a graduate level course, which reviews the intellectual traditions of the field and endeavors to establish the present state of research. It is oriented to theory rather than case studies. It is comparative and international in perspective though many of the sources are American. The latter reflect the intellectual milieu of political science in the country where this University is located.
Course not offered every year
Activity: Seminar
1 Course Unit

PSCI 505 The American Legislative Process
The theory of legislative process with a focus on the American Congress and its antecedents. The evolution of legislative rules will be stressed. The evolution will be used to analyze Congressional "reform." The course format is a combination of lectures, discussions, and guest speakers.
Course not offered every year
Activity: Seminar
1 Course Unit

PSCI 510 Electoral Systems
This course examines alternative arrangements by which democracies choose leaders, representatives, and governments through competitive elections. Some of the material is also relevant to voting on policies in legislatures, committees, and referendums. The treatment is comparative and theoretical, but students may focus on particular systems through reports and papers.
Taught by: Nagel
Course not offered every year
Activity: Seminar
1 Course Unit
PSCI 511 Society and Politics in India
This course examines the experience of representative democracy in India and the country’s development record in a historical framework. It will ask questions such as: How did representative democracy emerge in India, and what explains its persistence? What are the sources of its vulnerability? What kind of a sense of nationhood does this democratic experience rest upon? What are the exclusions built into this conception of nationhood? What is the relationship between India’s development experience and its democratic experiment? How have India’s “traditional” institutions adapted or failed to adapt to modern circumstances? Why has India performed well in certain economic sectors even while its record in providing basic social services has been dismal? How have the Indian State and its public institutions managed and coped with these changes? And how has India’s self-perception about its place in the world changed in recent years, and what are its implications?
Taught by: Kapur, Frankel
Course not offered every year
Activity: Seminar
1 Course Unit

PSCI 514 Political Economy of East Asia
This course begins by exploring the causes and consequences of the rise of industrial Asia, paying particular attention to the role played by political institutions. It then examines the political economic challenges faced in recent years by many countries in this region. What explanations may be given for the rapid growth experienced in the region? And, how can we reconcile the success of the past with the difficulties experienced in more recent years? The role of national financial systems in supporting or undermining growth and the politics of financial crisis management and financial system reform will be explored in depth.
Taught by: Amyx
Course not offered every year
Also Offered As: EALC 104, EALC 504, PSCI 214
Activity: Recitation
1 Course Unit

PSCI 515 Political Institutions and Economic Performances
Comparative study of whether and how political institutions (political regimes, constitutional rules, party and electoral systems) affect economic performance (economic growth, investment, income distribution). This course fulfills the University’s quantitative skills requirement.
One-term course offered either term
Also Offered As: PSCI 215
Activity: Seminar
1 Course Unit
Notes: Fulfills Quantitative Data Analysis requirement

PSCI 516 African Political Econ
Course not offered every year
Also Offered As: AFST 515
Activity: Seminar
1 Course Unit

PSCI 517 Russian Politics
This course will present an in-depth examination of political, economic and social change in post-Soviet Russia within a historical context. After a brief discussion of contemporary problems in Russia, the first half of the course will delve into the rise of communism in 1917, the evolution of the Soviet regime, and the tensions between ideology and practice over the seventy years of communist rule up until 1985. The second part of the course will begin with an examination of the Gorbachev period and the competing interpretations of how the events between 1985 and 1991 may have contributed to the collapse of the Soviet Union. We will then proceed to make sense of the continuities and changes in politics, economics and society in contemporary Russia. Important topics will include the confrontations accompanying the adoption of a new constitution, the emergence of competing ideologies and parties, the struggle over economic privatization, the question of federalism and nationalism, social and political implications of economic reform, and prospects for Russia’s future in the post-Yeltsin era. This course may also be taken as a graduate seminar (PSCI 517) with the permission of the instructor and the completion of additional requirements.
Taught by: Sil
Course usually offered in spring term
Also Offered As: PSCI 217
Activity: Recitation
1 Course Unit

PSCI 519 Cities in the Global Econ
Also Offered As: URBS 519
Activity: Seminar
1 Course Unit

PSCI 521 Comparative Business-State Relations
History and theory of the state’s role in formation of modern industrial capitalism. Comparative industrial policies, comparative industrial structure, business-state and state-labor relations, and foreign economic relations. Emphasis on Western Europe but includes the United States and East Asia.
Course not offered every year
Activity: Seminar
1 Course Unit

PSCI 522 Public Administration
This course focuses on three principal functions of leaders in public organizations: establishing and instilling purpose, motivating cooperative effort, and making decisions based on undistorted communication.
Taught by: Nagel
Course not offered every year
Activity: Lecture
1 Course Unit

PSCI 525 Intro to Pol Comma
Also Offered As: COMM 525
Activity: Seminar
1 Course Unit

PSCI 527 Modern India
Also Offered As: PSCI 327
Activity: Seminar
1 Course Unit
PSCI 532 The Political Economy of North-South Relations
This course concerns the political economy of “North-South” relations. The seminar will investigate key concepts and perspectives about the political economy of North-South relations by examining a variety of attempts at economic transformation in Asia, Latin America, Africa, and Eastern Europe.
Course not offered every year
Activity: Seminar
1 Course Unit

PSCI 533 Comparative Political and Economic Change
A comparative exploration of the politics and economics of the formation of states and the development of capitalism, both historical and contemporary, and an examination of contending theoretical perspectives about them. Examples will be taken from Europe since the sixteenth century, nineteenth and twentieth century Latin America and Asia, and contemporary Africa.
Course not offered every year
Activity: Seminar
1 Course Unit

PSCI 534 Political Culture and American Cities
Course not offered every year
Also Offered As: AFRC 533
Activity: Seminar
1 Course Unit

PSCI 535 Inequality & Race Policy
Course not offered every year
Also Offered As: AFRC 524
Activity: Seminar
1 Course Unit

PSCI 545 Politics & Education
Also Offered As: EDUC 595
Activity: Seminar
1 Course Unit

PSCI 550 International Politics
Course not offered every year
Activity: Seminar
1 Course Unit

PSCI 552 Game Theory
This course provides an introduction to non-cooperative game theory and its applications to political science. The goal of the course is to provide students with the background and understanding necessary to read published game-theoretic work in political science journals. To that end, the course covers the basic concepts of game theory, including Nash equilibrium and its main refinements, simultaneous and sequential games, repeated games, evolutionary game theory, and games of incomplete and private information. In addition, we will cover some of the central models used in political science, notably models of public choice (such as the median voter theorem) and models of bargaining.
Taught by: Weisiger
Course not offered every year
Activity: Seminar
1 Course Unit

PSCI 555 American Foreign Policy
A detailed study of our foreign policy issues with special emphasis on (1) the international realities of the 21st Century (2) the strategic challenges to our national security (3) the diplomatic options available for regional conflict and (4) the moral imperatives of our global leadership.
Course not offered every year
Also Offered As: PSCI 152
Activity: Lecture
1 Course Unit

PSCI 557 Politics of the Soviet Successor States and Eastern Europe
This course is an advanced research seminar on Soviet and post-Soviet politics. Students will be expected to develop and complete a substantial research paper. Class sessions will center on recent developments in the study of the politics of Russia and other Soviet successor states and on student presentations of research in progress.
Course not offered every year
Activity: Seminar
1 Course Unit

PSCI 558 Human Rights
This course will examine the theoretical, historical and political foundations of contemporary human rights debates. The course will cover not only broad conceptual issues, but also specific issue areas (e.g., civil rights, economic rights, women’s rights, business and human rights), as well as the question of how new rights norms emerge and diffuse in the international arena. The course is open to students in the Master of Liberal Arts Program, as well as students who are actively pursuing the Graduate Certificate in Interdisciplinary Studies in Global Human Rights.
Taught by: Doherty-Sil
Also Offered As: PSCI 258
Activity: Recitation
1 Course Unit

PSCI 560 The Organization of World Politics
This course examines the organizational features of international life. Instead of focusing on one or several international organizations by means of an institutional analysis the scope of this course is more analytical; it explores the role of norms in structuring interactions (informal organizations) as well as the organizational designs of formal international organizations.
Course not offered every year
Activity: Seminar
1 Course Unit

PSCI 566 Government and Politics of East Asia
This course will explore the changing character of the state in Japan and Korea (North and South), and its relationship with the society and economy. The nature of politics in these countries will be studied through political parties, pressure groups, and elections? Questions explored will include the following: "Who governs?" How does the state in Japan and Korea differ from those in Western nations? How did the state in these countries evolve and how did its relationship with the society evolve? What role did the state play in developing respective economies?
One-term course offered either term
Activity: Seminar
1 Course Unit
PSCI 567 East Asian International Relations
This course will begin with an examination of the changing context of East Asian International Relations & will survey the foreign policy strategies employed by the United States, the Soviet Union, China, Japan and Korea since the turn of the century. This will be followed by analyses of interaction among these countries. What were the forces, assumptions and motives behind each strategy? Who chose the policy and why? How effective were various strategies? What are the problems underlying various sets of relationships now? Who makes the decisions, and under what domestic and foreign environment? What are the future prospects?
One-term course offered either term
Activity: Seminar
1 Course Unit

PSCI 568 Politics and Society in Modern India
Taught by: Frankel
Course not offered every year
Activity: Seminar
1 Course Unit

PSCI 580 Contemporary Political Philosophy
Significant contributions to political philosophy in the twentieth century. This course will alternate with PSCI 581.
Course not offered every year
Activity: Seminar
1 Course Unit

PSCI 582 Gender Power and Feminist Theory
This seminar will take up some of the "foundational" texts in contemporary feminist theory as well as some of the newest work, to explore the ways in which power operates through gender and sex. Subsidiary themes that will be developed include: the still relevant modernism/postmodernism debate as it relates to feminism; the intersectionality of race, gender, sexuality and class; and how feminists can and do talk about "women"; the role of "the body" in relation to social constructivism; the relevance of feminist theory to policy issues, and which theoretical approaches are the most appropriate or have the most powerful potential. Room will be left on the syllabus for student input into the readings. This course is open to undergraduates who have had some prior course work in GSWS and/or political theory; undergraduates are advised to contact the professor to discuss their preparation before enrolling.
Taught by: Hirschmann
Course not offered every year
Also Offered As: GSWS 582
Activity: Seminar
1 Course Unit

PSCI 583 American Political Thought
A consideration of one or a few topics, individuals, or eras in American political thought.
Course not offered every year
Activity: Seminar
1 Course Unit

PSCI 584 Political Philosophy
An examination of basic theoretical problems of political science divided into three parts. First, specific features of social sciences will be examined and three most important general orientations of social sciences (analytical, interpretative and critical) will be compared and analyzed. Second, basic concepts of social and political sciences will be studied: social determination, rationality, social change, politics, power, state, democracy. Third, the problem of value judgments will be considered: Is there a rational, objective method for the resolution of conflicts in value judgments? Is morality compatible with politics?
Course not offered every year
Also Offered As: GSWS 584
Activity: Seminar
1 Course Unit

PSCI 586 Hegel and Marx
Taught by: Kennedy
Course not offered every year
Activity: Seminar
1 Course Unit

PSCI 590 The Nature of Political Science
The origins, development, and current status of the discipline and profession of political science.
Course not offered every year
Activity: Seminar
1 Course Unit

PSCI 596 Hegel and Marx
Taught by: Kennedy
Course not offered every year
Activity: Seminar
1 Course Unit

PSCI 598 Selected Topics
Consult department for detailed descriptions. More than one course may be taken in a given semester. Recent titles have included: Race Development and American International Relations, Hegel and Marx, and Logic of the West.
One-term course offered either term
Activity: Seminar
1 Course Unit

PSCI 600 International Relations Theory
This purpose of this course is two-fold. First, the survey course is designed to introduce students to a wide range of theories of international politics. During the course of the semester we will examine neo-realism, power transition theory, hegemonic stability theory, the modern world system, international regimes and interdependence, the democratic peace, bureaucratic politics, organizational theory, constructivism, and decision making theory. Second, the course will sharpen students' research design skills. The written assignments require students to take the often abstract theories presented in the readings and develop practical research designs for testing hypotheses derived from the theories. The papers will not include data collection or the execution of actual tests. Rather, they will focus on the conceptual problems of designing tests which eliminate competing hypotheses, operationalizing variables, and identifying potential sources of data. Student's grades will be based on five short research designs and discussion leadership.
Course not offered every year
Activity: Seminar
1 Course Unit
PSCI 605 Great Books Comp Pol
Activity: Seminar
1 Course Unit

PSCI 609 Comparative Pol Comm
Course not offered every year
Also Offered As: COMM 609
Activity: Seminar
1 Course Unit

PSCI 610 Comparative Political Analysis
This seminar is aimed primarily at graduate students planning to take doctoral exams in comparative politics. It provides a critical survey of the field of comparative politics, tracing the intellectual history of the field, examining shifts in conceptual frameworks and research traditions, and comparing alternative methodological approaches. The first half of the course generally examines how processes of political, economic, and social change have been theorized in the social sciences from the mid-19th century to the present. In this process, particular attention is paid to the bifurcation between theories that emphasize the "universal" (e.g. the homogenizing effects of specific processes or variables) and the "particular" (e.g. the persistence of distinctive historical legacies and trajectories). Since this bifurcation is reinforced by distinct styles and methods of research, the seminar also probes the recent battles between rational-choice, cultural, and structuralist scholars, while considering the trade-offs between varieties of formal, quantitative, and qualitative methods. In the second half, the focus shifts to the range of substantive problems investigated by scholars in the field of comparative politics. These topics cover the complex relations among nations, states and societies; the origins, consolidation, and patterns of democratic governance; political economy in relation to development processes and social policies; the intersection of international/global economy and domestic politics; the dynamics of revolutions and social movements; and alternative problematiques constructed from the point of view of real actors such as workers, women, and local communities. In all cases, As a whole, the course is designed to provide an introduction to important issues and debates that comparativists have regularly engaged in; to help you understand the assumptions behind; and differences between, particular approaches, methods, and styles of research; to examine whether current debates are spurring new or better research in a given field in light of past approaches; and to gauge whether there has been progress, fragmentation, or stagnation in the field of comparative politics as a whole.
Taught by: Sil
Course not offered every year
Activity: Seminar
1 Course Unit

PSCI 614 Political Identity & Political Institution
Course not offered every year
Activity: Seminar
1 Course Unit

PSCI 615 Political Economy of Development
This course examines the debate in development studies arising from recognition that economic models, theories, methods, and strategies abstracted from the specific experience of western societies and cultures do not have general applicability. A broader social science approach is adopted, one which emphasizes the need to understand the social structures and cultures of the developing countries, the capabilities of weak versus strong states, and the links with the international system that influence transformative processes to which industrializing economies are subjected. The readings offer an overview of the most influential theories of development and underdevelopment that structured debate from the 1960's through the 1990's, and focus on the elements of these approaches that advance understanding of development and stagnation in several key countries, including Brazil, Mexico, India and selected countries in East and Southeast Asia.
Taught by: Grossman
Course not offered every year
Activity: Seminar
1 Course Unit

PSCI 616 Financial Statecraft
This graduate level seminar explores the evolving political dynamics of 'FINANCIAL STATECRAFT'. We will examine the relationship between financial flows and traditional foreign policy concerns, seeking to understand why and how governments have attempted to harness or constrain financial markets and institutions in the service of foreign policy goals. Specific topics include the introduction of capital flow guarantees or restrictions, imposition of financial sanctions on non-state actors, underwriting of foreign debt in currency crises, currency unions and other forms of currency cooperation, and foreign exchange reserve management.
Taught by: Amyx
Course not offered every year
Activity: Seminar
1 Course Unit

PSCI 618 International Political Economy
Examination of the relationship between the international, political, and economic systems from a variety of theoretical perspectives that have emerged in the postwar period, including liberalism, transnationalism, statism, Marxism, and dependency.
Taught by: Mansfield
Course not offered every year
Activity: Seminar
1 Course Unit

PSCI 619 Strategic Studies Seminar
This seminar offers graduate students an introduction to the subfield of international relations labeled strategic studies (or security studies). In addition to exploring key theoretical issues, we consider their usefulness for understanding relevant events in international politics since World War II. Although the course emphasizes the distinctive features of great power strategy in the nuclear age, we also look at the continuing role of conventional forces, the strategic choices of lesser powers, and selected security problems in the post-Cold War world (e.g., proliferation, terrorism).
Taught by: Goldstein
Course not offered every year
Activity: Seminar
1 Course Unit
**PSCI 621 Power and Resistance in the United States**  
Course not offered every year  
Activity: Seminar  
1 Course Unit  

**PSCI 623 The Politics of Gender**  
This is a course on the categories and construction of gender, sex and sexuality. The literature is so vast, the debate so vigorous, and the changing shape of thought so rapid that the absurdity of the pretense to provide a "comprehensive" or a "definitive" account is more than usually evident. The course foregrounds works that put gender, sex and sexuality - and with them the subject - in question. One set of works is drawn from political and feminist theory and includes writings by Judith Butler, Jacques Lacan, Guy Hocquenham, Monique Wittig, and Nancy Fraser. Through the use of works from comparative politics and cultural studies, the interrogation of the sexual subject reveals itself as an interrogation of political economies and political institutions. This aspect of the course addresses the question of gender in relation to race, class, and diverse political situations, including those of colonialism and liberalism, welfare policy and immigration law.  
Taught by: Norton  
Course not offered every year  
Activity: Seminar  
1 Course Unit  

**PSCI 631 American Political Development**  
Analyzes important patterns of continuity and change in American politics by examining the development of the American State from a comparative and historical perspective. Covers issues and debates central to not only the subfield of American politics, but also the discipline of political science more broadly. These include the role of the state, political culture, interests, ideas, and institutions in political development, and the role of history in political analysis. Open to advanced undergraduates with the permission of the instructor.  
Taught by: Gottschalk  
One-term course offered either term  
Activity: Seminar  
1 Course Unit  

**PSCI 633 Hegemonic Analysis: Theories and Applications**  
An important strain within contemporary political science has been the attempt to explain how power is exercised through the manipulation or exploitation of consciousness, habits, and cultural predispositions. One of the key concepts in the study of these issues is that of "hegemony" -- the establishment of particular beliefs as commonsensical presumptions of political life. In this course that notion will be systematically explored. Of particular interest will be how authors who conduct hegemonic analysis cope with the problem of analyzing the effect of what the objects of their analysis, by definition, do not and, in some sense, cannot, think about. Illustrations of hegemonic phenomena and attempts to analyze them will be drawn from a variety of fields, such as political theory, historiography, comparative politics, American politics, rational choice theory, agent based modeling, and epistemology.  
Taught by: Lustick  
Course not offered every year  
Activity: Seminar  
1 Course Unit  

**PSCI 635 Exp Design & Iss Causal**  
Course not offered every year  
Also Offered As: COMM 615, PSCI 439  
Activity: Seminar  
1 Course Unit  

**PSCI 637 Survey American Institute**  
Course not offered every year  
Activity: Seminar  
1 Course Unit  

**PSCI 638 Race & Criminal Justice**  
Taught by: Gottschalk  
Course not offered every year  
Also Offered As: PSCI 437  
Activity: Seminar  
1 Course Unit  

**PSCI 649 Chinese Politics**  
This course is designed to provide a high-level introduction to the study of Chinese politics. After surveying China's political history, we turn to a closer examination of several key issues in the contemporary study of Chinese politics. The themes we cover include issues of political legitimacy, political participation, policy formulation and implementation, revolutionary and reformist strategies of political change, and the domestic and international influences on a regime's foreign policy.  
Taught by: Goldstein  
Course not offered every year  
Activity: Seminar  
1 Course Unit  

**PSCI 650 Development of American Political Institutions**  
A political and historical interpretation of current American political institutions and practice focused on the federal system, the main national institutions, and various regime questions.  
Course not offered every year  
Activity: Seminar  
1 Course Unit  

**PSCI 652 American Politics**  
This seminar will survey the literature in a variety of subfields of American politics but will focus primarily on American political institutions. Emphasis will be on exposing graduate students in the seminar to the field of American politics, the methodologies employed in its study, the work of leading scholars, and the topics currently being debated by those scholars. The course is also designed to lay the groundwork to enable students to conduct original research. As such, the preparation of a research design proposal will be a key part of the seminar.  
Course not offered every year  
Activity: Seminar  
1 Course Unit  

**PSCI 655 Democracy in Comparative Perspective**  
Course not offered every year  
Also Offered As: LALS 655  
Activity: Seminar  
1 Course Unit  

**PSCI 670 Recent Democratic Theory**  
This seminar explores a series of interrelated debates that have important implications for the design of democratic institutions, the expectations by which they are judged, and the spirit that animates actions within them. The course makes no attempt to survey a vast literature, but the principal readings have been selected because of their outstanding quality and influence.  
Taught by: Nagel  
Course not offered every year  
Activity: Seminar  
1 Course Unit
PSCI 680 Constitutional Thought
A broadly theoretical approach to the constitutional dimension of the study of politics, with emphasis on the problems of constituting a political form, the nature and authority of a constitution, and systematic standards of interpretation, using the United States Constitution as an exemplar.
Course not offered every year
Activity: Seminar
1 Course Unit

PSCI 681 Modern Political Theory
Course not offered every year
Also Offered As: PSCI 181
Activity: Seminar
1 Course Unit

PSCI 690 The Logic of Social Inquiry
An introduction to the nature and development of theoretical knowledge in the social sciences with emphasis on political science.
Course not offered every year
Activity: Seminar
1 Course Unit

PSCI 692 Advanced Statistical Analysis
Course not offered every year
Also Offered As: GAFL 611
Activity: Seminar
1 Course Unit

PSCI 693 Research Methods in Political Science
An introduction to the design and execution of research to generate information about the nature and behavior of political actors, organizations and systems. Techniques covered include unobtrusive measures, case studies, direct observation, experimentation, content analysis and survey research. Historical and interpretive approaches may also be covered.
Course not offered every year
Activity: Seminar
1 Course Unit

PSCI 694 Advanced Research Method
The purpose of this class is three-fold. First, the course is designed to introduce students to a wide range of statistical models (e.g., event count models, limited dependent variables, and survival analysis) as well as problems associated with statistical research (e.g., heteroscedasticity, autocorrelation, and selection bias). Second, the course is designed to give students practical experience in data analysis. Students will complete a number of assignments using a wide variety of well know data sets (e.g., Polity III, World Value Systems, National Election Studies, Democratic and Local Governance, Correlates of War, Militarized Interstate Disputes, International Crisis Behavior, Penn World Tables, General Social Survey, United Nations Crime Survey). Third, the course will explore the relationship between qualitative and quantitative analysis. Requirements will include weekly assignments, discussion leadership, and a final paper. While PSCI692 is not a prerequisite for this course, some prior exposure to statistical analysis (including regression) is recommended.
One-term course offered either term
Activity: Seminar
1 Course Unit

Portuguese (PRTG)

PRTG 110 Elementary Portuguese I
Portuguese 110 is a first-semester introductory language course for students who have not studied Portuguese before, or who have had very little exposure to the language. The course will emphasize the development of foundational reading, writing, listening and speaking abilities within a cultural context. Students will participate in paired and group activities designed to elicit meaningful and accurate exchanges of information. The course will introduce students to Portuguese and Lusophone culture through a variety of authentic materials, including texts, songs, films and other audio and video material. Classes will be conducted in Portuguese.
For BA Students: Language Course
Course usually offered in fall term
Activity: Seminar
1 Course Unit

PRTG 114 Portuguese for Spanish Speakers
Portuguese 114 is designed for students who have studied Spanish. The course begins with exposure to basic vocabulary and structures, advancing at an accelerated pace. Classroom activities will emphasize pronunciation, spoken production as well as language structures and vocabulary. Students will participate in pairs, small-groups and whole-class activities that focus on the meaningful and accurate exchange of information. The class will be conducted in Portuguese.
For BA Students: Language Course
One-term course offered either term
Activity: Seminar
1 Course Unit
PRTG 120 Elementary Portuguese II
This class continues the development of a basic proficiency that will help reinforce the student's abilities and confidence. A broad range of lively, high-interest readings such as newspaper and magazine articles in current events on Brazilian culture will allow the student to gain a genuine sense of current usage. A Brazilian movie is presented and discussed in groups. Daily homework assignments involve writing exercises, short compositions and group projects.
For BA Students: Language Course
Course usually offered in spring term
Prerequisites: PRTG 110 or equivalent.
Activity: Seminar
1 Course Unit

PRTG 130 Intermediate Portuguese I
This is an intermediate course designed, in a four-course strand, for students who have taken at least two semesters of Portuguese. Classroom activities will emphasize pronunciation, spoken production as well as language structures and vocabulary with the objective to develop your skills in Portuguese. In addition, students will explore movies, music and other media to further develop reading, speaking and interpretive skills in Portuguese. The course will be conducted in Portuguese.
For BA Students: Language Course
Course usually offered in fall term
Prerequisite: PRTG 120 or instructor's permission
Activity: Seminar
1 Course Unit

PRTG 134 Intermediate Portuguese: Accelerated
Portuguese 134 is an accelerated intermediate course designed for students who have taken Portuguese for Spanish Speakers I, or its equivalent. Classroom activities will emphasize the development of pronunciation and spoken production, the use of language structures and vocabulary at the intermediate level. In addition, students will explore movies, music, short stories, and other media as they further develop reading, speaking and interpretive skills in Portuguese. The course will be conducted in Portuguese.
For BA Students: Last Language Course
Course usually offered in spring term
Prerequisite: PRTG 114
Activity: Seminar
1 Course Unit
Notes: Offered through the Penn Language Center. Restricted to students admitted by permission of the instructor.

PRTG 140 Intermediate Portuguese II
This is a forth-semester intermediate course, in a four-course strand, designed for students who have taken at least three semesters of Portuguese. Classroom activities will emphasize pronunciation, spoken production, grammar and language structures, and vocabulary at the advanced intermediate level. Students will explore movies, readings, news, music and other media as they further develop speaking, writing, reading and interpretive skills in Portuguese. The course will be conducted in Portuguese.
For BA Students: Last Language Course
Course usually offered in spring term
Prerequisite: PRTG 130 or instructor's permission
Activity: Seminar
1 Course Unit

PRTG 202 Advanced Portuguese
This course is designed for students who have already taken basic and intermediate levels of Portuguese. It complements students' knowledge of Portuguese by emphasizing the use of advanced grammatical structures and vocabulary. Classes will focus on practicing such advanced language structures by reading a diverse range of texts, including short stories by different authors of the Lusophone countries, and two novels; speaking and writing about a variety of contemporary texts; watching movies and documentaries; and listening to news, songs and other authentic audio material. The emphasis will be on language usage and culture. This course will be conducted in Portuguese.
For BA Students: Advanced Language Course
Course not offered every year
Prerequisites: PRTG 134, PRTG 140 or instructor's permission
Activity: Seminar
1 Course Unit

PRTG 215 Portuguese for the Professions
Portuguese for the Professions is designed for advanced-level students to develop their ability to use a wide technical vocabulary. The course will cover an array of topics in the areas of Economy, Politics, Science, Technology, Law and others as they pertain to the societies and cultures of the Lusophone countries, with particular emphasis placed on Brazil. Through readings, movies, discussions, essays and presentations, students will enhance their ability to write about and discuss these topics while employing the appropriate technical vocabulary.
Two terms. student may enter either term.
Prerequisite: Portuguese 202
Activity: Seminar
1 Course Unit

PRTG 217 Portuguese for the Professions II
Portuguese for the Professions II is a second-semester course designed to provide advanced-level students with exposition to, and practice in, a wide variety of technical vocabulary, and to develop their communicative skills on topics related to Brazil's economic, social and historical context. Classroom activities will be based on the readings and discussions of articles, papers, the viewing of documentaries and other visual media, covering an array of topics within the proposed themes. The course will be conducted in Portuguese.
For BA Students: Advanced Language Course
Course usually offered in spring term
Prerequisite: PRTG 202
Activity: Seminar
1 Course Unit

PRTG 221 Perspectives in Brazilian Culture
Topics vary. For current course description, please see department's webpage: https://www.sas.upenn.edu/hispanic-portuguese-studies/pc
Taught by: Mercia Flannery
Course not offered every year
Also Offered As: COLL 223, LALS 231
Prerequisite: Portuguese 202
Activity: Seminar
1 Course Unit

PRTG 240 Topics in Brazilian Culture
Topics vary. For current course description, please see department's webpage: https://www.sas.upenn.edu/hispanic-portuguese-studies/pc
One-term course offered either term
Also Offered As: CIMS 232, COLL 223, LALS 240
Prerequisites: Prerequisite is Portuguese 202.
Activity: Seminar
1 Course Unit
Psychoanalytic Studies (PSYS)

**PSYS 102 Study of A Theme**
For BA Students: Arts and Letters Sector
Also Offered As: CIMS 112, COML 245, ENGL 102, GSWS 102
Activity: Lecture
1 Course Unit

**PSYS 269 Topics Poetry & Poetics**
Course not offered every year
Also Offered As: ENGL 269, GSWS 267
Activity: Seminar
1 Course Unit

**PSYS 309 Psychoanalysis & Anthro**
Course not offered every year
Also Offered As: ANTH 309, ANTH 519
Activity: Seminar
1 Course Unit

**PSYS 369 Topics in Poetry and Poetics**
Also Offered As: ENGL 369, GSWS 369
Activity: Seminar
1 Course Unit

Psychology (PSYC)

**PSYC 001 Introduction to Experimental Psychology**
This course provides an introduction to the basic topics of psychology including our three major areas of distribution: the biological basis of behavior, the cognitive basis of behavior, and individual and group bases of behavior. Topics include, but are not limited to, neuropsychology, learning, cognition, development, disorder, personality, and social psychology.
For BA Students: Living World Sector
One-term course offered either term
Activity: Lecture
1 Course Unit

**PSYC 070 Psychology of Food**
Taught by: Rozin
Activity: Seminar
1 Course Unit
Notes: Does not count for the Psych major. To apply: https://www.curf.upenn.edu/spring-2017-bfs-seminars

**PSYC 097 Psych Abroad**
One-term course offered either term
Activity: Lecture
1 Course Unit

**PSYC 111 Perception**
How the individual acquires and is guided by knowledge about objects and events in their environment.
One-term course offered either term
Also Offered As: VLST 211
Prerequisite: PSYC 001 or COGS 001
Activity: Lecture
1 Course Unit

**PSYC 127 Physiology of Motivated Behaviors**
This course focuses on evaluating the experiments that have sought to establish links between brain structure (the activity of specific brain circuits) and behavioral function (the control of particular motivated and emotional behaviors). Students are exposed to concepts from regulatory physiology, systems neuroscience, pharmacology, and endocrinology and read textbook as well as original source materials. The course focuses on the following behaviors: feeding, sex, fear, anxiety, the appetite for salt, and food aversion. The course also considers the neurochemical control of responses with an eye towards evaluating the development of drug treatments for: obesity, anorexia/cachexia, vomiting, sexual dysfunction, anxiety disorders, and depression.
Taught by: Grill
One-term course offered either term
Also Offered As: BIBB 227
Prerequisite: PSYC 001
Activity: Lecture
1 Course Unit

**PSYC 149 Cognitive Neuroscience**
The study of the neural systems that underlie human perception, memory and language, and of the pathological syndromes that result from damage to these systems.
Taught by: Epstein or Mackey
One-term course offered either term
Also Offered As: BIBB 249
Prerequisite: PSYC 001 or COGS 001
Activity: Lecture
1 Course Unit

**PSYC 151 Language and Thought**
This course describes current theorizing on how the human mind achieves high-level cognitive processes such as using language, thinking, and reasoning. The course discusses issues such as whether the language ability is unique to humans, whether there is a critical period to the acquisition of a language, the nature of conceptual knowledge, how people perform deductive reasoning and induction, and how linguistic and conceptual knowledge interact.
One-term course offered either term
Prerequisite: PSYC 001 or COGS 001
Activity: Lecture
1 Course Unit
PSYC 160 Personality and Individual Differences
This course provides an introduction to the psychology of personality and individual differences. Many psychology courses focus on the mind or brain; in contrast to those approaches of studying people in general, the focus in this course is on the question “How are people different from each other?” It will highlight research that take a multidimensional approach to individual differences and attempts to integrate across the biological, cognitive-experimental, and social-cultural influences on personality.
One-term course offered either term
Prerequisite: PSYC 001
Activity: Lecture
1 Course Unit

PSYC 162 Abnormal Psychology
The concepts of normality, abnormality, and psychopathology; symptom syndromes; theory and research in psychopathology and psychotherapy.
Taught by: Ruscio
One-term course offered either term
Prerequisite: PSYC 001
Activity: Lecture
1 Course Unit

PSYC 170 Social Psychology
An overview of theories and research across the range of social behavior from intra-individual to the group level including the effects of culture, social environment, and groups on social interaction.
For BA Students: Society Sector
One-term course offered either term
Prerequisite: PSYC 001
Activity: Lecture
1 Course Unit

PSYC 181 Intro to Developmental Psychology
The goal of this course is to introduce both Psychology majors and non-majors majors to the field of Developmental Psychology. Developmental Psychology is a diverse field that studies the changes that occur with age and experience and how we can explain these changes. The field encompasses changes in physical growth, perceptual systems, cognitive systems, social interactions and and much more. We will study the development of perception, cognition, language, academic achievement, emotion regulation, personality, moral reasoning, and attachment. We will review theories of development and ask how these theories explain experimental findings. While the focus is on human development, when relevant, research with animals will be used as a basis for comparison.
Taught by: Brannon
One-term course offered either term
Prerequisite: PSYC 001
Activity: Lecture
1 Course Unit

PSYC 193 Study Abroad
Activity: Lecture
1 Course Unit

PSYC 207 Introduction to Cognitive Science
Cognitive Science is founded on the realization that many problems in the analysis of human and artificial intelligence require an interdisciplinary approach. The course is intended to introduce undergraduates from many areas to the problems and characteristic concepts of Cognitive Science, drawing on formal and empirical approaches from the parent disciplines of computer science, linguistics, neuroscience, philosophy and psychology. The topics covered include Perception, Action, Learning, Language, Knowledge Representation, and Inference, and the relations and interactions between such modules. The course shows how the different views from the parent disciplines interact, and identifies some common themes among the theories that have been proposed. The course pays particular attention to the distinctive role of computation in such theories, and provides an introduction to some of the main directions of current research in the field. It is a requirement for the BA in Cognitive Science, the BAS in Computer and Cognitive Science, and the minor in Cognitive Science, and it is recommended for students taking the dual degree in Computer and Cognitive Science.
Taught by: Brainard/Ungar
One-term course offered either term
Also Offered As: CIS 140, COGS 001, LING 105, PHIL 044, PPE 140
Prerequisites: An Introductory Course in Computer Science, Linguistics, Neuroscience, Philosophy, or PSYC 001
Activity: Lecture
1 Course Unit

PSYC 217 Visual Neuroscience
An introduction to the scientific study of vision, with an emphasis on the biological substrate and its relation to behavior. Topics will typically include physiological optics, transduction of light, visual thresholds, color vision, anatomy and physiology of the visual pathways, and the cognitive neuroscience of vision.
Taught by: Stocker
Course usually offered in spring term
Also Offered As: BIBB 217, VLST 217
Prerequisite: PSYC 109
Activity: Lecture
1 Course Unit

PSYC 225 Drugs, Brain, and Mind
The course will begin with a review of basic concepts in pharmacology: routes of drug administration, drug metabolism, the dose response curve, tolerance, and sensitization. Following a brief overview of cellular foundations of neuropharmacology (cell biology, synaptic and receptor function), the course will focus on various classes of drugs used to treat neuropsychiatric disorders including, among others, depression, schizophrenia, and anxiety. We will additionally consider mechanisms mediating the mind-altering, addictive and neurotoxic effects of abused drugs.
Taught by: Kane
Course usually offered in spring term
Also Offered As: BIBB 270
Prerequisite: PSYC 109 or BIBB 109
Activity: Lecture
1 Course Unit
PSYC 231 Animal Behavior
The evolution of social behavior in animals, with special emphasis on group formation, cooperation among kin, mating systems, territoriality and communication.
One-term course offered either term
Also Offered As: BIBB 231, BIOL 231
Prerequisite: PSYC 001 or BIOL 102 or COGS 001
Activity: Lecture
1 Course Unit

PSYC 235 Psychology of Language
This course describes the nature of human language, how it is used to speak and comprehend, and how it is learned. The course raises and discusses issues such as whether language ability is innate and unique to humans, whether there is a critical period for the acquisition of a language, and how linguistic and conceptual knowledge interact.
Taught by: Dahan
One-term course offered either term
Prerequisite: PSYC 151 or LING 001
Activity: Lecture
1 Course Unit

PSYC 239 Neuroendocrinology
This course is designed to examine the various roles played by the nervous and endocrine systems in controlling both physiological processes and behavior. First, the course will build a foundation in the concepts of neural and endocrine system function. Then we will discuss how these mechanisms form the biological underpinnings of various behaviors and their relevant physiological correlates.
Taught by: Flanagan-Cato
One-term course offered either term
Also Offered As: BIBB 260
Prerequisite: PSYC 109
Activity: Lecture
1 Course Unit

PSYC 247 Neuroscience and Society
Cognitive, social, and affective neuroscience have made tremendous progress in the last two decades. As this progress continues, neuroscience is becoming increasingly relevant to all of the real-world endeavors that require understanding, predicting and changing human behavior. In this course we will examine the ways in which neuroscience is being applied in law, criminal justice, national defense, education, economics, business, and other sectors of society. For each application area we will briefly review those aspects of neuroscience that are most relevant, and then study the application in more detail.
Taught by: Gerstein
One-term course offered either term
Also Offered As: PSYC 549
Prerequisite: PSYC 109 or PSYC 149
Activity: Lecture
1 Course Unit

PSYC 253 Judgment and Decisions
Thinking, judgment, and personal and societal decision making, with emphasis on fallacies and biases.
One-term course offered either term
Also Offered As: PPE 153
Prerequisite: One semester of statistics or microeconomics
Activity: Lecture
1 Course Unit

PSYC 256 Behavioral Economics and Psychology
This course will introduce you to the study of choice, and will examine in detail what we know about how people make choices, and how we can influence these choices. It will utilize insights from psychology and economics, and will apply these insights to domains including consumer choice, risky decision making, and prosocial decision making.
Taught by: Bhatia
One-term course offered either term
Also Offered As: PPE 313
Prerequisites: Microeconomics and PSYC 001
Activity: Lecture
1 Course Unit

PSYC 266 Introduction to Positive Psychology
An introduction to the study of positive emotions, positive character traits, and positive institutions. The positive emotions consist of emotions about the past (e.g., serenity, satisfaction, pride), about the future (e.g., hope, optimism, faith), and emotions about the present (pleasure and gratification). The distinction among the pleasant life, the good life, and the meaningful life is drawn. The positive traits include wisdom, courage, humanity, justice, temperance, and spirituality, and the classification of these virtues is explored. The positive institutions are exemplified by extended families, free press, humane leadership, and representative government.
Course usually offered in spring term
Prerequisite: PSYC 001
Activity: Lecture
1 Course Unit

PSYC 275 Introduction to Political Psychology
This course will explore psychological approaches to understanding political beliefs, attitudes, and actions at the levels of both individual citizens and national leaders. It will also explore the possibility that psychological science itself is not immune to the political debates swirling around it. Specific topics will include: the workings of belief systems (and their power to shape what we "see"), cognitive biases (and their power to cause miscalculations), sacred values and their role in stabilizing belief systems and social interaction, personality and ideology (the linkages between the personal and the political), and clashing conceptions of morality and distributive and corrective justice (striking variations among people in what they consider to be fair). We shall also explore some topics that have sparked controversy in the psychological research literature and that tend to polarize opinion along political lines, including work on intelligence and unconscious bias.
Taught by: Tetlock
One-term course offered either term
Also Offered As: PPE 275
Prerequisite: PSYC 001 or COGS 001
Activity: Lecture
1 Course Unit
Notes: NOTE: Students who are more interested in business-related issues may want Wharton 276x which is a modified version of this course specifically for Wharton undergraduates.
**PSYC 280 Developmental Psychology**

This course will cover theory and research related to the development of attachment, emotional regulation, peer and intimate relationships, personality, moral reasoning, and emotional and behavioral disorders. The course will emphasize the degree to which family, peer, and community contexts influence development from infancy into adulthood. Efforts will be made to integrate biological and environmental accounts of development across the lifespan.

One-term course offered either term
Prerequisite: PSYC 001
Activity: Lecture
1 Course Unit

**PSYC 281 Cognitive Development**

What infants and young children come to know about the world, and how they learn it. Topics will include changes in children's thinking, perceptual development, language acquisition, and current theories of cognitive development.

Taught by: Swingley or Weisberg
One-term course offered either term
Prerequisite: PSYC 001 or COGS 001
Activity: Lecture
1 Course Unit

**PSYC 311 Research Experience in Perception**

In this research course, students will begin by first replicating earlier experiments to measure human visual memory capacity. After several class discussions to discuss ideas, each student will design and conduct their own experiment to further investigate visual and/or familiarity memory.

Taught by: Rust
One-term course offered either term
Also Offered As: VLST 212
Prerequisites: One semester of statistics, and one of the following: PSYC 111, 149, 151, 217, or permission of instructor.
Activity: Seminar
1 Course Unit
Notes: Dept permission required. Undergraduates only.

**PSYC 362 Research Experience in Abnormal Psychology**

PSYC 362-301 is a two-semester course starting in the Fall. Class size limited to 8 students.

Taught by: Dr. Melissa Hunt
Prerequisites: PSYC 162 and one semester of statistics. Psych majors only. Instructor permission required.
Activity: Seminar
1 Course Unit
Notes: PSYC 362-301 is a two-semester course starting in the Fall.

**PSYC 280 Developmental Psychology**

In this course, students will work in small groups to develop, empirically test, and report on a research question within one of the domains of social psychology. Depending on the nature of the project, students will employ survey/experimental, or observational research methodology, and learn how to conduct and report the appropriate statistical tests with Excel and/or SPSS (typically, correlations, t-tests, ANOVA and ANCOVA, multiple regression, factor analysis, and measures of reliability). Class discussions will help students craft their projects, and in-class presentations will provide the opportunity to develop and refine presentation skills. Psychology majors only. Class size is limited to 14 students.

Prerequisites: PSYC 170 AND one semester of statistics.
Activity: Seminar
1 Course Unit
Notes: Dept permission required. Psychology majors only.

**PSYC 399 Individual Empirical Research**

Individual research involving data collection. Students do independent empirical work under the supervision of a faculty member, leading to a written paper. Normally taken in the junior or senior year.
One-term course offered either term
Activity: Independent Study
1 Course Unit
Notes: Dept permission required

**PSYC 400 Senior Honors Seminar in Psychology**

Open to senior honors candidates in psychology. A two-semester sequence supporting the preparation of an honors thesis in psychology. Students will present their work in progress and develop skills in written and oral communication of scientific ideas.

Taught by: Thompson-Schill
Prerequisite: acceptance into the Honors Program in Psychology
Activity: Seminar
0.5 Course Units
Notes: Dept permission required

**PSYC 407 Behavioral Genetics**

This course will cover basic principles of human and animal behavior genetics, including the genetics of normal variation as well as extreme phenotypes represented by behavioral, psychiatric and neurologic disorders. The course will focus on methods necessary to critically evaluate research findings on normal and abnormal human behavior. Animal models will also be reviewed.

Taught by: Price
One-term course offered either term
Prerequisite: Basic statistics or permission of instructor
Activity: Seminar
1 Course Unit

**PSYC 421 Neurobiology of Learning and Memory**

This advanced course focuses on the current state of our knowledge about neurobiological basis of learning and memory. Students will explore the molecular and cellular basis of learning invertebrates and vertebrates from a behavioral and neural perspective.

Taught by: Gerstein
One-term course offered either term
Also Offered As: BIBB 442, BIOL 442, NGG 575
Activity: Seminar
1 Course Unit
PSYC 423 Seminar in Motivation
One-term course offered either term
Prerequisite: Permission of the instructor
Activity: Seminar
1 Course Unit

PSYC 429 Big Data, Memory, and the Human Brain
Advances in brain recording methods over the last decade have generated vastly more brain data than had been collected by neuroscientists during the previous century. To understand the human brain, scientists must now use computational methods that exploit the power of these huge data sets. This course will introduce you to the use of big data analytics in the study of human memory and its neural basis. Through hands-on programming projects, we will analyze multi-terabyte data sets both to replicate existing phenomena and to make new discoveries. Although the course has no formal neuroscience or psychology prerequisites it does require CIS121 and Python experience. Because of the heavy computing resources required to perform the assignments, enrollment is limited to 15 students and there is a required course application. http://psychology.sas.upenn.edu/undergraduate/forms
Taught by: Kahana
Also Offered As: BIBB 429
Prerequisite: CIS121 & Python experience
Activity: Seminar
1 Course Unit
Notes: Instructor permission required. Application form can be found here: http://psychology.sas.upenn.edu/undergraduate/forms

PSYC 431 Seminar in Animal Cognition
The aim of this course will be to provide advanced undergraduates with a detailed review of a number of research areas in behavioral ecology. Topics will change each year, and students will be able to take the course more than once.
One-term course offered either term
Also Offered As: BIBB 431
Prerequisite: PSYC 231/Biol 231 / BIBB 231
Activity: Seminar
1 Course Unit

PSYC 435 Psycholinguistics
Taught by: Dahan
Prerequisites: PSYC 151, or PSYC 235, or LING 001, or permission of instructor.
Activity: Seminar
1 Course Unit

PSYC 439 Neuroendocrinology Seminar
This course is designed to examine the various roles played by the nervous and endocrine systems in controlling both physiological processes and behavior. First, the course will build a foundation in the concepts of neural and endocrine system function. Then, we will discuss how these mechanisms form the biological underpinnings of various behaviors and their relevant physiological correlates. We will focus on sexual and parental behaviors, stress, metabolism, neuroendocrine-immune interactions, and mental health.
Taught by: Flanagan-Cato
One-term course offered either term
Also Offered As: BIBB 460
Prerequisite: PSYC 109
Activity: Seminar
1 Course Unit

PSYC 440 Sleep and Sleep Disorder
Activity: Lecture
1 Course Unit

PSYC 447 Brains Behind Radiolab
Radiolab is a show about curiosity. Where sound illuminates ideas, and the boundaries blur between science, philosophy, and human experience. This seminar is a course about curiosity. In particular, this seminar will develop and nurture your curiosity about the mind and the brain, about human thought and behavior, and about the biology of the human experience. Every month, hours of radio programs and podcasts are aired-ranging from science-themed shows such as Radiolab and Invisibilia (and locally produced The Pulse) to more general interest shows like This American Life and TED Radio Hour—that highlight the scientific study of the human mind. Behind every podcast are dozens of laboratories, publications, and investigators (including students) who make the science behind the show. We will explore the "Brains behind Radiolab" through a careful study of the primary sources that report the psychological and neuroscientific findings that thousands of listeners tune every week. You will practice the craft of conveying scientific findings to audiences with different levels of expertise and background in science; and you will learn about the important role that scientists play in enhancing public understanding of human behavior.
Taught by: Thompson-Schill
One-term course offered either term
Activity: Seminar

PSYC 449 Seminar in Cognitive Neuroscience
Topics vary each semester. PSYC 449-301 (Gerstein) Neuroscience for Policymakers: This seminar will provide an overview of the neuroscience behind some of the most relevant issues in public health policy today. Why are clinical trials for Alzheimer's disease treatments so difficult to run and why do so many fail? How does the teenage brain make decisions and who should be considered an adult in court? What is implicit bias and why do we make snap decisions based on mental associations? If you could 'improve' your brain with devices or drugs, should you? We will examine the primary scientific literature as well as delve into lay articles about the science and policy surrounding each issue. A basic understanding of neuroscience and some comfort working with primary literature is assumed. PSYC 449-302 (Epstein) Consciousness: Consciousness is our subjective experience of the world, including both perceptions and felt internal states. In this seminar, we will explore the the burgeoning scientific literature on the neural basis of consciousness. We will focus in particular on three topics: What are the neural systems underlying visual awareness? What are the mechanisms that control the progression of conscious contents to create our stream of thought? What is the relationship between consciousness and behavior?
Prerequisite: PSYC 109 or PSYC 149
Activity: Seminar
1 Course Unit
Notes: PSYC 449-601 is an LPS course. PSYC 449-301-302 are Psych Dept courses.

PSYC 451 Seminar in Cognitive Psychology
Topics vary each semester.
One-term course offered either term
Also Offered As: BIBB 431
Prerequisite: PSYC 231
Activity: Seminar
1 Course Unit
PSYC 453 Seminar in Decision Making
Topics vary each semester.
One-term course offered either term
Prerequisite: PSYC 253
Activity: Seminar
1 Course Unit
Notes: Undergraduates only.

PSYC 462 Seminar in Abnormal Psychology
Topics vary each semester. PSYC 462-601 (Fall 2017): Anxiety Disorders, OCD, and PTSD: Theory, Diagnosis, and Evidence Based Practice
Taught by: Staff, PSYC 462-601 (Fall 2017): Jeremy Tyler
Prerequisite: PSYC 162
Activity: Seminar
1 Course Unit
Notes: Undergraduates only.

PSYC 464 Seminar in Positive Psychology: Imagination and Creativity in Psychology
By forming mental representations of things not immediately present to the senses (imagination), and/or simulating possible futures (prospection), humans can generate novel ideas and products (creativity) that contribute to human progress and flourishing. This course will specifically focus on imagination and creativity within the field of psychology. Students will learn about the cognitive, motivational, and social processes that shaped important creative insights (or big moments) in the history of the discipline. In addition, students will be given the opportunity to apply knowledge gained from the course by designing their own original creative research proposal as the final project for the course. Note: This course constitutes a research study designed to investigate how scientific creativity can best be taught to undergraduate students. Student participation in the research study is voluntary, subject to informed consent, and will not affect their performance in the course.
Prerequisite: PSYC 001
Activity: Seminar
1 Course Unit
Notes: Instructor permission required. Course does not fulfill the research requirement for psych majors.

PSYC 470 Seminar in Social Psychology
Topics vary each semester.
One-term course offered either term
Prerequisite: PSYC 170
Activity: Seminar
1 Course Unit
Notes: Undergraduates only. PSYC 470-301 (Bermant)

PSYC 472 Behavioral Biology of Women
A course that explores female behavior focusing on evolutionary, physiological, and biosocial aspects of women’s lives from puberty, through reproductive processes such as pregnancy, birth, lactation to menopause and old age. Examples are drawn from traditional and modern societies and data from nonhuman primates are also considered.
Taught by: Apicella
One-term course offered either term
Prerequisites: PSYC 272 or permission of instructor.
Activity: Seminar
1 Course Unit
Notes: Department permit required.

PSYC 473 Neuroeconomics
This course will review recent research that combines psychological, economic, and neuroscientific approaches to study human and animal decision-making. A particular focus will be on how evidence about the neural processes associated with choices might be used to constrain economic and psychological theories of decision-making. Topics covered will include decisions involving risk and uncertainty, reinforcement learning, strategic interactions and games, and social preferences.
Taught by: Kable
One-term course offered either term
Also Offered As: BIBB 473, NGG 706
Prerequisites: PSYC 149, 253, or 265
Activity: Seminar
1 Course Unit

PSYC 474 Cultural Psychology
Humans are a cultural species, constantly navigating a complex web of cultural bound practices, norms, and worldviews. This seminar will survey the theory and research of the young but rapidly expanding field of cultural psychology. In the seminar, we will explore how culture shapes and is shaped by an array of psychological domains, ranging from perception, information processing, and language, to concepts of the self, motivations, emotion, morality, and physical and mental health.
Prerequisite: PSYC 170 or PSYC 272
Activity: Seminar
1 Course Unit

PSYC 475 Behavioral Law and Economics
Topics vary each semester.
One-term course offered either term
Prerequisite: PSYC 253 or PSYC 265
Activity: Seminar
1 Course Unit
Notes: Undergraduates only.

PSYC 477 CAPSTONE: SOCIAL PSYCHOLOGY
Though almost half a century old, Milgram’s 1961-1962 studies of “destructive obedience” continue to puzzle, fascinate, and alarm. In this seminar, we will take an in-depth look at these famous studies (along with the more recent replications) and explore their various psychological, historical, and philosophical ramifications. This course has a number of intellectual goals that go beyond simply rarifying one’s understanding of a particular content area (important and generative as it may be). One such a goal is to enable you to think critically (though not disparagingly) about other people’s research and theoretical claims that ensue from it, all with the hope that you can then apply the self-same critical acumen to your own future work. Second, this course will offer a hospitable environment for developing (and exchanging) creative ideas of your own. Your work on your individual reaction papers and on the term paper in particular will be a key element in achieving this goal.
Taught by: Royzman
Also Offered As: PPE 477
Prerequisite: PSYC 170
Activity: Seminar
1 Course Unit
PSYC 480 Seminar in Developmental Psychology
This seminar will examine how the imagination works and how it develops. Students in this course will read and discuss the latest research in this area, learn to analyze empirical articles in cognitive and developmental psychology, and explore the links between imaginative processes and other important cognitive skills.
Taught by: Weisberg
Prerequisite: PSYC 181 or PSYC 280 or PSYC 281
Activity: Seminar
1 Course Unit
Notes: Undergraduates only.

PSYC 481 Seminar: Cognitive Development
Taught by: Swingley
Prerequisites: PSYC 281 or PSYC 280.
Activity: Seminar
1 Course Unit

PSYC 501 Mathematical Foundations for Language and Communication Science I
This two-semester sequence will provide basic mathematical modeling and algorithmic tools for interdisciplinary research in animal, human or machine communication, in association with the IRCS IGERT program. Topics include signal processing, statistical modeling and machine learning, information theory, game theory, and formal language theory. The courses will be taught in a laboratory setting, and will emphasize practical skills as well as basic concepts.
Taught by: Liberman
Two terms. Student may enter either term.
Also Offered As: COGS 501, LING 545
Activity: Lecture
1 Course Unit

PSYC 502 Mathematical Foundations for Language and Communication Science II
This two-semester sequence will provide basic mathematical modeling and algorithmic tools for interdisciplinary research in animal, human or machine communication, in association with the IRCS IGERT program. Topics include signal processing, statistical modeling and machine learning, information theory, game theory, and formal language theory. The courses will be taught in a laboratory setting, and will emphasize practical skills as well as basic concepts.
Taught by: Liberman
Two terms. Student may enter either term.
Also Offered As: COGS 502, LING 546
Activity: Lecture
1 Course Unit

PSYC 511 Prob Models of Perception
Activity: Lecture
1 Course Unit

PSYC 525 Controversies in Psychology and Neuroscience
In this seminar, we will discuss several recent controversies in psychology and neuroscience, for example: “p-hacking,” replicability, methodological terrorists, neural activity in dead salmon and failures to control the false positive rate in neuroimaging, “voodoo correlations” and double dipping, whether Tic-Tacs can improve self-control and whether reading “old” makes you walk slower. Our goal is not just to engender ennui and/or schadenfreude, but also to ask what we can learn from these discussions about how to do science in the most rigorous, reproducible manner possible.
Activity: Seminar
1 Course Unit

PSYC 530 Research Methods in Psychology
This course will develop theoretical and computational approaches to structural and functional organization in the brain. The course will cover: (i) the basic biophysics of neural responses, (ii) neural coding and decoding with an emphasis on sensory systems, (iii) approaches to the study of networks of neurons, (iv) models of adaptation, learning and memory, (v) models of decision making, and (vi) ideas that address why the brain is organized the way that it is. The course will be appropriate for advanced undergraduates and beginning graduate students. A knowledge of multi-variable calculus, linear algebra and differential equations is required (except by permission of the instructor). Prior exposure to neuroscience and/or Matlab programming will be helpful.
Taught by: Balasubramanian
Course not offered every year
Also Offered As: BIBB 585, NGG 594, PHYS 585
Activity: Lecture
1 Course Unit

PSYC 547 Fndtions Soc Cog Neurosc
Activity: Lecture
1 Course Unit

PSYC 549 Neuroscience and Society
Also Offered As: PSYC 247
Activity: Lecture
1 Course Unit

PSYC 557 Neuroscience, Ethics & Law
How does the neuroscience of human decision-making and emotion impact our understanding of ethics and law? What can neuroscience tell us about why people find actions moral or immoral, worthy of praise or punishment? What, if anything, can it tell us normatively about morality, agency and responsibility? And what other insights might neuroscience offer regarding other morally and legally relevant phenomena such as stereotyping and bias, the causes of antisocial behavior and the detection of deception?
Activity: Seminar
1 Course Unit

PSYC 579 Exp Methods Perception
Activity: Lecture
1 Course Unit

PSYC 600 Proseminar in General Psychology
Choice of half or full course units each sem. covering a range of subjects and approaches in academic psychology.
One-term course offered either term
Also Offered As: NGG 589
Activity: Seminar
1 Course Unit
Notes: Dept permission required
PSYC 603 Behavioral Neuroscience
Current research on the neural basis of behavior is organized in six subsections: animal communication, sex behavior, circadian rhythms, variety energy and water balance, synaptic plasticity and learning, and communication, addiction. Topics are selected based on excitement surrounding recent research developments. Each topic is analyzed initially at thermal receptors behavioral level, followed by the systems and the cell and molecular control of levels. Throughout the course, attention is paid to the analysis of behavior interesting stereotyped behaviors, e.g., bird song, lordosis, licking, whose description and neurology has provided insights into the neural basis systems that contribute to overall neural control of behavior. Attention is also paid to the development of understanding of the neuroanatomy of selected neural systems.
Taught by: Grill
Course offered fall; even-numbered years
Also Offered As: NGG 595
Activity: Seminar
1 Course Unit
Notes: Fulfills the "Brain" requirement

PSYC 604 Cognitive Neuroscience
Review of what has been learned about the neural mechanisms underlying intelligent behavior in humans and animals. Traditional topic areas of cognitive science are covered, specifically: vision (early vision through object recognition), attention, learning and memory, motor control, planning and problem-solving, and language. Attempts are made to integrate results of different neuroscience approaches to each topic, including the study of human neurological patients, lesion studies in animals, single unit recordings, neural network modeling, and functional imaging techniques.
Taught by: Farah
One-term course offered either term
Activity: Seminar
1 Course Unit

PSYC 605 Behavioral Neuropharmacology
The effects of various drug classes on animal behavior are examined. Behavioral studies identifying the neurochemical mechanisms of action of psychotropic drugs are reviewed. Animal models of neurological and psychiatric illnesses are discussed.
Taught by: Lucki and Staff
One-term course offered either term
Also Offered As: NGG 582
Prerequisite: Permission of course director
Activity: Lecture
1 Course Unit

PSYC 608 Judgment and Decisions
Thinking, judgment, decision making, beliefs, and probability, with emphasis on fallacies and errors.
Taught by: Baron
One-term course offered either term
Also Offered As: OID 900
Activity: Lecture
1 Course Unit

PSYC 609 Systems and Integrative Neuroscience
Course usually offered in fall term
Also Offered As: NGG 573
Activity: Lecture
1 Course Unit
Notes: Fulfills the Brain requirement

PSYC 610 Mathematics for Psychologists
Course not offered every year
Also Offered As: STAT 501
Activity: Lecture
1 Course Unit
Notes: A two-term course.

PSYC 611 Statistics for Psychologists
Course usually offered in fall term
Also Offered As: BSTA 550, STAT 500
Activity: Lecture
1 Course Unit

PSYC 612 Introduction to Nonparametric Methods and Log-linear Models
Course usually offered in spring term
Also Offered As: STAT 501
Activity: Lecture
1 Course Unit

PSYC 630 Cognitive Neuroscience of Memory
This course will review the neural mechanisms of learning and memory. Readings will include both seminal and cutting-edge papers on topics ranging from perceptual memory to higher order functions, including working memory, declarative memory, skill learning, and semantic memory. Within each topic we will attempt to integrate the results of different neuroscience approaches, including the study of human neurological patients, lesion studies and single unit recordings in animals, neural network modeling, event-related potentials, and functional imaging techniques.
One-term course offered either term
Also Offered As: NGG 630
Activity: Seminar
1 Course Unit
Notes: Fulfills the Brain requirement

PSYC 631 Cognitive Neuroscience of Affect
We will survey, and as far as possible, synthesize, three bodies of literature on emotion and the brain, specifically: (1) neuroimaging and pharmacologic studies of emotion and the normal human brain; (2) the neuroscience of affective disorders in humans; and (3) relevant studies of reinforcement and learning in animals.
Taught by: Farah
One-term course offered either term
Activity: Lecture
1 Course Unit

PSYC 632 Cognitive Neuroscience of Vision
This course will review the neural basis of visual cognition. Emphasis will be placed on linking cognitive theory to neuroscientific methods. Topics will include object and face recognition, scene perception, visual attention, mental imagery, and visual awareness.
Taught by: Epstein
One-term course offered either term
Activity: Lecture
1 Course Unit

PSYC 633 Cognitive Neuroscience of Development
This course will review the neural basis of developmental processes. Emphasis will be placed on linking cognitive theory to neuroscientific methods. Topics will include early development, language development, and cognitive development.
Taught by: Lucki and Staff
One-term course offered either term
Activity: Seminar
1 Course Unit
Notes: Fulfills the Brain requirement

PSYC 634 Cognitive Neuroscience of Cognition
This course will review the neural basis of cognitive processes. Emphasis will be placed on linking cognitive theory to neuroscientific methods. Topics will include attention, learning, memory, and decision making.
Taught by: Baron
One-term course offered either term
Activity: Lecture
1 Course Unit
Notes: Fulfills the Brain requirement

PSYC 635 Cognitive Neuroscience of Development
This course will review the neural basis of development processes. Emphasis will be placed on linking cognitive theory to neuroscientific methods. Topics will include early development, language development, and cognitive development.
Taught by: Lucki and Staff
One-term course offered either term
Activity: Seminar
1 Course Unit
Notes: Fulfills the Brain requirement
PSYC 671 Violence: A Clinical Neuroscience Approach
Developed for both Psychology and Criminology graduate students, this interdisciplinary course outlines a clinical neuroscience approach to understanding violence in which the tools of neuroscience—neuroanatomy, neurophysiology, neurocognition, neuroendocrinology, neuropharmacology, molecular and behavioral genetics—are used to help inform the etiology and treatment of violence. Clinical components include psychopathy, proactive and reactive aggression, homicide, domestic violence, conduct disorder, oppositional defiant disorder, antisocial personality disorder, crime, and delinquency as well as their comorbid conditions (schizophrenia, drug abuse, hyperactivity). The interaction between social, psychological, and neurobiological processes in predisposing to violence will be highlighted, together with neurodevelopmental perspectives on violence focusing on prospective longitudinal and brain imaging research. Key implications for the criminal justice system, neuroethics, forensics psychology, and intervention will also be outlined.
Taught by: Raine
Course usually offered in fall term
Also Offered As: CRIM 671
Activity: Lecture
1 Course Unit
Notes: Graduate students only.

PSYC 699 Individual Research for First-Year Graduate Students
Two terms. student must enter first term.
Activity: Independent Study
3 Course Units

PSYC 703 Special Topics in Psychology
One-term course offered either term
Activity: Seminar
1 Course Unit

PSYC 704 Research Methods and Statistical Procedures for Social and Clinical Sciences
This course has three primary objectives: 1) developing criteria and strategies for strong inference of causal relationships in social and clinical psychology research; 2) examining the array of research designs employed in the social/clinical sciences together with the threats to internal and external validity associated with each; 3) learning and applying statistical analytical methods appropriate for questions in the social/clinical sciences. The course will employ a seminar format and a project-oriented approach to learning. Students will be encouraged to utilize examples from their own research programs in applying the design and analysis concepts covered in the course.
One-term course offered either term
Activity: Seminar
1 Course Unit

PSYC 705 Neuroethics
Neuroscience is increasingly affecting all aspects of human life, from the relatively familiar medical applications in neurology and psychiatry, to new applications in education, business, law, and the military. Today's neuroscience graduate students will be among the scientists, citizens, and policymakers who will lead society through the maze of decisions regarding the appropriate uses of neuroscience. This course provides a survey of the key ethical, legal, and social issues at the intersection of neuroscience and society. It will include a combination of traditional classroom lectures, discussion and debates, as well as an online component coordinated with a course at Wisconsin's Neuroscience and Public Policy graduate program.
Taught by: Farah
One-term course offered either term
Activity: Seminar
1 Course Unit
Notes: Dept permission required.

PSYC 709 Special Topics in Clinical Psychology
In this seminar we will survey substantive, methodological and statistical issues that arise in the planning, conduct, and interpretation of empirical inquiries about the effects of psychotherapies. Challenges presented in efforts to disseminate evidence-based clinical practices will also be addressed.
One-term course offered either term
Activity: Seminar
1 Course Unit
Notes: Graduate students only.

PSYC 711 Basic Problems in Developmental II
One-term course offered either term
Activity: Seminar
1 Course Unit

PSYC 712 Regression & Anova II
One-term course offered either term
Activity: Seminar
1 Course Unit

PSYC 715 Teaching Seminar
This course is designed to aid graduate students in developing fundamental teaching skills. The focus will be on lecturing, applicable to job talks as well as classroom lectures, but there will also be some attention to discussion sections and handling of questions.
Taught by: Rozin
One-term course offered either term
Prerequisite: For graduate students in Psychology
Activity: Seminar
1 Course Unit

PSYC 719 Experimental Methods in Perception
This IGERT foundational course covers experimental methods and data analysis techniques used in the study of human perception.
Taught by: Brainard
Activity: Seminar
1 Course Unit
Notes: This is an IGERT foundational course.

PSYC 730 Special Topics in Motivation
One-term course offered either term
Activity: Seminar
1 Course Unit
PSYC 733 Special Topics in Vision
One-term course offered either term
Activity: Seminar
1 Course Unit

PSYC 736 Special Topics in Language
One-term course offered either term
Activity: Seminar
1 Course Unit

PSYC 739 Special Topics in Perception
Probability theory has become an increasingly popular and successful framework for modeling human perceptual and cognitive behavior. This course will provide a careful introduction to probability theory and the various ways it has been applied in psychology and neuroscience. Goal is to make students understand the most important state-of-the-art probabilistic models in perception and cognition, what they reveal about the brain's underlying computations and strategies in dealing with uncertainty, and how such computations can potentially be performed by populations of neurons.
Taught by: STOCKER
One-term course offered either term
Activity: Seminar
1 Course Unit

PSYC 745 Special Topics in Cognitive Neuroscience
One-term course offered either term
Also Offered As: NGG 583
Activity: Seminar
1 Course Unit

PSYC 750 Special Topics in Neuropsychopharmacology
Biological issues relevant to neuropsychiatric illnesses are covered in detail in four sections. The first section covers clinical aspects of major psychiatric disorders and includes some contact with patients. The second section presents the neuroanatomy of the limbic system. In the third section, emphasis is on the mechanisms of action of psychotropic drugs, including antidepressants, antipsychotics, anxiolytics, and stimulants. The final section covers information relevant to understanding biological processes that may be abnormal in neuropsychiatric illnesses, such as stress, sleep, and circadian rhythms, as well as quantitative genetics.
Taught by: Lucki and Staff
One-term course offered either term
Also Offered As: PHRM 550
Prerequisite: Permission of Instructor
Activity: Lecture
1 Course Unit

PSYC 751 Special Topics in Cognitive Psychology
One-term course offered either term
Activity: Seminar
1 Course Unit

PSYC 757 Language and Communication Sciences Research Seminar
Taught by: Trueswell
Course not offered every year
Activity: Seminar
1 Course Unit

PSYC 770 Special Topics in Social Psychology
One-term course offered either term
Activity: Seminar
1 Course Unit

PSYC 790 Self-Regulation & Behav
This seminar will cover psychological theories of goals, research on self-control, and models of behavior change, tailored to the interests of the students. We will read classic and contemporary research related to goal setting, conscious and unconscious goal processes, and mechanisms of behavior change.
Taught by: ALBARRACIN
Also Offered As: COMM 890
Activity: Seminar
1 Course Unit

PSYC 810 Psychodiagnostic Testing
Course usually offered in fall term
Activity: Seminar
1 Course Unit

PSYC 811 Psychodiagnostic Interviewing
Course usually offered in fall term
Activity: Seminar
1 Course Unit

PSYC 815 Introductory Practicum
Course usually offered in spring term
Activity: Seminar
1 Course Unit

PSYC 820 Advanced Practicum
Intensive studies of single individuals including interviews, tests, and experiments; also clinical experience at appropriate community agencies.
One-term course offered either term
Activity: Seminar
1 Course Unit

PSYC 999 Individual Study and Research
One-term course offered either term
Activity: Independent Study
0.5 Course Units

Public Health Studies (PUBH)

PUBH 500 Foundations of Public Health
This course will provide a topical overview of the inter-disciplinary field of public health and provides grounding in the public health paradigm. Through a series of lectures and recitation sessions, students will learn about the history of public health and the core public health sciences including behavioral and social sciences, biostatistics, epidemiology, environmental health, and policy and management. Other topics include ethics in public health, context analyses (specifically sociographic mapping and urban health), community participation in research, public health promotion, and the prevention of chronic and infectious diseases.
Course usually offered in fall term
Also Offered As: NURS 570
Activity: Lecture
1 Course Unit
PUBH 501 Introduction to Biostatistics
Introduction to Biostatistics This course is designed to provide a broad overview of biostatistics methods as well as applications commonly used for public health research. Topics covered include measurement and categorizing variables, use and misuse of descriptive statistics, testing hypotheses, and applying commonly used statistical tests. An emphasis will be placed on the practical application of data to address public health issues, rather than theoretical and mathematical development. Students will learn how to choose and apply statistical tools to data sources, when and how statistical tools can be used to analyze data, and how to interpret others' quantitative studies. Students will gain experience using online datasets and the STATA statistical software package.
Taught by: Shofer, Hanlon
One-term course offered either term
Activity: Lecture
1 Course Unit

PUBH 502 Introduction to the Principles and Methods of Epidemiology
This course will provide an introduction to the principles and methods of epidemiology as a research science. The course introduces the student designs applied to human populations, including randomized trials and observational studies (cohort, case-control, cross-sectional, ecological). Homework and in-class assignments focus on building skills in locating, assessing, and synthesizing evidence from the epidemiologic literature, with an emphasis on critical thinking, causal inference, and understanding bias and confounding.
Taught by: Smith, Cannuscio
One-term course offered either term
Also Offered As: NURS 500
Activity: Lecture
1 Course Unit

PUBH 503 Environmental and Occupational Health
This course will provide a broad introduction to the scientific basis of occupational and environmental health. Content will address issues in the ambient, occupational and global environments as well as the tools, concepts and methods used in environmental health.
Taught by: Howarth, Pepino, Klinger Kutcher
Course usually offered in fall term
Activity: Lecture
1 Course Unit

PUBH 504 Public Health Theories & Frameworks
This course provides students with a solid foundation in behavioral and social science theory, research, and interventions as they pertain to public health. Content will provide exposure to a broad range of theories, including the theoretical foundations of social science applications for help-seeking, gender, race, ethnicity and social class. These theories will be discussed using examples of their applications to numerous public health problems including HIV/AIDS, violence, cancer, cardiovascular diseases, obesity, and diabetes.
Taught by: Ruggieri, Fleisher
One-term course offered either term
Activity: Lecture
1 Course Unit

PUBH 505 Public Health Policy and Administration
This course is an introduction to health policy and management. It examines both the historical and current state of health policy in America and integrates these concepts within the context of public health practice. We will examine key concepts in understanding US health care organization, financing and delivery, our current political and economic debate on health care reform, examining the role and management issues of public health departments, and case studies in public health policy and management.
Taught by: Noonan, Klusaritz
Course usually offered in fall term
Activity: Lecture
1 Course Unit

PUBH 506 Methods for Public Health Practice
This is a course designed around modules whose objective is to provide students with greater familiarity in a range of methods essential to public health practice. The course will be framed around an in-depth capacity and needs assessment and community public health planning in Philadelphia. Topics covered will include data collection and evaluation, both quantitative and qualitative, uses of informatics in public health, analysis of vital statistics, working with communities, methods for developing and facilitating solutions to public health problems, including concepts of advocacy and policy formation and development of interventions. The course demonstrates how core public health competency areas in data analysis and communication provide foundations for applications for both practice and practice-based research.
Taught by: Solomon, Hall, Leary
One-term course offered either term
Activity: Lecture
1 Course Unit

PUBH 507 Public Health Law & Ethics
What is best - or, at least, seems best - for the public's health is not always consistent with society's view of what is legal, ethical, or good policy. This course introduces key concepts of legal, ethical, and policy analysis and attempts to demonstrate with current examples how these forces empower, guide, and constrain public health decision-making and actions. The course will combine lecture, Socratic dialogue, and group discussion in an informal setting. The course will feature guest lectures by several distinguished experts from Penn and from other universities.
Taught by: Anderson
Course usually offered in fall term
Activity: Lecture
1 Course Unit
PUBH 508 Capstone Seminar I
The Capstone is a culminating experience required for graduation in the Master of Public Health Program. In two Capstone seminars, students will have an opportunity to synthesize the knowledge and public health competencies they have developed through their coursework. Capstone students will apply their knowledge and skills to public health problems in a chosen area of interest. They will engage their peers in scholarly discussion, drawing from relevant scientific literature and public health experience in order to begin to develop a common grounding and identity as public health professionals. The Capstone incorporates two semester-long seminars and a research project. over the course of the Castone, students will develop, propose, revise, implement, and present their projects. As their projects successfully come to fruition they will also advise their junior colleagues still in the proposal stage.
Taught by: Frasso, Anderson, Levy, Grisso
Two terms. student may enter either term.
Activity: Lecture
1 Course Unit

PUBH 515 Community Development
Course usually offered in spring term
Also Offered As: CPLN 622
Activity: Lecture
1 Course Unit

PUBH 517 Introduction to the Epidemiologic Study of Geography and Health
This course will provide an introduction to GIS in public health research and practice. Through a series of lectures and labs students will explore theories linking health and the environment, spatial analysis and spatial epidemiology, and applications of GIS-related data collection and analysis.
Taught by: Branas, Weibe
Course usually offered in fall term
Also Offered As: EPID 518
Activity: Lecture
1 Course Unit

PUBH 519 Issues in Global Health
This course presents an overview of issues in global health from the viewpoint of many different disciplines, with emphasis on economically less developed countries. Subjects include: millennium goals; measures of disease burden; population projections and control; environmental health and safe water; demography of disease and mortality; zoonotic infectious diseases; AIDS and HIV prevention; vaccine utilization and impact; eradication of polio virus; chronic diseases; tobacco-associated disease and its control; nutritional challenges; social determinants of global health; harm reduction and behavioral modifications; women's reproductive rights; health economics and cost-effective interventions; health manpower and capacity development; bioethical issues in a global context.
Taught by: McLaughlin
Course usually offered in fall term
Prerequisites: Undergraduates must have completed HSOC-010-401.
Activity: Lecture
1 Course Unit

PUBH 521 Program Evaluation in Public Health
There are many public health programs developed to promote change. The question most funders have for public health programs is: what outcomes do you expect? This course is designed to review the principles of identifying short term, mid term and long term outcomes and methods of measurement. Students learn about the application of date collection skills to all phases of developing a public health program or service innovation, from needs assessment to analysis of finding to implementation of changes based on results. Students learn to appreciate how these skills can be used as practical tools for identifying public health problems, program development, program implementation including taking a reflective practice approach, ensuring equity and fairness in program delivery (i.e. combating disparities), and generally promoting public health through effective and efficient programmatic efforts.
Taught by: Karpyn
Course offered spring; odd-numbered years
Activity: Lecture
1 Course Unit

PUBH 525 Developing Effective Public Health Programs Using a Humans Rights Based Approach
This course will engage students in discussion of how a human rights approach, informed by international human rights declarations and covenants as well as gender theory, can more comprehensively inform the development of a variety of public health programs. Specifically, the class will discuss how health policies, programs and practices can impact on human rights (e.g. mandatory reporting of certain communicable diseases, quarantine, accessibility of services, etc.); how violations of human rights affect health (e.g. torture, discrimination, etc.) and how health and human rights are ultimately inextricably linked and programming for public health must use a framework that ensures a balance of interests between the two disciplines.
Taught by: Voet
Course usually offered summer term only
Activity: Lecture
1 Course Unit

PUBH 526 Anthropology and Public Health
Taught by: Barg
Course not offered every year
Also Offered As: ANTH 426
Activity: Lecture
1 Course Unit
Notes: In this course, we examine three types of relationships between anthropology and public health. Anthropology and public health will examine complementary and competing concepts fundamental to each discipline and ways that these concepts make it essential and difficult for the disciplines to work together. Anthropology on public health takes a critical look at assumptions in public health praxis. Anthropology in public health will focus on ways that anthropology theory and methods inform the practice of public health. Using these three approaches, we will examine topics in public health such as mental health, health promotion/disease prevention communication, cancer disparities, reproductive health, violence and infectious disease. Students will learn and apply anthropologic research methods to these problems.
PUBH 527 Media, Advocacy and Public Health
This course will examine the ways in which the media can be used as a tool to improve health. It will also investigate the ways in which the media has had a negative impact on health behaviors in the population. Looking at specific topics like tobacco, food and nutrition, and HIV/AIDS, we will explore the intersection of media, advocacy, advertising and entertainment and the impact of media broadly on health behavior and society. The course will also provide students the opportunity to practice strategically working with the media to address health problems.
Taught by: TBA
Course not offered every year
Activity: Seminar
1 Course Unit

PUBH 528 Class, Inequality and Health: Ethnographic Perspectives
Taught by: Bourgois
Course usually offered in spring term
Also Offered As: ANTH 623
Activity: Seminar
1 Course Unit
Notes: This seminar examines anthropological approaches to the concept of class and social inequality through a close reading of a dozen ethnographies that deal with a broad definition of health, illness, and social suffering. Readings span many of the theoretical, political, sub-disciplinary and area studies debates in anthropology and the larger fields of poverty, social inequality, international development, violence studies, science studies, governmentality, and social policy interventions over the past century.

PUBH 529 Topics in Family Planning
This course will survey a range of key current and historic topics in family planning nationally and internationally. Policy, epidemiology, clinical practice, advocacy, and service delivery topics will be covered through presentations and conversations with leaders in the field of reproductive health. The course will provide students with a broad general introduction to family planning which is appropriate for those interested in either public health or clinical aspects of the field. For students who wish to pursue a focused career in this area this course is a necessary introduction, while students who will be working in related areas of public health will have a broad general understanding of family planning. Students will participate through an interactive seminar style and will prepare an oral presentation on a relevant topic of their choice.
Taught by: Bennett, Schreiber
Course usually offered in fall term
Activity: Lecture
1 Course Unit

PUBH 530 Environmental Toxicology: Risk Assessment and Health Effects
This course presents general principles of toxicology and the disposition of toxins in the body. Case studies of the effects of environmental and occupational toxins on individuals will be analyzed. This course is designed for students who desire a strong foundation in toxicological concepts and principles and provides an overview of major toxins in our environment and their association with human health.
Taught by: Liu
Course usually offered in fall term
Also Offered As: NURS 677
Activity: Lecture
1 Course Unit
Notes: Undergrads need Permission

PUBH 531 Public Health Nutrition
Activity: Lecture
1 Course Unit

PUBH 534 Guns and Health
Taught by: Sorenson
Course usually offered in fall term
Also Offered As: HSOC 471
Activity: Seminar
1 Course Unit
Notes: The purpose of this course is for students to gain an understanding of the role of guns in population health. We will approach the topic with a healthy skepticism about the assumption and ideologies that dominate formal and informal discourse about the topic. We will view guns as a consumer product (and examine the life span of the product beginning with design and manufacture) and review the health outcomes of gun use. In addition, we will address key aspects of the social context in which firearms exist and within which firearm policy is made.

PUBH 535 Urban Poverty and Violence
Taught by: Bourgois
Course not offered every year
Also Offered As: ANTH 625
Activity: Seminar
1 Course Unit
Notes: This seminar examines anthropological approaches to poverty and violence through a close reading of eight ethnographies. Readings span many of the theoretical, political, sub-disciplinary and area studies debates in anthropology and the larger fields of poverty, social inequality, international development, and violence studies over the past century. My hope is to bring the subjects of urban poverty, violence, social suffering and a critique of neoliberal governmentality into the center of the disciplines of anthropology and public health specifically, and the social sciences, humanities and medicine more broadly. In the seminar we will be bringing students from anthropology, and other social science and humanities disciplines in dialogue with students in public health, science studies, and clinical medicine.

PUBH 537 Evidence-Based Health Policy
Achieving Evidence-Based Health Policy examines how research can influence health policy. Individual sessions will be devoted to topics such as the Nurse-Family Partnership program, health insurance, smoking, and early childhood mental health. Sessions will examine how selection of research methods may influence results; the dialectical relationship between research and policy; and the role of various stakeholders (the media, foundations, government, advocates) in both research and policy debates. Didactic topical research presentations will be followed by interactive discussions examining how research finds translates (or, as the case may be, do not translate) into policy. Guest speakers will include research and policy experts from the public and private sectors. Prerequisites are Fundamentals of Health Policy (offered through the Master's of Science in Health Policy); PUBH 505 Public Health Administration and Policy; or permission of instructor. Enrollment limited to 12.
Taught by: Gerdes, Zlotnik
Course usually offered in spring term
Also Offered As: HPR 610
Prerequisites: HPR 606 and PUBH 505 or permission of instructor
Activity: Lecture
1 Course Unit
PUBH 538 Qualitative Methods in Health
The purpose of this course is to expose students to a variety of qualitative approaches/methodologies that may be used in health services/policy research. In didactics we will discuss the pros and cons of various methods, explaining how the method is actually implemented (with multiple experts presenting their approaches), and pair the presentation with a broader discussion in which we compare and contrast health-oriented articles in which the method was used.
Taught by: Barg, Shea
Course usually offered summer term only
Also Offered As: HPR 503
Activity: Lecture
1 Course Unit

PUBH 539 Designing Interventions
Also Offered As: NURS 823
Activity: Seminar
1 Course Unit

PUBH 540 Go Global
Activity: Lecture
1 Course Unit

PUBH 541 Social Epi
Activity: Lecture
1 Course Unit

PUBH 545 Contemporary Issues in Maternal Child Health
Activity: Lecture
1 Course Unit

PUBH 548 Advanced Leadership Skills in Community Health
Grounded in a social justice perspective, this course aims to provide the student with a foundational overview of the field of community health and leadership skills in public health advocacy. The course encourages critical thinking about health outcomes framed by the broad context of the political and social environment. This course analyzes the range of roles and functions carried out by leaders in healthcare advocacy for marginalized communities; integrates knowledge of health policy and the key influence of government and financing on health outcomes; explores community-based participatory research and interventions as tools for change; and discuss ways to develop respectful partnerships with community organizations. An assets-based approach that draws upon the strengths of communities and their leaders provides a foundation for community-engagement skill building. The course emphasizes the development of skills and techniques to lead effective, collaborative, health-focused interventions for disenfranchised groups, including residents of urban neighborhoods.
Taught by: Margo; Klusaritz; Lipman
Course usually offered in spring term
Also Offered As: NURS 587
Prerequisite: Enrollment in a Masters or Doctoral program
Activity: Lecture
1 Course Unit
Notes: Undergraduates with permission of the instructor

PUBH 589 Pub Health & Cog Aging
Activity: Lecture
1 Course Unit

One-term course offered either term
Corequisites: For BGS Public Health Certificate students only.
Activity: Seminar
1 Course Unit

PUBH 597 History of Public Health
Taught by: Barnes
Course usually offered in fall term
Activity: Lecture
1 Course Unit
Notes: This masters-level seminar examines the health of human populations and the science of improving it in historical perspective. Special attention is given to the city of Philadelphia as a living laboratory of public health in the past and present. Lectures, readings and discussions cover various societies’ attempts to respond to and prevent disease since antiquity. Case studies focus on the roots of contemporary public health knowledge and policy in the nineteenth and twentieth centuries. Topics include responses to epidemics, the Bacteriological Revolution, racial and economic disparities in health, the development of policy infrastructures, and global health. Periodic field trips will be arranged to public health-related historical sites in Philadelphia and vicinity.
PUBH 598 Immersion Experience in Global Public Health
Taught by: Nguyen
One-term course offered either term
Activity: Lecture
1 Course Unit
Notes: This independent educational experience seeks to provide motivated students with the opportunity to expand their knowledge in global health through focused experiential learning at international sites that provide direct public health services. Such learning will allow students to gain real-world experience concerning the core competencies of public health (health policy, behavior/social sciences, environmental health, epidemiology, or biostatistics).

PUBH 599 Independent Study in Public Health
One-term course offered either term
Activity: Independent Study
1 Course Unit

PUBH 601 Cancer Epidemiology and Prevention
Taught by: McCarthy
Course usually offered in fall term
Prerequisites: Enrollment limited to master degree or doctoral degree students only; pubh502 or permission of the instructor required.
Activity: Lecture
1 Course Unit
Notes: This course will provide an overview of current topics in cancer epidemiology and prevention. The course will survey cancer incidence and mortality trends in the U.S. and abroad. Several major cancer risk factors will be examined, such as tobacco exposure, diet and obesity, environmental exposures, viruses, and genetics, along with primary prevention strategies. In addition, the course will review important concepts in cancer screening such as sensitivity, specificity, and lead time bias. Current issues in cancer screening will be discussed, along with controversies surrounding national cancer screening guidelines. In addition, the course will explore racial/ethnic and socioeconomic disparities in cancer incidence and mortality. A main focus of the course will be how epidemiologic evidence is used to identify causes of cancer and inform cancer prevention strategies on the individual and population level.

PUBH 602 Epi Methods Dis/Prev
Activity: Lecture
1 Course Unit

PUBH 603 Adv Research Methods
Activity: Lecture
1 Course Unit

PUBH 604 Qual Rsrch in Soc Sci
Course usually offered in fall term
Also Offered As: SWRK 781
Activity: Lecture
1 Course Unit

PUBH 605 Epi Infectious Diseases
Activity: Lecture
1 Course Unit

PUBH 606 Synth & Trans of Epi Lit
Activity: Lecture
1 Course Unit

PUBH 607 Adv Local Policymaking
Activity: Lecture
1 Course Unit

PUBH 701 Industrial Hygiene
Activity: Lecture
1 Course Unit

PUBH 702 Org & Hlth Care Mgmt
Activity: Lecture
1 Course Unit

Punjabi (PUNJ)

PUNJ 404 Beginning Punjabi Part I
This course emphasizes speaking and reading skills in Punjabi. Upon completion of this course, students should be able to interact meaningfully and in a socially acceptable manner in a variety of simple situations involving everyday conversational topics. Further, students should be able to read and understand the main idea and most details of simple connected texts. This course will utilize authentic printed, audio, and video materials and will provide opportunities for natural communication both within and outside the classroom.
For BA Students: Language Course
Taught by: Gahunia
Course usually offered in fall term
Activity: Lecture
1 Course Unit

PUNJ 405 Beginning Punjabi Part II
This course emphasizes speaking and reading skills in Punjabi. Upon completion of this course, students should be able to interact meaningfully and in a socially acceptable manner in a variety of simple situations involving everyday conversational topics. Further, students should be able to read and understand the main idea and most details of simple connected texts. This course will utilize authentic printed, audio, and video materials and will provide opportunities for natural communication both within and outside the classroom.
For BA Students: Language Course
Taught by: Gahunia
Course usually offered in spring term
Prerequisites: Beginning Punjabi Part II or equivalent ascertained through placement test or permission of instructor.
Activity: Seminar
1 Course Unit

PUNJ 424 Intermediate Punjabi Part I
This course is designed as a continuation of Beginning Punjabi, but can also be taken by anyone who can demonstrate a similar level in proficiency of the language. The course objectives are to expand the mastery of sentence patterns and augment vocabulary and its usage through intensive grammar review and comprehension exercises. A special emphasis will also be placed on greater cultural awareness. Upon completion of this course students should be able to interact socially with added confidence and greater expressiveness. Students should also experience a great improvement in their comprehension of the spoken and written language.
For BA Students: Language Course
Taught by: Gahunia
Two terms. student must enter first term.
Activity: Lecture
1 Course Unit
PUNJ 425 Intermediate Punjabi Part II
This course is designed as a continuation of Beginning Punjabi, but can also be taken by anyone who can demonstrate a similar level in proficiency of the language. The course objectives are to expand the mastery of sentence patterns and augment vocabulary and its usage through intensive grammar review and comprehension exercises. A special emphasis will also be placed on greater cultural awareness. Upon completion of this course students should be able to interact socially with added confidence and greater expressiveness. Students should also experience a great improvement in their comprehension of the spoken and written language.
For BA Students: Last Language Course
Taught by: Gahunia
Course usually offered in spring term
Prerequisites: Intermediate Punjabi Part I or equivalent ascertained through placement test or permission of instructor.
Activity: Seminar
1 Course Unit

PUNJ 434 Advanced Punjabi
The objective of the course is to improve proficiency in speaking, listening, reading and writing. This course addresses the individual needs of learners. The focus of the course will be to study the interpretation of written and oral materials on social, political and contemporary cultural topics from modern literature, television, internet, magazines, newspaper, music and film. Weekly written compositions and oral presentations will be assigned. Grading will be based on this.
For BA Students: Advanced Language Course
Taught by: Gahunia
Course usually offered in fall term
Activity: Lecture
1 Course Unit
Notes: This course is offered through the Penn Language Center.

Real Estate (REAL)

REAL 204 Real Estate Law
This course examines the fundamentals of real estate finance and development from a legal and managerial perspective. The course serves as a foundation course for real estate majors and provides an introduction to real estate for other students. It attempts to develop skills in using legal concepts in a real estate transactional setting. The course will be of interest to students contemplating careers in accounting, real estate development, real estate finance, city planning, or banking. The main topics covered may include the following: land acquisition, finance; choice of entity; tax aspects; management (leasing, environmental); disposition of real property (sale of mortgaged property, foreclosures, wraparound mortgages, sale-leasebacks); and recent legal developments.
One-term course offered either term
Also Offered As: LGST 204, LGST 804, REAL 804
Activity: Lecture
1 Course Unit

REAL 206 Urban Public Policy & Private Economic Development
This course considers a range of local policies in cities and regions. Examples include: clusters and other local development initiatives, large scale regional policies, employment zones and other targeted policies. More traditional urban policies such as zoning and planning and constraints, transportation pricing, and parking policies among many others will also be considered. Practical examples will be extremely diverse and include the Silicon Valley and attempts to copy it, the Tennessee Valley Authority, housing restrictions in developing countries such as Brazil, congestion pricing in London, etc. Students will be expected to actively participate and make presentations. The course emphasizes the importance of the economic context, the understanding of the underlying rationale for policies, and how the private agents respond to public incentives. The main learning goals are the following: be able to use simple empirical tools of economic evaluations, be able to articulate a critical analysis of competing viewpoints and assessments, and be able to integrate various analytic steps into an overall assessment of economic policies that relies on sound principles and is well argued.
Taught by: Gilles Duranton
Course usually offered in spring term
Also Offered As: BEPP 206, BEPP 772, REAL 772, REAL 972
Activity: Lecture
1 Course Unit

REAL 208 Housing Markets
This course is designed for students interested in the economics and operations of housing markets. It is primarily a U.S.-focused course, but does include a limited amount of international material for comparative purposes. The class is divided into four sections: (1) supply and demand for housing, including the operations of homebuilders and rental landlords; (2) house prices, including cycles and price dynamics; (3) international comparisons; and (4) public policy analysis applied to a current housing markets-related issue. This course presumes knowledge of intermediate economics, as we will apply that knowledge throughout the semester. For Wharton students, this means you must have passed BEPP 250 (undergrads) or MGEC 611 and 612 for MBA’s. Non-Wharton students should have taken the equivalent course in the College.
Taught by: GYOURKO
Course usually offered in spring term
Also Offered As: BEPP 208, BEPP 708, REAL 708
Prerequisites: Intermediate Punjabi (PUNJ 425 or equivalent). Managerial Economics (BEPP 250) or equivalent.
Activity: Lecture
1 Course Unit
Notes: Lecture with discussion required.

REAL 209 Real Estate Investment: Analysis and Financing
This course provides an introduction to real estate with a focus on investment and financing issues. Project evaluation, financing strategies, investment decision making and real estate capital markets are covered. No prior knowledge of the industry is required, but students are expected to rapidly acquire a working knowledge of real estate markets. Classes are conducted in a standard lecture format with discussion required. The course contains cases that help students evaluate the impact of more complex financing and capital markets tools used in real estate. There are case studies and two midterms, (depending on instructor).
Taught by: Ferreira, Handbury, Harari, Keys, Sinai, Wong
One-term course offered either term
Also Offered As: FNCE 209, FNCE 721, REAL 721
Prerequisite: FNCE 100
Activity: Lecture
1 Course Unit
REAL 215 Urban Real Estate Economics
Urban Real Estate Economics uses economic concepts to analyze real estate markets, values and trends. The course focuses on market dynamics in the U.S. and internationally, with an emphasis on how urban growth and local and federal government policies impact urban development and real estate pricing. A group development project gives hands on experience, and invited guest speakers bring industry knowledge. Besides the group project and presentation, problem sets are required along with a midterm and an optional second exam.
Taught by: Wachter
One-term course offered either term
Also Offered As: REAL 724, REAL 945
Prerequisite: FNCE 100 & FNCE 101
Activity: Lecture
1 Course Unit

REAL 230 Urban Fiscal Policy
The purpose of this course is to examine the financing of governments in the urban economy. Topics to be covered include the causes and consequences of the urban fiscal crisis, the design of optimal tax and spending policies for local governments, funding of public infrastructures and the workings of the municipal bond market, privatization of government services, and public financial systems for emerging economies. Applications include analyses of recent financial crises, local services and taxes as important determinants of real estate prices, the infrastructure crises, financing and the provision of public education, and fiscal constitutions for new democracies using South Africa as an example.
Taught by: Inman
Course usually offered in fall term
Also Offered As: BEPP 230, BEPP 899, FNCE 230
Prerequisites: FNCE 101 and ECON 001
Activity: Lecture
1 Course Unit

REAL 236 International Housing Comparisons
This course analyzes housing finance systems and housing market outcomes across the globe. In the US, the course focuses on the development of securitization markets and addresses the current challenges of housing finance reform, including the future of Fannie Mae and Freddie Mac. Internationally, the course covers issues of access to housing and housing informality in developing countries, financial crises arising out of the housing sector, and market-oriented and public policy solutions. The course features a wide array of speakers in finance, government and academia who contribute their perspectives to pressing issues of mortgage market design.
Taught by: Wachter
Course usually offered in spring term
Also Offered As: BEPP 236, BEPP 836, REAL 836
Prerequisites: FNCE 101 MONETARY ECON & GLOBAL ECO, ECON 010 INTRO TO ECON FOR BUS
Activity: Lecture
1 Course Unit

REAL 240 Advanced Real Estate Investment and Analysis
This course is designed for majors in Real Estate, but is also open to finance-oriented students who wish a deeper analysis of real estate investment and investment analysis issues than that offered in REAL 209. The class will contain a mixture of lectures, guest speakers and case discussions. Academic research is paired with recent industry analysis of key issues in order to marry sound theory and empirical results with current events and practices. Several classes will include lectures outlining what economics and finance tell us about a number of topics. Generally, these will be followed by guest lectures from industry professionals who will focus on a specific application of the principles introduced in the lectures.
Taught by: Sinai
Course usually offered in spring term
Also Offered As: REAL 840
Prerequisite: REAL 209 or FNCE 209
Activity: Lecture
1 Course Unit

REAL 321 Real Estate Development, (see REAL 821)
One-term course offered either term
Also Offered As: ARCH 768, REAL 821
Activity: Lecture
1 Course Unit

REAL 390 International Real Estate Comparisons
As a truly non-U.S. focused course, we explore the world of cross-border real estate development, with a focus on fast growing emerging market economies. Topics will emphasize the importance of strategy and implementation in cross-border real estate investment and include: the rationale, opportunities and risks of international real estate investing; the macro factors that influence the performance of real estate markets across countries; market specific factors that impact RE investment performance (property rights, taxes, transparency, planning procedures); the qualitative aspects of identifying and achieving successful projects; and the growing market for international RE securities and strategies for portfolio management. Classes will combine a lecture on specific aspects of global cross-border RE in the first half of the class and international case presentations in the second half. Cases will be presented by leading executives in charge of major international RE projects or funds. Cases have been selected to cover different types of RE development-residential, office, retail, hospitality and logistics- important emerging market countries/continents (East/South Asia, Latin America, Sub-Saharan Africa, the Middle East) and different development and investment strategies.
Course usually offered in fall term
Also Offered As: REAL 890
Prerequisite: REAL 890 or FNCE 209
Activity: Seminar
0.5 Course Units
Notes: This class is offered in the second half of the semester.
REAL 396 Real Estate Entrepreneur
What makes a successful entrepreneur in the real estate industry? This half semester mini-course exposes undergraduates and MBA students to the broad entrepreneurial aspects of creating and executing real estate investments. The course consists of lectures by the professor, case discussions and guest lectures by leading entrepreneurs. Lectures and discussions will emphasize real estate entrepreneurship, leadership and challenges often encountered in creating successful real estate investments rather than development processes. Cases will be used to illustrate investment decision making and financial evaluations. Short written responses to questions raised in each case will be assigned. Class members are expected to engage the speakers with questions and discussion as well as explain their views on cases. Class participation and writings will each represent 50% of the grade.
One-term course offered either term
Also Offered As: REAL 891
Activity: Lecture
0.5 Course Units
Notes: Offered in the first half of the semester.

REAL 399 Student Research Seminar/Independent Study
All independent studies must be arranged and approved by a Real Estate department faculty member with the exception of the Annual Student Research Competition. Annual Student Research Seminar: This class meets in the Spring semester to analyze how to conduct research in the real estate market - where to find data; how to critique research; how to frame research questions; how to write a business research report; how to present a business research report. Topics are provided each year. For more information regarding the Annual Student Research Competition see the Real Estate Department’s website: http://real-estate.wharton.upenn.edu/.
One-term course offered either term
Activity: Independent Study
1 Course Unit

REAL 708 Housing Markets
This course is designed for students interested in the economics and operations of housing markets. It is primarily a U.S. focused course, but does include a limited amount of international material for comparative purposes. The class is divided into four sections: (1) supply and demand for housing, including the operations of homebuilders and rental landlords; (2) house prices, including cycles and price dynamics; (3) international comparisons; and (4) public policy and analysis applied to a current housing markets-related issue. This course presumes knowledge of intermediate economics, as we will apply that knowledge throughout the semester. For Wharton students, this means you must have passed BEPP 250 (undergrads) or MGEC 611 and 612 for MBA’s. Non-Wharton students should have taken the equivalent course in the College.
Taught by: GYOURKO
Course usually offered in spring term
Also Offered As: BEPP 208, BEPP 708, REAL 208
Prerequisites: Microeconomics for Managers (MGEC 611) and Microeconomics for Managers (Advanced) (MGEC 612) or equivalent.
Activity: Lecture
1 Course Unit
Notes: Lecture with discussion required.

REAL 721 Real Estate Investment: Analysis and Financing
This course provides an introduction to real estate with a focus on investment and financing issues. Project evaluation, financing strategies, investment decision making and capital markets are covered. No prior knowledge of the industry is required, but students are expected to rapidly acquire a working knowledge of real estate markets. Classes are conducted in a standard lecture format with discussion required. The course contains cases that help students evaluate the impact of more complex financing and capital markets tools used in real estate. There are case studies and two mid-terms, (depending on instructor). Cross-listed with FNCE 721.
Taught by: Ferreira, Handbury, Harari, Keys, Sinai, Wong
One-term course offered either term
Also Offered As: FNCE 209, FNCE 721, REAL 209, REAL 944
Prerequisite: FNCE 611 or FNCE 612
Activity: Lecture
1 Course Unit
Notes: Lecture with discussion required.

REAL 723 INTRODUCTION TO REAL ESTATE
The goal of this class is to help students become informed consumers of real estate advice. The class material breaks down into four major sections: 1) The financial risk and return of property level real estate investments. Be able to interpret, understand and evaluate a real estate property investment pro forma. 2) The legal landscape for investing in real estate and using legal structures to manage risk. 3) The economics of commercial real estate markets. Understanding the forces that will determine the value and income-producing potential of a real estate investment. 4) Important real estate issues of the day.
Taught by: Sinai
One-term course offered either term
Activity: Lecture
0.5 Course Units
Notes: WEMBA COURSE

REAL 724 Urban Real Estate Economics
Urban Real Estate Economics uses economic concepts to analyze real estate markets, values, and trends. The course focuses on market dynamics in the U.S. and internationally, with an emphasis on how urban growth and local and federal government policies impact urban development and real estate pricing. A group development project gives hands on experience, and invited guest speakers bring industry knowledge. Besides the group project and presentation, problem sets are required along with a midterm and optional second exam.
Taught by: Wachter
One-term course offered either term
Also Offered As: REAL 215, REAL 945
Prerequisites: MGEC 621, Managerial Economics
Activity: Lecture
1 Course Unit
Notes: Lecture.
REAL 730 Urban Fiscal Policy
The purpose of this course is to examine the financing of governments in the urban economy. Topics to be covered include the causes and consequences of the urban fiscal crisis, the design of optimal tax and spending policies for local governments, funding of public infrastructures and the workings of the municipal bond market, privatization of government services, and public financial systems for emerging economies. Applications include analyses of recent fiscal crises, local services and taxes as important determinants of real estate prices, the infrastructure crises, financing and the provision of public education, and fiscal constitutions for new democracies using South Africa as an example.
Taught by: Inman
Course usually offered in fall term
Also Offered As: BEPP 773, FNCE 730
Prerequisites: MGEC 621, FNCE 611
Activity: Lecture
1 Course Unit
Notes: Lecture, discussion.

REAL 772 Urban Public Policy & Private Economic Development
This course considers a range of local policies in cities and regions. Examples include: clusters and other local development initiatives, large scale regional policies, employment zones and other targeted policies. More traditional urban policies such as zoning and planning and constraints, transportation pricing, and parking policies among many others will also be considered. Practical examples will be extremely diverse and include the Silicon Valley and attempts to copy it, the Tennessee Valley Authority, housing restrictions in developing countries such as Brazil, congestion pricing in London, etc. Students will be expected to actively participate and make presentations. The course emphasizes the importance of the economic context, the understanding of the underlying rationale for policies, and how the private agents respond to public incentives. The main learning goals are the following: be able to use simple empirical tools of economic evaluations, be able to articulate a critical analysis of competing viewpoints and assessments, and be able to integrate various analytic steps into an overall assessment of economic policies that relies on sound principles and is well argued.
Taught by: Gilles Duranton
Course usually offered in spring term
Also Offered As: BEPP 206, BEPP 772, REAL 206, REAL 972
Prerequisites: Microeconomics, basic familiarity with Statistics
Activity: Lecture
1 Course Unit
Notes: Although some of the material is presented by lecture, the instructor expects considerable class participation.

REAL 804 Real Estate Law
This course examines the fundamentals of real estate finance and development from a legal perspective. The course serves as a foundation course for real estate majors and provides an introduction to real estate for other students. It attempts to develop skills in using legal concepts in a real estate transactional setting. The course will be of interest to students contemplating careers in accounting, real estate development, real estate finance, city planning, or banking. The main topics covered may include the following: land acquisition, finance; choice of entity; tax aspects; management (leasing, environmental); disposition of real property (sale of mortgaged property, foreclosures, wraparound mortgages, sale-leasebacks); and recent legal developments. Format: Although some of the material is presented by lecture, the instructor expects considerable class participation. Cross-listed with LGST 804.
One-term course offered either term
Also Offered As: LGST 204, LGST 804, REAL 204
Activity: Lecture
1 Course Unit
Notes: Although some of the material is presented by lecture, the instructor expects considerable class participation.

REAL 821 Real Estate Development
This course evaluates “ground-up” development as well as re-hab, re-development, and acquisition investments. We examine raw and developed land and the similarities and differences of traditional real estate product types including office, R & D, retail, warehouses, single family and multi-family residential, mixed use, and land as well as “specialty” uses like golf courses, assisted living, and fractional share ownership. Emphasis is on concise analysis and decision making. We discuss the development process with topics including market analysis, site acquisition, due diligence, zoning, entitlements, approvals, site planning, building design, construction, financing, leasing, and ongoing management and disposition. Special topics like workouts and running a development company are also discussed. Course lessons apply to all markets but the class discusses U.S. markets only. Throughout the course, we focus on risk management and leadership issues. Numerous guest lecturers who are leaders in the real estate industry participate in the learning process. Format: predominately case analysis and discussion, some lectures, project visits.
One-term course offered either term
Also Offered As: ARCH 768, REAL 321
Prerequisites: REAL 721 OR FNCE 721. The prerequisite is STRICTLY enforced for this class unless it is undersubscribed.
Activity: Lecture
1 Course Unit
Notes: Predominately case analysis, discussion, some lectures, and project visits.
REAL 836 International Housing Comparisons
This course analyzes housing finance systems and housing market outcomes across the globe. In the US, the course focuses on development of securitization markets and addresses current challenges of housing finance reform, including the future of Fannie Mae and Freddie Mac. Internationally, the course covers issues of access to housing and housing informality in developing countries, financial crises arising out of the housing sector, and potential market-oriented and public policy solutions. The course features a wide array of speakers in finance, government and academia who contribute their perspectives to pressing issues of mortgage market design.
Taught by: Wachter
Course usually offered in spring term
Also Offered As: BEPP 236, BEPP 836, REAL 236
Prerequisites: FNCE 613 Macroeconomics and the Global Economic Environment
Activity: Lecture
1 Course Unit

REAL 840 Advanced Real Estate Investment and Analysis
This course, is designed for majors in Real Estate, but is also open to finance-oriented students who wish a deeper analysis of real estate investment and investment analysis issues than that offered in REAL/FNCE 721. The class will contain a mixture of lectures, guest speakers and case discussions. Academic research is paired with recent industry analysis of key issues in order to marry sound theory and empirical results with current events and practices. Several classes will include lectures outlining what economics and finance tell us about a number of topics. Generally, these will be followed by guest lectures from industry professionals who will focus on a specific application of the principles introduced in the lectures. Format: Lecture, industry speakers.
Taught by: Sinai
Course usually offered in spring term
Also Offered As: REAL 240
Prerequisite: REAL 721 OR FNCE 721
Activity: Lecture
1 Course Unit

REAL 890 International Real Estate Comparisons
As a truly non-U.S. focused course, we explore the world of cross-border real estate development, with a focus on fast growing emerging market economies. Topics will emphasize the importance of strategy and implementation in cross-border real estate investment and include: the rationale, opportunities and risks of international real estate investing; the macro factors that influence the performance of real estate markets across countries; market specific factors that impact RE investment performance (property rights, taxes, transparency, planning procedures); the qualitative aspects of identifying and achieving successful projects; and the growing market for international RE securities and strategies for portfolio management. Classes will combine a lecture on specific aspects of global cross-border RE in the first half of the class and international case presentations in the second half. Cases will be presented by leading executives in charge of major international RE projects or funds. Cases have been selected to cover different types of RE development-residential, office, retail, hospitality and logistics- important emerging market countries/continents (East/South Asia, Latin America, Sub-Saharan Africa, the Middle East) and different development and investment strategies.
Course usually offered in fall term
Also Offered As: REAL 390
Prerequisites: REAL 721 OR FNCE 721 or comparable knowledge/work experience.
Activity: Seminar
0.5 Course Units
Notes: This class is offered in the second half of the semester.

REAL 891 Real Estate Entrepreneurship
What makes a successful entrepreneur in the real estate industry? This half semester mini-course exposes undergraduates and MBA students to the broad entrepreneurial aspects of creating and executing real estate investments. The course consists of lectures by the professor, case discussions and guest lectures by leading entrepreneurs. Lectures and discussions will emphasize real estate entrepreneurship, leadership and challenges often encountered in creating successful real estate investments rather than development processes. Cases will be used to illustrate investment decision-making and financial evaluations. Short written responses to questions raised in each case will be assigned. Class members are expected to engage the speakers with questions and discussion as well as explain their views on cases. Class participation and writings will each represent 50% of the grade.
Course usually offered in fall term
Also Offered As: REAL 396
Activity: Lecture
0.5 Course Units
Notes: Offered in the first half of the semester.

REAL 899 Independent Study
All independent studies must be arranged and approved by a Real Estate Department faculty member with the exception of the Annual Student Research Competition. Annual Student Research Seminar: This class meets in the Spring semester to analyze how to conduct research in the real estate market, where to find data; how to critique research; how to frame research questions; how to write a business research report; how to present a business research report. Topics are provided each year. For further information regarding the Annual Student Research Competition see the Real Estate department's website: http://real-estate.wharton.upenn.edu/
One-term course offered either term
Activity: Independent Study
1 Course Unit
REAL 900 Real Estate Proseminar
Real estate is a rapidly changing and evolving field. Traditional course offerings are not always able to incorporate the most recent advances in the many areas that make up the field of real estate. In this course, the participants - both faculty and students - research and present current topics and recent advances in real estate. The content will vary depending on the participants’ interests and areas of expertise, but will typically cover urban economics, spatial issues, the economics of housing and commercial real estate markets, and real estate finance and investment. This course is intended to expand students’ awareness of current topics in real estate and to prepare them to conduct their own academic quality research. The proseminar is organized as a series of lectures by faculty and students on topics of their own choosing. These lectures may involve well-known areas of knowledge, research, and methodology, as well as subjects currently under study. The main course requirements are preparing and presenting a series of lectures on a real estate topic (subject to the organizing faculty member’s approval) and writing a research proposal that describes a workable project building upon or extending one of the topics covered in the course.
One-term course offered either term
Activity: Seminar
1 Course Unit

REAL 944 Real Estate Investment: Analysis and Financing
This course provides an introduction to real estate with a focus on investment and financing issues. Project evaluation, financing strategies, investment decision making and real estate capital markets are covered. No prior knowledge of the industry is required, but students are expected to rapidly acquire a working knowledge of real estate markets. Classes are conducted in a standard lecture format with discussion required. The course contains cases that help students evaluate the impact of more complex financing and capital markets tools used in real estate. There are case studies and two mid-terms, (depending on instructor). All PhD students will be expected to complete a research paper in addition to the successful completion of the course examination requirements.
Taught by: Ferreira, Handbury, Harari, Keys, Sinai, Wong
One-term course offered either term
Also Offered As: FNCE 721, REAL 721
Prerequisite: FNCE 611 or FNCE 612
Activity: Lecture
1 Course Unit

REAL 945 Urban Real Estate Economics
Urban Real Estate Economics uses economic concepts to analyze real estate markets, values, and trends. The course focuses on market dynamics in the U.S. and internationally, with an emphasis on how urban growth and local and federal government policies impact urban development and real estate pricing. A group development project gives hands on experience, and invited guest speakers bring industry knowledge. Besides the group project and presentation, problem sets are required along with a midterm and optional second exam. All PhD students will be expected to complete a research paper in addition to the successful completion of the course examination requirements.
Taught by: WACHTER
One-term course offered either term
Also Offered As: REAL 215, REAL 724
Prerequisite: MGEC 601
Activity: Lecture
1 Course Unit

REAL 946 Advanced Topics in Urban Economics
This course addresses advanced topics in urban and real estate economics. The course will mix theory and empirics and will cover a broad range of topics including the modeling and estimation of agglomeration economies, land use and urban costs, transportation in cities, urban growth, migration between cities etc. The classes will mix formal presentations made by the instructor and student-led discussions of recent academic papers. In addition to presentations, students will be expected to complete a series of assignments including a short original research paper.
Taught by: FERREIRA,DURANTON
One-term course offered either term
Prerequisites: The course assumes that students have familiarity with standard first year econometrics and microeconomics.
Activity: Lecture
1 Course Unit
Notes: All PhD students will be expected to complete a research paper in addition to the successful completion of the course examination requirements.

REAL 947 Advanced Real Estate and Urban Economics
This course covers fundamental and cutting-edge topics in urban economics and real estate as well as the most important econometric issues that arise in the estimation of urban economics and real estate models. The first part of the course focuses on the application of modern econometric methods to analyze empirical questions in the broad urban economics field, which includes topics from public economics and local finances, such as household sorting and valuation of public goods. This part of the course is especially concerned about dealing with non-experimental data, and also provides a guide for tools that are useful for applied research. The second and third parts of the course examine the economic modeling and intuition of a range of topics in urban economics and real estate, such as spacial equilibrium, supply and demand of space, housing prices and cycles. In addition, special emphasis is given to how the understanding of economic theory and institutions can help any empirical analysis. At the end of the course students should have a firm grasp of theory and econometric tools that lead to convincing empirical applications. All Ph.D. students will be expected to complete a research paper in addition to the successful completion of the course examination requirements.
Taught by: Ferreira
One-term course offered either term
Activity: Lecture
1 Course Unit

REAL 962 Applied Economics Seminar
The goal of this course is to help doctoral students develop critical thinking skills through both seminar participation and writing of referee reports. To this end students will attend the Wharton Applied Economics each Wednesday at noon seminar when it meets; prepare two written referee reports on WAE papers per semester, due before the seminar is presented. After attending the seminar and the ensuing discussion of the paper, students will prepare follow-up evaluations of their referee report reports, due one week after the seminar.
Taught by: Fernando Ferreira
Two terms. student may enter either term.
Also Offered As: BEPP 962
Prerequisites: None.
Activity: Seminar
0.5 Course Units
REAL 972 Urban Public Policy & Private Economic Development
This course considers a range of local policies in cities and regions. Examples include: clusters and other local development initiatives, large scale regional policies, employment zones and other targeted policies. More traditional urban policies such as zoning and planning and constraints, transportation pricing, and parking policies among many others will also be considered. Practical examples will be extremely diverse and include the Silicon Valley and attempts to copy it, the Tennessee Valley Authority, housing restrictions in developing countries such as Brazil, congestion pricing in London, etc. Students will be expected to actively participate and make presentations. The course emphasizes the importance of the economic context, the understanding of the underlying rationale for policies, and how the private agents respond to public incentives. The main learning goals are the following: be able to use simple empirical tools of economic evaluations, be able to articulate a critical analysis of competing viewpoints and assessments, and be able to integrate various analytic steps into an overall assessment of economic policies that relies on sound principles and is well argued.
Taught by: Inman
Course usually offered in fall term
Also Offered As: BEPP 206, BEPP 772, REAL 206, REAL 772
Prerequisites: Microeconomics, basic familiarity with Statistics.

Activity: Lecture
1 Course Unit

REAL 973 Urban Fiscal Policy
The purpose of this course is to examine the financing of governments in the urban economy. Topics to be covered include the causes and consequences of the urban fiscal crisis, the design of optimal tax and spending policies for local governments, funding of public infrastructures and the workings of the municipal bond market, privatization of government services, and public financial systems for emerging economies. Applications include analyses of recent fiscal crises, local services and taxes as important determinants of real estate prices, the infrastructure crisis, financing and the provision of public education, and fiscal constitutions for new democracies using South Africa as an example. All PhD students will be expected to complete a research paper in addition to the successful completion of the course examination requirements.
Taught by: Inman
Course usually offered in fall term
Prerequisite: MGEC 621
Activity: Lecture
1 Course Unit

REAL 990 Masters Thesis
One-term course offered either term
Activity: Lecture
1 Course Unit

REAL 999 Independent Study
One-term course offered either term
Activity: Independent Study
1 Course Unit

Regulation (REG)

REG 510 Introduction to Clinical and Translational Research
This introductory course lays the foundation for understanding practical aspects of conducting clinical research in an academic environment. The course is divided into two modules: Module 1: Research Methods & Protocol Development and Module 2: Regulatory Environment for Clinical Trials. The first module introduces clinical research, clinical protocols, study designs and biostatistics that underlie such studies. The second module covers ethical considerations in clinical research, study execution and oversight, and the regulatory environment for clinical research. Upon completion, students should have a strong foundation in the fundamentals of clinical research and should be able to apply contemporary research tools to clinically relevant areas of investigation.
Taught by: Emma Meagher, MD
Course usually offered in fall term
Also Offered As: MTR 510
Activity: Lecture
1 Course Unit
Notes: This course requires permission to register. Please contact Anna Greene (acgreene@upenn.edu) to register.

REG 610 Fundamentals of FDA Regulation
This introductory course provides an overview of Regulatory Affairs in relation to three key areas of development: Drugs, Biologics, and Medical Devices. The course will look at the rules governing prescription and over-the-counter drugs as well as the changes introduced by the influence of genetic engineering and biological product development. Throughout the course, practical issues facing regulatory specialists as they work with the FDA and other international regulatory bodies to secure and keep product approval will be addressed.
Taught by: Monica Ferrante
Course usually offered summer term only
Prerequisites: Permission needed to register. Contact Anna Greene (acgreene@upenn.edu) to register.
Activity: Lecture
1 Course Unit

REG 611 Clinical Study Management
This course will focus on the practical aspects of conducting clinical research in an academic environment. Upon course completion students will be able to apply scientific principles of research to the implementation and management of both investigator-initiated and industry-sponsored clinical research studies. Students will be guided through the operational aspects and regulatory processes for the three stages of study management: pre study start-up, ongoing study management and study close out. Students will learn strategies for navigating the complex regulatory/operational clinical research environment and for successful protocol development and approval, subject recruitment, data management and IRB clinical practices guiding research in humans is a critical concept that will be integrated throughout each of the lectures.
Taught by: Emma A. Meagher, MD
Activity: Lecture
1 Course Unit
REG 612 Introduction to Drug Development
This introductory course lays the foundation for conducting pharmaceutical research in many ways. It begins with a brief review of the history of drug development and explains the phases of drug development in detail. The decision making process, drug development milestones and compound progression metrics are defined and explained with examples. At the conclusion of this course, students should have a working knowledge of the drug development process, understand the regulatory basis by which new chemical entities are evaluated and ultimately approved, and appreciate the time and expense of drug development.
Taught by: Jeffrey S. Barrett, PhD, FCP
Course usually offered in spring term
Prerequisites: Undergraduates and graduate students from other departments are welcome. Please contact acgreene@upenn.edu to request permission to register.
Activity: Lecture
1 Course Unit

REG 613 Drug Development Decision Criteria
This course reviews the critical junctures over which innovative and generic drugs are evaluated and the decision criteria used to judge performance and plan next steps. The nature of the collective data under review, the decision paths and the decision makers themselves often change depending on the stage of development. This course covers decision criteria from drug discovery through post marketing and even entertains decision points for generic drugs (pharmaceutical-and bio- equivalence). Metrics for evaluation, company and regulatory expectations and the tools used to facilitate decision (e.g., modeling and simulation techniques to generate what-if scenarios) making are all discussed in detail. A key feature of the course is 7 labs which involve instructor-led decision analysis role playing. The class will be divided into small teams that review data generated at different stages to examine the thought processes and decision criteria evaluable at different stages of drug development. Labs are constructed from actual case study examples and team performance will be evaluated at the conclusion of the lab session.
Taught by: Jeffrey S. Barrett, PhD, FCP
Course usually offered in fall term
Activity: Lecture
1 Course Unit

REG 621 Cell and Gene Therapy
This course will provide students with a general overview of translational research in the area of gene and cell therapy. This includes technical considerations, translating preclinical investigation into therapeutics, the execution of gene and cell therapies clinical trials, and key regulatory issues. Entrepreneurial considerations will be discussed as well. By the end of this course, students will understand the basic technologies employed for gene and cell therapy along with approaches and pitfalls to translating these therapies into clinical applications including regulatory and commercial aspects of this emerging area.
Taught by: Michael C. Milone, MD, PhD
Course usually offered in spring term
Also Offered As: CAMB 707, MTR 621
Prerequisites: At least one course in immunology.
Activity: Lecture
1 Course Unit

REG 622 New Trends in Medicine and Vaccine Discovery
Modern drug discovery has evolved to include human genetic diagnosis and various biological approaches which has enabled progress in a variety of fields, including rare diseases, immuno-oncology, precision medicine, and biomarkers. The goal of this course is for students to understand newer treatment modalities and approaches beyond one size fits all small molecule drugs, as well as the technologies that empower them. Students will learn regulatory processes that govern medicine discovery and development and also consider business and societal aspects of medical progress. Students will be able to apply concepts directly to work in the healthcare industry. Students will be taught by experts in the field internal and external to Penn.
Taught by: Claudine Bruck, PhD
Course usually offered in fall term
Activity: Lecture
1 Course Unit

Religious Studies (RELS)

RELS 001 Religions of Asia
Summer 2012 Description: This course is an introduction to the religious traditions of Southern and Eastern Asia. It surveys the beliefs, rituals, and thought of major traditions-Hinduism, Buddhism, Confucianism, Taoism, and less well known traditions-Jainism, Zoroastrianism, Sikhism, Shintoism. The focus of the course will be on the lived experience of each tradition, looking at the worldviews, motives and aspirations of religious figures. Further, we will trace historical developments by examining moments of sharing and contestation of religious, political, and social ideas between traditions in order to question their boundaries and integrity. Special emphasis is placed on the role of the visual in each religious culture. As religions often do not draw the same boundaries between the sacred and profane as western traditions do, we will also interrogate the ways we approach the study of religion and problematize the very study of "Asian Religions" and "World Religions" in general. This course seeks to foster effective skills and to promote critical and independent inquiry into the ways the sacred has been and continues to be made, and how the vicissitudes of life are made meaningful in Asia.
For BA Students: History and Tradition Sector
Taught by: Vose
One-term course offered either term
Also Offered As: EALC 004
Activity: Lecture
1 Course Unit

RELS 002 Religions of the West
This course surveys some of the core beliefs and practices within Judaism, Christianity, and Islam. To do so, we will focus on history and memory, exploring how key figures and formative events from the past have been made present, from generation to generation, through scripture, ritual, liturgy, and remembrance. Special attention will be given to points of interaction between Jews, Christians, and Muslims, as well as to the impact of their intertwined histories on the formation and development of Western cultures. Fulfills History & Tradition Sector.
For BA Students: History and Tradition Sector
Taught by: Reed
One-term course offered either term
Also Offered As: JWST 122
Activity: Lecture
1 Course Unit
RELS 003 Religion and Literature
A consideration of how great works of literature from different cultural traditions have reclaimed and reinterpreted compelling religious themes. The focus this semester will be on themes of creation, especially the creation of human beings, from ancient myths of different cultures to modern science fiction. This course fulfills the General Requirement in Sector 3, Arts and Letters.
For BA Students: Arts and Letters Sector
Taught by: Matter
One-term course offered either term
Also Offered As: COML 242
Activity: Lecture
1 Course Unit
Notes: Theme of the course will change from term to term. See syllabus for more info.

RELS 004 Art and Religion
What is religious art and what makes art religious? This course will survey a wide variety of artistic expressions from a number of religious traditions which draw on spiritual themes, are inspired by religious experiences or texts, and which serve an important role in religious practice and belief. Some of the themes which this course will explore are: visualization and action within the cosmos, passion and religious ecstasy, the material culture of personal devotion, icons and iconoclasm, depictions of the miraculous, and the relationship between word and image. Objects and images from Christianity, Islam, Judaism, and Buddhism and will be explored along with examples from other traditions.
Taught by: Muravchick
One-term course offered either term
Activity: Lecture
1 Course Unit

RELS 005 Women and Religion
This course looks at the contrast between the model of the virtuous woman, and the instructive power of the uncontrollable woman, from 1800 to present in Hinduism, Christianity, and Islam. Drawing examples from a variety of historical contexts and traditions, this course will touch on issues of religious empowerment, piety, leadership, and theoretical questions involving gender, spirituality, the body and the intersection of class status and religious performance.
For BA Students: Humanities and Social Science S
Taught by: Robb
One-term course offered either term
Also Offered As: GSWS 109
Activity: Lecture
1 Course Unit

RELS 007 Introduction to Africana Studies
The aim of this course is to provide an interdisciplinary examination of the complex array of African American and other African Diaspora social practices and experiences. This class will focus on both classic texts and modern works that provide an introduction to the dynamics of African American and African Diaspora thought and practice. Topics include: What is Afro-American Studies?; The History Before 1492; Creating the African Diaspora After 1500; The Challenge of Freedom; Race, Gender and Class in the 20th Century; From Black Studies to Africana Studies: The Future of Afro-American Studies.
For BA Students: Humanities and Social Science S
One-term course offered either term
Also Offered As: AFRC 001
Activity: Lecture
1 Course Unit

RELS 010 Religion in Public Life
This seminar is an introduction to several aspects of the hotly debated relation between religion and public life in America. In the first half of the course we will study two books by law professors, one Jewish and the other Christian. Their debate will introduce us to the legal and historical background, and to the continuing challenges of church-state separation in America. The second half of the course will examine the claim that we now live in a "new religious America," one in which the increasing presence of Hindus, Buddhists and Muslims has created a new pluralism and a new set of challenges. We will then consider the argument of one historian that diversity and difference have characterized religious groups in America since at least the 19th century, and that this has resulted in a number of paradoxical social situations. Finally, we will close with a brief look at the claim that there exists in America a "civil religion," one that unites all citizens despite their other religious differences.
One-term course offered either term
Activity: Seminar
1 Course Unit

RELS 012 Introduction to Religion
This course is an introduction to the study of religion as an academic discipline. We will consider issues such as the role of religion in human societies, how religion addresses perennial questions of life and death, and how religious traditions change, evolve, and influence one another. Although this is NOT a primarily an introduction to different religious traditions in sense of a "world religions" survey course, students will become acquainted with major teachings of several faith traditions.
Our focus, though, will be the big questions: Does religious do more good than harm or is it the other way around? Has the modern emergence of a more secular worldview been an improvement or a diminishment? Can we know or experience who or what "ultimaterality" is, or is "it" really beyond us? How can we explain the relationship religion, peace, and violence? Is suffering and meaninglessness so pervasive that no traditional concept of a loving and powerful God can be affirmed credibly? How has anything changed as we've moved from ancient to modern times in terms of our own worldviews, so that the the ways people used to think about God must be radically revised if not abandoned entirely? or are there ways for modern women and men to become or remain religious without ceasing to be modern? The goals of this freshman seminar include: 1. an enhanced working knowledge of some significant elements of religion, especially symbol, doctrine, experience, and systems of cosmic, social and order, as they are manifested in several religious traditions. 2. an enhanced capacity to make critical comparisons among religious traditions across time. 3. a greater capacity to analyze and reflect on the meaning of religious beliefs and practices. 4. a greater capacity to read and critically interpret religious and scholarly texts. 5. development of your written and verbal communication skills.
Taught by: Matter
One-term course offered either term
Activity: Seminar
1 Course Unit
RELS 013 Gods, Ghosts, and Monsters
This course seeks to be a broad introduction. It introduces students to the diversity of doctrines held and practices performed, and art produced about "the fantastic" from earliest times to the present. The fantastic (the uncanny or supernatural) is a fundamental category in the scholarly study of religion, art, anthropology, and literature. This course will focus on both theoretical approaches to studying supernatural beings from a Religious Studies perspective while drawing examples from Buddhist, Shinto, Christian, Hindu, Jain, Zoroastrian, Egyptian, Central Asian, Native American, and Afro-Caribbean sources from earliest examples to the present including mural, image, manuscript, film, codex, and even comic books. It will also introduce students to related humanistic categories of study: material and visual culture, theology, cosmology, shamanism, transcendentalism, soteriology, eschatology, phantasmagoria, spiritualism, mysticism, theophany, and the historical power of rumor. It will serve as a gateway course into the study of Religion among numerous Asian, and East Asian Studies, as well as Visual Culture and Film Studies. It will include guest lectures from professors from several departments, as well as an extensive hands-on use of the collections of the Penn Museum of Archaeology and Anthropology and the manuscripts held in the Schoenberg Collection of Van Pelt Library. It aims to not only introduce students to major approaches, and terms in the study of religion and the supernatural, but inspire them to take more advanced courses by Ilya Vinitsky, Liliane Weissberg, Projit Mukharji, Talya Fishman, Annette Reed, David Barnes, David Spafford, Frank Chance, Michael Meister, Paul Goldin, Renata Holod, and several others.
For BA Students: Humanities and Social Science S
Taught by: McDaniel
Course usually offered in fall term
Also Offered As: EALC 022
Activity: Seminar
1 Course Unit

RELS 015 The Bible as Literature
Successive generations have found the Bible to be a text which requires--even demands--extensive interpretation. This course explores the Bible as literature, considering such matters as the artistic arrangement and stylistic qualities of individual episodes as well as the larger thematic patterns of both the Old and New Testaments and the Apocrypha. A good part of the course is spent looking at the place of the Bible in cultural and literary history and the influence of such biblical figures as Adam and Eve, David, and Susanna on writers of poetry, drama, and fiction in the English and American literary traditions.
Taught by: Hall
Course not offered every year
Also Offered As: ENGL 033
Activity: Lecture
1 Course Unit

RELS 021 Religion in the African Diaspora
This introductory course examines the practices, beliefs, and deities within African-based religions in the United States and the Caribbean. While television shows such as American Horror Story presented African gods and their worshippers in pejorative ways, this course seeks to dispel these caricatures. The course will include Cuban Lukumi (Santeria), Brazilian Candomblé, Haitian Vodou, and other traditional African Religions in African Diaspora. Special attention will be paid to gender, ritual, and performance, and the growth of these religions in the United States in immigrant communities and the African American community. Film clips and YouTube videos will accompany our readings and fuel our discussion. Course requirements will include regular participation, readings, short response papers, quizzes, and a final research paper.
Taught by: Battle
Activity: Seminar
1 Course Unit

RELS 024 Archaeology and the Bible
The Hebrew Bible (Tanak) and archaeological research provide distinct, and at times conflicting, accounts of the origins and development of ancient Israel and its neighbors. Religion, culture and politics ensures that such accounts of the past have significant implications for the world we live in today. In this course we will discuss the latest archaeological research from Israel, the Palestinian Territories and Jordan as it relates to the Bible, moving from Creation to the Babylonian Exile. Students will critically engage the best of both biblical and archaeological scholarship. Open discussions of the religious, social and political implications of the material covered will be an important aspect of the course.
Taught by: Zettler
Course not offered every year
Also Offered As: ANTH 124, JWST 124, NELC 155
Activity: Lecture
1 Course Unit
REL 027 Great Books of Judaism
The Babylonian Talmud (Bavli), a product reflecting the collaborative effort of generations of sages, is the foundational legal and ethical document of rabbinic Judaism. Both the methods of interpreting this text—and their theoretical frameworks—have varied dramatically, evolving creatively throughout the generations. In the past century, theories of how to read the Talmud and hypotheses about its formation and redaction have opened up new avenues for understanding what the text says and, more importantly, how it works. Through in-depth examination of demonstrative legal passages, this course will contrast the insights generated by the major critical schools of the past century and with the interpretations of selected medieval scholars, the Rishonim. English translations will be provided alongside the original texts. Previous study of the Talmud is helpful.
For BA Students: Arts and Letters Sector
Taught by: Carasik
Course usually offered in fall term
Also Offered As: COML 057, JWST 151, NELC 156
Activity: Seminar
1 Course Unit

REL 028 Religion in America
Activity: Lecture
1 Course Unit

REL 030 Gurus, Prophets & Aliens: Understanding New Religious Movements
This course offers a thematic introduction to the history of New Religious Movements (NRM) from the mid-19th century to the present day. Often labeled as "cults" by the state and established religious institutions, new religions offer modern believers alternative spiritual and ideological solutions to age-old problems. In this class, students will be introduced to the teachings and practices of prominent NRMs in North America, Europe, Asia, and Australia, from wide-spread movements such as Scientology, Mormonism, and the Unification Church to lesser known groups such as the Church of the Almighty God, Neo-Paganism, and Raelism. We will explore the emergence of the anti-cult campaign in the second half of the 20th century, the relationship between apocalyptic sects such as the Peoples Temple and the Branch Davidians and political and social protest, and the role of Asian religions such as the Maharishi Mahesh Yogi's Transcendental Meditation in the development of New Age religiosity. In addition, we will learn how new religious movements such as Wicca and the Children of God helped reshape gender roles and changed mainstream views about sexuality, and how developments in mass media and popular culture contributed to the creation of new groups such as the Star Wars inspired Temple of the Jedi Order (Jediism), the Church of the Latter-Day Dude (Dudeism), as well as UFO religions such as Heaven's Gate. Throughout the semester, students will be exposed to a wide variety of primary and secondary sources, from academic articles and scholarly essays to documentaries, feature films, and TV shows. No previous knowledge in Religious Studies is required.
Taught by: Tavor
Activity: Seminar
1 Course Unit

REL 031 Religion and Violence
Perhaps nothing haunts modern politics more than religious violence. Killing sprees done in the name of God reveal the limits of political power. What space is left for the rule of law when appeals to dogma and the divine supersede reason? The causes and nature of divinely motivated violence are so mystifying that they are a constant topic of debate among academics, political parties, and news commentators. What really motivates religious violence? Is it just economic of class grievances in disguise? Are all religions prone to violence? Are some religions more violent than others? Or, are religions only violent when they go awry, denying their true messages? And does religion need to be quarantined and privatized, to keep us all safe? In this course, we'll probe the dividing line separating religion from politics in an effort to better understand the causes and nature of religious violence. How do we know the difference between religious violence and political violence? What makes religion violent, and what makes violence religious?
Activity: Seminar
1 Course Unit

REL 033 Mod Catholic Christianity
At the turn of the twentieth century, Sigmund Freud hypothesized that religion was a dead duck. Many other thinkers of "modernity" have agreed with his thesis; and yet, over a century later, it is clear that religion is still a forceful presence in human culture. One religious tradition that has survived to the surprise (and even consternation) of some critics, is Roman Catholic Christianity. This Freshman Seminar will look closely at the Catholic Church in the twenty-first century, to explore the ways in which Catholicism has (and has not) adapted to modernity. We will begin with an investigation into the history of Roman Catholicism; how it is defined, and how it developed in relation to politics and culture in the Roman Empire, medieval and early modern Europe, and in the Americas; but most of the semester will focus on the Catholic Church of the past 200 years, especially as it appears in the United States. We will consider the relationship of Catholicism to many aspects of modern life, including science and technology, political systems and leaders, aesthetics (visual arts, music, literature and film), and understandings of gender and sexuality. There will be a mid-term examination and a final paper of 6 to 10 pages.
Taught by: Matter
Activity: Seminar
1 Course Unit

REL 057 Study Abroad
Activity: Lecture
1 Course Unit

REL 068 India: Culture & Society
What makes India INDIA? Religion and Philosophy? Architectural splendor? Kingdoms? Caste? The position of women? This course will introduce students to India by studying a range of social and cultural institutions that have historically assumed to be definitive India. Through primary texts, novels and historical sociological analysis, we will ask how these institutions have been reproduced and transformed, and assess their significance for contemporary Indian society.
For BA Students: Humanities and Social Science Sector
Taught by: Sreenivasan
Course not offered every year
Also Offered As: HIST 085, SAST 008
Activity: Lecture
0 Course Units
REL 091 Native American Literature
From oral traditions to Youtube videos of Native American hip hop, this course surveys the diverse body of Native American literature through its many transformations across the centuries. The course will focus primarily on contemporary Native American literature, an era known as the Native American Renaissance. We will read literary works by Black Elk, Leslie Marmon Silko, Sherman Alexie, N. Scott Momaday, and others. The course will also include films such as Smoke Signals and Whale Rider.
Taught by: Powell
Course not offered every year
Also Offered As: ANTH 082, ENGL 082
Activity: Lecture
1 Course Unit

REL 103 Approaches to the Study of Mysticism
Introduction to "mysticism" as a subject of academic investigation and to selected representations in various religious traditions. Special attention to problems of definition and historical context.
One-term course offered either term
Activity: Seminar
1 Course Unit

REL 105 Religion and Film
Introduction to different ways in which religion is represented in film. Emphasis upon religious themes, but some attention to cinematic devices and strategies. Although most films studied will deal with only one of the major historical religious traditions (Hinduism, Buddhism, Judaism, Christianity and Islam), the selection will always include at least two of those traditions.
One-term course offered either term
Activity: Lecture
1 Course Unit

REL 106 Modern Religious Thought
Evil and its justifications, theodicy, are a dominant and recurring problem formodern religious thought. We will examine various explanations for the nature and origin of evil in the writings of Leibniz, Kant, Nietzsche, Arendt, and Camus along with other philosophers and religious thinkers both ancient and modern. Through close readings of primary sources and secondary materials we will trace this problem of evil from its ancient formulations to its modern instantiations. The question, "whence evil?" becomes most pertinent in an era when many ills are surmountable through education and technological improvements yet ills persist and the greatest volumes of people in human history have been slain in mass killings.
One-term course offered either term
Activity: Lecture
1 Course Unit

REL 111 God & Money
The relationship between how people understand god(s) and money has always been a complicated one. Many religions have a relationship to money, whether in offerings, asking for blessings, or to build and create places worship. God and Money explores the relationship between how religions view money, capitalism, and religion, and how movements like the prosperity gospel have expanded and complicated the interplay between religion, money and capitalism around the world.
Taught by: Butler
One-term course offered either term
Activity: Lecture
1 Course Unit

REL 112 Religious Ethics and Modern Society
Religious beliefs of Malcolm X and MLK formed their social action during the Civil Rights for African Americans. This seminar will explore the religious historical biographies of each leader, how religion shaped their public and private personas, and the transformative and transgressive role that religion played in the history of the Civil Rights movement in the United States and abroad. Students in this course will leave with a clearer understanding of religious beliefs of Christianity, The Nation of Islam, and Islam, as well as religiously based social activism. Other course emphases include the public and private roles of religion within the context of the shaping of ideas of freedom, democracy, and equality in the United States, the role of the "Black church" in depicting messages of democracy and freedom, and religious oratory as exemplified through MLK and Malcolm X.
Taught by: Butler
One-term course offered either term
Also Offered As: AFRC 115
Activity: Lecture
1 Course Unit

REL 113 Major Western Religious Thinkers
Introduction to the writings of one or two significant western religious thinkers, designed for those who have no background in religious thought. Possible thinkers to be studied: Augustine, Maimonides, Spinoza, Luther, Teresa of Avila, Edwards, Mendelssohn, Kierkegaard, DuBois, Bonhoeffer, King.
One-term course offered either term
Also Offered As: GSWS 113, JWST 113
Activity: Lecture
1 Course Unit

REL 114 The Religion of Ancient Egypt
Weekly lectures (some of which will be illustrated) and a field trip to the University Museum's Egyptian Section. The multifaceted approach to the subject matter covers such topics as funerary literature and religion, cults, magic religious art and architecture, and the religion of daily life.
Taught by: Silverman/Wegner
Course not offered every year
Also Offered As: NELC 166, NELC 468
Activity: Lecture
1 Course Unit

REL 116 Science, Magic, and Religion, 1500 to the present.
The Western world once had its share of witches, alchemists, astrologers and magicians. They are thin on the ground these days, only to be replaced by New Age or cult-like movements. This course examines magic as it once was, explores the rise of science in the seventeenth and eighteenth centuries, looks at Mesmerism and thesosophy within the framework of radical political movements culminating in the rise of Fascism, and for twentieth century America explores the nature of post-war Big Science and various anti-science movements. No prerequisites.
For BA Students: History and Tradition Sector
One-term course offered either term
Also Offered As: FOLK 025, HIST 025
Activity: Seminar
1 Course Unit
RELS 117 African American Religion
The unique history and experiences of African Americans can be traced through religion and belief. Through the mediums of literature, politics, music, and film, students will explore the religious experience of people of the African Diaspora within the context of the complex history of race in American history. The course will cover a broad spectrum of African American religious experience including Black Nationalism, urban religions, the "black church" and African religious traditions such as Santeria and Rastafarianism. Special attention will be paid to the role of race, gender, sexuality, and popular culture in the African American religious experience.
Taught by: Butler
One-term course offered either term
Also Offered As: AFRC 117
Activity: Lecture
1 Course Unit

RELS 118 Religion & Cinema in India
This seminar examines key themes in the study of religion and Indian cinema. The aim of the seminar is to foreground discussions of performativity, visual culture, representation, and politics in the study of modern South Asian religions. Themes include mythological cinema, gender and sexuality, censorship and the state, and communalism and secularism. The films we will be deploying as case studies will be limited to those produced in Hindi, Telugu and Tamil (the three largest cinema cultures of India). No knowledge of South Asian language is needed for this course however.
Taught by: Soneji
Course not offered every year
Also Offered As: CIMS 113, SAST 112
Activity: Lecture
1 Course Unit

RELS 120 Jews and Judaism in Antiquity
A broad introduction to the history of Jewish civilization from its Biblical beginnings to the Middle Ages, with the main focus on the formative period of classical rabbinic Judaism and on the symbiotic relationship between Judaism, Christianity, and Islam.
For BA Students: History and Tradition Sector
Taught by: Dohrmann
Course usually offered in spring term
Also Offered As: HIST 139, JWST 156, NELC 051, NELC 451
Activity: Lecture
1 Course Unit

RELS 121 Med and Early Mod Jewry
Exploration of intellectual, social, and cultural developments in Jewish civilization from the rise of Islam in the seventh century to the assault on established conceptions of faith and religious authority in 17th century Europe; that is, from the age of Mohammed to that of Spinoza. Particular attention will be paid to the interaction of Jewish culture with those of Christianity and Islam.
For BA Students: History and Tradition Sector
Taught by: Ruderman
Course usually offered in fall term
Also Offered As: HIST 140, JWST 157, NELC 052
Activity: Lecture
1 Course Unit

RELS 122 History of Jewish Civilization: 17th Century to the Present
This course offers an intensive survey of the major currents in Jewish culture and society from the late middle ages to the present. Focusing upon the different societies in which Jews have lived, the course explores Jewish responses to the political, socio-economic, and cultural challenges of modernity. Topics to be covered include the political emancipation of Jews, the creation of new religious movements within Judaism, Jewish socialism, Zionism, the Holocaust, and the emergence of new Jewish communities in Israel and the United States. No prior background in Jewish history is expected.
For BA Students: History and Tradition Sector
Taught by: Wenger
Course usually offered in spring term
Also Offered As: HIST 141, JWST 158, NELC 053
Activity: Lecture
1 Course Unit

RELS 124 American Jewish Experience
This course offers a comprehensive survey of American Jewish history from the colonial period to the present. It will cover the different waves of Jewish immigration to the United States and examine the construction of Jewish political, cultural, and religious life in America. Topics will include: American Judaism, the Jewish labor movement, Jewish politics and popular culture, and the responses of American Jews to the Holocaust and the State of Israel.
Taught by: Wenger
One-term course offered either term
Also Offered As: HIST 150, JWST 130
Activity: Lecture
1 Course Unit

RELS 125 Introduction to the Bible (Old Testament)
An introduction to the major themes and ideas of the Hebrew Bible (the Old Testament), with attention to the contributions of archaeology and modern Biblical scholarship, including Biblical criticism and the response to it in Judaism and Christianity. All readings are in English.
For BA Students: Humanities and Social Science Sector
Taught by: Tigay
Course usually offered in fall term
Also Offered As: JWST 150, NELC 150
Activity: Seminar
1 Course Unit

RELS 126 Jewish Mysticism
Survey of expressions of Jewish mysticism from Hebrew Scripture through the 21st century. Topics include rabbinic concerns about mystical speculation, the ascent through the celestial chambers - heikhalot-, the Book of Creation, the relationship of Jewish philosophy and mysticism, techniques of letter permutation, schematization of the Divine Body, the prominence of gender and sexuality in kabbalistic thought, the relationship of kabbalah to the practice of the commandments, Zohar, Lurianic kabbalah, Hasidism, New-Age Jewish spirituality and the resurgence of Jewish mysticism in the 20th century. All readings will be in English translation.
For BA Students: Arts and Letters Sector
Taught by: Fishman
Course not offered every year
Also Offered As: JWST 126, NELC 186
Activity: Lecture
1 Course Unit
REL 127 Jewish Law and Ethics
An introduction to the literary and legal sources of Jewish law within an historical framework. Emphasis will be placed upon the development and dynamics of Jewish jurisprudence, and the relationship between Jewish law and social ethics.
Course usually offered in fall term
Also Offered As: JWST 152
Activity: Seminar
1 Course Unit

REL 128 Jews, Judaism, and Modernity
A survey of Jewish thinkers and movements of the modern period focusing on the historical, intellectual, and social foundations of modern Judaism. Through careful reading of primary sources in translation, students will be exposed to seminal writings that respond both to new challenges and the broader issues of religious continuity and discontinuity.
Course not offered every year
Activity: Lecture
1 Course Unit

REL 129 Themes in the Jewish Tradition
Course topics will vary; have included The Binding of Isaac, Responses to Catastrophes in Jewish History, Holy Men & Women (Ben-Amos); Rewriting the Bible (Dohrmann); Performing Judaism (Fishman); Jewish Political Thought (Fishman); Jewish Esotericism (Lorberbaum). Democratic culture assumes the democracy of knowledge - the accessibility of knowledge and its transparency. Should this always be the case? What of harmful knowledge? When are secrets necessary? In traditional Jewish thought, approaching the divine has often assumed an aura of danger. Theological knowledge was thought of as restricted. This seminar will explore the "open" and "closed" in theological knowledge, as presented in central texts of the rabbinic tradition: the Mishnah, Maimonides and the Kabbalah. Primary sources will be available in both Hebrew and English.
For BA Students: History and Tradition Sector
Taught by: Ben-Amos/Stern/Dohrmann/Fishman
One-term course offered either term
Also Offered As: JWST 100, NELC 252, NELC 552
Activity: Seminar
1 Course Unit

REL 130 How to Read the Bible
While the Bible may be the most read text in the world, it is not clear that anyone understands what it actually means. Secular scholars read the Bible as they would any other ancient document, trying to understand who wrote it and what it reveals about the past, but that is not how the Bible is understood by hundreds of millions of readers who embrace it as a message from God and read its contents not just to learn about the past but to understand what the meaning of life is, how to be a good person, and where the world is headed. How is it that the Bible is read in such different ways by the secular and the religious? Who is right in the struggle over its meaning, and how does one go about deciphering that meaning in the first place?
Taught by: WEITZMAN
Also Offered As: JWST 131, NELC 153
Activity: Seminar
1 Course Unit

REL 132 The History of God
This course introduces the history of God as understood by modern scholars of religion. Why do people believe in gods in the first place? How is the God of the Old Testament different from earlier Near Eastern deities, or different from God as represented in the New Testament and the Quran? When and why did people come to question the existence of God, and how has the idea of God changed in the last century in light of experiences like the Holocaust, social movements like feminism, and the rise of new technologies like the Internet? This course will address these questions as it surveys the approaches scholars have developed to comprehend the history of a being who would seem beyond human comprehension.
Taught by: Wietzman
Also Offered As: ANCH 133, JWST 132
Activity: Seminar
1 Course Unit

REL 133 An Introduction to Christianity
A survey of the classical Christian Traditions (Orthodoxy, Roman Catholicism, Protestant groups). The basic perspective is phenomenological, but historical and folkloric considerations are also raised. Topics include the symbols of Christian faiths, perspectives on human nature, and views of evil.
Taught by: Matter
One-term course offered either term
Activity: Seminar
1 Course Unit

REL 135 Introduction to the New Testament
What can be known - from historical perspectives - about the life and teachings of Jesus and his earliest followers? Did Jesus see himself as a teacher and/or a revolutionary and/or the messiah? If Jesus and the apostles were all Jews, how did Christianity emerge as a distinct "religion" distinct from Judaism? And how is it that this small Galilean and Judean movement came to shape world history and Western culture even to this day? This course explores these questions through a focus on the formation of the New Testament - from the letters of Paul in the early first century CE, to the collection and closure of the canon of Christian Scriptures in the fourth century CE. In the process, we will explore the lived worlds of the first followers of Jesus through readings of texts within and outside the New Testament but also through art, artifacts, and manuscripts at Penn and in Philadelphia.
For BA Students: History and Tradition Sector
Taught by: Reed
One-term course offered either term
Activity: Lecture
1 Course Unit
RELS 136 Death and the Afterlife in Ancient Judaism and Christianity
This course surveys the development of concepts about death and the afterlife in Judaism and Christianity, exploring the cultural and socio-historical contexts of the formation of beliefs about heaven and hell, the end of the world, martyrdom, immortality, resurrection, and the problem of evil. Readings cover a broad range of ancient sources, including selections from the Hebrew Bible and New Testament, as well as other Jewish and Christian writings (e.g., "apocrypha," "pseudepigrapha," Dead Sea Scrolls, classical rabbinic literature, Church Fathers, "gnostic" and "magical" materials). In the process, this course introduces students to formative eras and ideas in the history of Judaism, Christianity, and Western culture.
One-term course offered either term
Also Offered As: JWST 136
Activity: Lecture
1 Course Unit

RELS 142 Islam in South Asian Culture
Islam reached South Asia in the eighth century and Muslim rulers held sway over large parts of the Subcontinent for much of the period from the late 12th century until the colonial period. However, the majority of the population never converted to Islam, and since independence in 1947 Islam—its interpretation, relization, and influence—has been a major factor underlying many difficult political issues. This has been true not only in the largest country, India, where Muslims form 12% (unevenly distributed) of the population, but in Bangladesh and Pakistan where non-Muslims are relatively insignificant minorities. This course explores the realities and the perceptions related to Muslim identities and the Islamic heritage in the subcontinent, and sets it in global context by comparison with other parts of the world which share various aspects of the South Asian experience. The course will conclude with an assessment of the larger significance—social, economic and political, as well as cultural—of Islam in South Asia today.
Taught by: Spooner
Course not offered every year
Also Offered As: SAST 141
Activity: Lecture
1 Course Unit

RELS 134 Introduction to Islam
This course is an introduction to Islam as a religion as it exists in societies of the past as well as the present. It explores the many ways in which Muslims have interpreted and put into practice the prophetic message of Muhammad through historical and social analyses of varying theological, philosophical, legal, political, mystical and literary writings, as well as through visual art and music. The aim of the course is to develop a framework for explaining the sources and symbols through which specific experiences and understandings have been signified as Islamic, both by Muslims and by other peoples with whom they have come into contact, with particular emphasis given to issues of gender, religious violence and changes in beliefs and behaviors which have special relevance for contemporary society.
Taught by: Elias
One-term course offered either term
Also Offered As: NELC 136, SAST 139
Activity: Lecture
1 Course Unit

RELS 145 Islamic History and Culture
This course introduces students to the history of Islam as both a religion and as a civilization, from pre-Islamic Arabia to the rise of the gunpowder empires in the 16th century. The course will use key moments, texts, and figures in Islamic history to examine notions of religion, culture, and civilization as they have been understood by Muslims, in a variety of contexts, as well as the problems and politics surrounding the representation of Islamic history and Islam in the contemporary world. Some major topics to be covered include the development of Islamic institutions, the participation of Jews, Christians, and others in Islamic civilization, Arabic and Persian literature, as well as Europeans’ encounters with Islam.
Taught by: Elias
Course not offered every year
Also Offered As: NELC 185, SAST 145
Activity: Lecture
1 Course Unit

RELS 149 The Mullah & The Englishman - Islam in Modern South Asia
This course introduces students to Islam in modern South Asia, with a particular focus on the development of 'new' Muslim religious idioms, orientations, pedagogies and movements in 19th and 20th century South Asia. This course is divided into three parts. In the first part of this course, students are provided with an overview of: Muslim institutions and spaces in pre-colonial South Asia, the historical emergence of South Asia as a prominent global center of Islam, and the development of Urdu as an Islamic idiom. The second and main part of this course introduces students to academic literature concerning sophisticated encounters between the Muslim elite in north India and modern political and technological developments. The intimate interactions of the 'Mullah' and the 'Englishman' from the 19th to 20th century will thus be revealed to students. This part focuses upon, on the one hand, the role of Islam and pious Muslims in the colonial army, and on the other hand, Muslim initiatives to educate an Islamic 'modernism', 'traditionalism', 'fundamentalism' and 'Sufism', and appropriate print technologies for the creation of public spheres. Students will be introduced to historical scholarship revelatory of how these Muslim pedagogies and print initiatives were based upon sophisticated transcultural networks and exchange. In the third part of this course, students will be encouraged to engage with contemporary literature on South Asian Muslim political philosophy and nationalism, and the transcultural intellectual exchanges that produced key Muslim political ideologies.
Taught by: Sevea
Course usually offered in fall term
Also Offered As: RELS 549, SAST 502
Activity: Seminar
1 Course Unit
RELS 155 Introduction to Indian Philosophy
This course will take the student through the major topics of Indian philosophy by first introducing the fundamental concepts and terms that are necessary for a deeper understanding of themes that pervade the philosophical literature of India – arguments for against the existence of God, for example, the ontological status of external objects, the means of valid knowledge, standards of proof, the discourse on the aims of life. The readings will emphasize classical Hindu, Buddhist, and Jain philosophical articulations (from 700 B.C.E. to 16th century C.E.) but we will also supplement our study of these materials with contemporary or relatively recent philosophical writings in modern India.
For BA Students: History and Tradition Sector
Taught by: Patel
One-term course offered either term
Also Offered As: PHIL 050, SAST 050
Activity: Lecture
1 Course Unit

RELS 162 Epic Traditions of India
This course examines various key aspects of the epic traditions of India. The Ramayana and the Mahabharata are two great Indian epics that have deeply influenced the Indian religious and cultural ethos. The course inspects scholarly studies regarding the multiple renditions of these epics. The students will view folk performances from various regions in India that continue to bring these epics to life. These performances form a significant part of the epic tradition as they connect the stories in the epics with material realities of the Indian religious and cultural life. The course investigates the role played by the two epics, especially the Ramayana, in the Indian political discourse in both the past and the present. Beyond India, their historical birthplace, these epics traveled to South East Asian regions such as Indonesia and Malaysia. We will also consider the ways in which the traditions in these regions are similar or dissimilar to those in India. Lastly, the students will study the role of the media such as television shows, cinema, and comic books in the manifestation of these epics in popular imagination.
One-term course offered either term
Activity: Lecture
1 Course Unit

RELS 163 Introduction to Hinduism
This course introduces students to the history, texts, philosophies and rituals of South Asia’s oldest living religious traditions, represented today by the term “Hinduism.” At the same time, it problematizes the idea of a monolithic “Hindu Tradition,” in favor of an approach that recognizes several distinct, dynamic, yet symbiotic Hindu religious cultures. The course also places emphasis on the vitality of today’s Hinduism(s), and the various historical, ritual, cultural, and social contexts that they represent and constitute. The course is organized around six modules: (1) Issues in the Academic Study of Hinduism; (2) Sanskrit (textual) tradition; (3) Philosophy; (4) Theology; (5) Ritual; (6) Modernity and Contemporary Politics.
Taught by: Soneji
One-term course offered either term
Also Offered As: RELS 663, SAST 009
Activity: Lecture
1 Course Unit

RELS 172 East Asian Religions
This course introduces religious traditions in China, Japan, and Taiwan from ancient to contemporary times, with emphases on their sociopolitical contexts, visual and material dimensions, and entanglement with gender, sexuality and the body. We will examine the history of Confucianism, Daoism, Buddhism, Shinto, as well as the practices, thoughts, and institutions that do not fall squarely into those categories. We will pay attention to the relationship between textual and oral traditions, and that between canons, rituals and the popular practices from both historical and anthropological perspectives.
Taught by: Cheng H
Also Offered As: EALC 008
Activity: Lecture
1 Course Unit

RELS 173 Introduction to Buddhism
This course seeks to introduce students to the diversity of doctrines held and practices performed by Buddhists in Asia. By focusing on how specific beliefs and practices are tied to particular locations and particular times, we will be able to explore in detail the religious institutions, artistic, architectural, and musical traditions, textual production and legal and doctrinal developments of Buddhism over time and within its socio-historical context. Religion is never divorced from its place and its time. Furthermore, by geographically and historically grounding the study of these religions we will be able to examine how their individual ethic, cosmological and soteriological systems effect local history, economics, politics, and material culture. We will concentrate first on the person of the Buddha, his many biographies and how he has been followed and worshipped in a variety of ways from Lhasa, Tibet to Phrae, Thailand. From there we touch on the foundational teachings of the Buddha with an eye to how they have evolved and transformed over time. Finally, we focus on the practice of Buddhist ritual, magic and ethics in monasteries and among lay communities in Asia and even in the West. This section will confront the way Buddhists have thought of issues such as "Just-War," Women’s Rights and Abortion. While no one quarter course could provide a detailed presentation of the beliefs and practices of Buddhism, my hope is that we will be able to look closely at certain aspects of these religions by focusing on how they are practiced in places like Nara, Japan or Vietnam, Laos.
Taught by: McDaniel
One-term course offered either term
Also Offered As: EALC 015, SAST 142
Activity: Lecture
1 Course Unit
RELS 191 Multicultural American Literature and Spirituality
This course will focus on the Multicultural Renaissance (1980-2000) when literary masterpieces appeared from African American, Native American, Asian American, and Latina/o writers such as Toni Morrison, Leslie Marmon Silko, Maxine Hong Kingston, and Rudolfo Anaya. As these writers were accepted into the canon of "American Literature," they forced the country to rethink the myth of the Manifest Destiny by updating ancient stories of Buddhism, Native American ceremonies, African religions, brought over on slave ships, and the unique blend of Christianity and indigenous spirituality that animates Mexican American Catholicism. In the 21st century, the Multicultural Renaissance continues, albeit in new forms. Television shows like "Orange is the New Black" and "Ru Paul's Drag Race" make visible and empower LGBT cultures; "Catfish" explores how cultural identities become ever more fluid in the age of the internet. Stand up comedians Key & Peel, Margaret Cho, and Ahmed Ahmed explore issues of religion, race, ethnicity, sexuality. This course will unfold against the backdrop of the 2016 election, as issues of cultural diversity divide the country, even as it becomes ever more multicultural.
Taught by: Tim Powell
Also Offered As: ENGL 264
Activity: Seminar
1 Course Unit

RELS 199 Independent Study
One-term course offered either term
Activity: Independent Study
1 Course Unit

RELS 201 The Religious Other
Course explores attitudes toward monotheists of other faiths, and claims made about these "religious Others" in real and imagined encounters between Jews, Christians and Muslims from antiquity to the present. Strategies of "othering" will be analyzed through an exploration of claims about the Other's body, habits and beliefs, as found in works of scripture, law, theology, polemics, art, literature and reportage. Attention will be paid to myths about the other, inter-group violence, converts, cases of cross-cultural influence, notions of toleration, and perceptions of Others in contemporary life. Primary sources will be provided in English.
Taught by: Fishman
Course not offered every year
Also Offered As: COML 205, JWST 213, JWST 213, NELC 383
Activity: Seminar
1 Course Unit

RELS 203 The Religious Other
Course explores attitudes toward monotheists of other faiths, and claims made about these "religious Others" in real and imagined encounters between Jews, Christians and Muslims from antiquity to the present. Strategies of "othering" will be analyzed through an exploration of claims about the Other's body, habits and beliefs, as found in works of scripture, law, theology, polemics, art, literature and reportage. Attention will be paid to myths about the other, inter-group violence, converts, cases of cross-cultural influence, notions of toleration, and perceptions of Others in contemporary life. Primary sources will be provided in English.
Taught by: Fishman
Course not offered every year
Also Offered As: COML 205, JWST 213, JWST 213, NELC 383
Activity: Seminar
1 Course Unit

RELS 204 The Graphic Novel and Religious Identities
Graphic novels and comic books express a variety of popular conceptions concerning religion and, as such, are capable of showing us where (and how) religious identities and phenomena exist in modern societies. Viewing comics as material-semiotic objects with multiple origins, audiences, and effects, this course investigates how religions, religious identity, and religious phenomena are expressed in and through the comic book. Situated at the intersection of religious studies, critical theory, media studies, and literary analysis, the course asks students to consider a number of issues and concerns, including: the appropriateness of the medium to express religious ideas, practices, texts, and histories; the different ways in which narratives of salvation and spiritual transformation are visualized; the role of alternative comix in the critique of popular religion; the use of comics as a means to proselytize, confess, memorialize, and historicize; and the cultural status of comics as material objects of religious import.
Taught by: Arsenault
Course not offered every year
Activity: Seminar
1 Course Unit

RELS 208 Native American Religion and Literature
This course will examine films by and about Native Americans. From the very beginnings of film history, Native Americans have been a centrally important subject. While much of the writing about Native American films tends to focus on the perpetuation of stereotypes, this class will concentrate on four primary themes: 1) the role that film plays in helping the audience to understand the exceedingly complex place of indigenous people in "American" identity (with "American" signifying, in this instance, a hemispheric sense of identity); 2) the myriad of ways that indigenous people have been involved in the history of film as extras, actors, directors, producers; 3) how representations changed when Native Americans took control of production; 4) the ways in which films by and about Native Americans have helped to heal the historical trauma resulting from the "Indian Wars" that have gone on for 500+ years on the North American continent.
Taught by: Powell
Course not offered every year
Also Offered As: ANTH 282, CIMS 282, ENGL 282
Activity: Seminar
1 Course Unit

RELS 211 Religion and Ecology
This class will introduce the overlaps between religion and ecology. Rather than assuming that there is a necessary positive or negative relationship between religion and ecology, we will look at how these relationships have materialized in complicated ways at different moments in history. We'll consider perspectives and case studies from a range of different traditions, with a special attention paid to the genesis of the field of Religion and Ecology in critiques of Christian attitudes toward the environment in the 1960s and 1970s.
Taught by: Covey
Course not offered every year
Activity: Lecture
1 Course Unit
RELS 220 Studies in the Hebrew Bible
This course introduces students to the methods and resources used in the modern study of the Bible. To the extent possible, these methods will be illustrated as they apply to a single book of the Hebrew Bible that will serve as the main focus for this course. The course is designed for undergraduates who have previously studied the Bible in Hebrew either in high school or college.
Course usually offered in spring term
Also Offered As: COML 228, HEBR 250, JWST 256
Prerequisites: Fluency in reading and translating Biblical Hebrew and a working knowledge of Biblical Hebrew grammar.
Activity: Lecture
1 Course Unit

RELS 222 Topics in Medieval Jewish Cultures
Topics vary.
Course not offered every year
Also Offered As: JWST 222
Activity: Seminar
1 Course Unit

RELS 223 Jewish Literature in the Middle Ages in Translation
Course explores the cultural history of Jews in the lands of Islam from the time of Mohammed through the late 17th century (end of Ottoman expansion into Europe) -- in Iraq, the Middle East, al-Andalus and the Ottoman Empire. Primary source documents (in English translation) illuminate minority-majority relations, internal Jewish tensions (e.g., Qaraism), and developments in scriptural exegesis, rabbinic law, philosophy, poetry, polemics, mysticism and liturgy. Graduate students have additional reading and meetings. Spring 2015.
Taught by: Fishman/Stern
One-term course offered either term
Also Offered As: COML 257, JWST 153, NELC 158, NELC 458
Activity: Seminar
1 Course Unit

RELS 224 The Bible in Translation
This course introduces undergraduates and graduate students to one specific Book of the Hebrew Bible. “The Bible in Translation” involves an in-depth reading of a biblical source against the background of contemporary scholarship. Depending on the book under discussion, this may also involve a contextual reading with other biblical books and the textual sources of the ancient Near East. Although no prerequisites are required, RELS 224 is a perfect follow-up course for RELS 125 “Intro to the Bible.”
Taught by: Cranz
One-term course offered either term
Also Offered As: COML 380, JWST 255, NELC 250, NELC 550
Activity: Seminar
1 Course Unit

RELS 225 Introduction to the Dead Sea Scrolls
Exploration of the issues relating to the identification and history of the people who produced and used these materials as well as the claims made about the inhabitants of the Qumran site near the caves in which the scrolls were discovered, with a focus on what can be known about the community depicted by some of the scrolls, its institutions and religious life, in relation to the known Jewish groups at that time (the beginning of the Common Era). This will involve detailed description and analysis of the writings found in the caves -- sectarian writings, "apocrypha" and "pseudepigrapha," biblical texts and interpretations.
Taught by: Reed
Course not offered every year
Also Offered As: JWST 225, NELC 251, NELC 651
Activity: Seminar
1 Course Unit

RELS 227 Modern Jewish Thought
Through a reading of such thinkers as Martin Buber, Gershom Scholem and Franz Rosenzweig, the course will address some of the fundamental issues in modern Jewish thought and experience.
One-term course offered either term
Also Offered As: JWST 227
Activity: Seminar
1 Course Unit

RELS 230 Topics in European History
Topics vary.
One-term course offered either term
Also Offered As: JWST 230
Activity: Seminar
1 Course Unit

RELS 231 Jesus and Judaism
Course not offered every year
Also Offered As: JWST 233
Activity: Seminar
1 Course Unit

RELS 232 Reading the Apostle Paul
Course not offered every year
Activity: Seminar
1 Course Unit

RELS 235 Eastern Christianities
The history of Christianity is often told from the perspective of its spread westward from Israel to Rome. Yet, in the first millenium, there were more Christians living in the East, in places as far away as Persia, Yemen, India, China, and Mongolia, than in the West. Spread across the Asian continent, these Christians were actively involved in local and imperial politics, composed theological literature, and were deeply embedded in the cultural fabric of their host societies. This course traces the spread of Christianity eastward, paying particular attention to its regional developments, its negotiations with local political powers, and its contact with other religions, including Buddhism, Manichaeism, and Islam. Readings will cover a broad range of sources, including selections from classical Syriac literature, Manichaean texts, Mesopotamian magic bowls, the so-called “Jesus Sutras,” and the Quran. All readings will be provided in English, and no background is presumed.
Taught by: Han
Also Offered As: NELC 385, SAST 245
Activity: Lecture
1 Course Unit
RELS 236 The Devil’s Pact in Literature, Music and Film
For as long as we have been modern, the legend of the devil’s pact has been the preferred metaphor for the desire to surpass the limits of human knowledge and power at any cost. Starting with the sixteenth-century Faust Book, which recounts the story of a scholar, alchemist and necromancer who sold his soul to the devil, and extending to the present, this course offers students a chance to explore our enduring fascination with the forbidden.
For BA Students: Arts and Letters Sector
Taught by: Richter
One-term course offered either term
Activity: Lecture
1 Course Unit
Notes: All readings and discussions in English.

RELS 239 Death, Disease & Demons in the Medieval World
How did life end for people in the medieval world? For most, death was not considered an end point because the soul journeyed on after the end of the body. But to where did it journey? And how would it be reunited with the body in the future? Between the classical period and the High Middle Ages, death shifted from a moment of quiet release to a frightening struggle in which angels and demons lay in wait for a soul as soon as it exited the body. This course will examine these changing beliefs about dying, focusing primarily on Christian medieval Europe but drawing comparative examples from Judaism, the Roman world, and Byzantine Christianity. Other topics we will consider include martyrdom and fears of bodily dismemberment; the emergence of purgatory and depictions of the afterworld; and the development of Christian rites for the dead. We’ll also investigate beliefs about the invisible powers of demons and the apocalyptic end of times. The course will also explore not only the process by which people entered the afterlife in the Middle Ages but also the causes of their deaths—what kinds of disease primarily afflicted medieval society, and how did age, class and gender intersect with disease to affect certain populations? We will end the semester by examining that most apocalyptic of Medieval events—the Black Death—in light of recent scientific discoveries, medieval medical explanations, and social changes brought on by this demographic catastrophe. Students will be exposed to a range of primary sources as well as evidence from tombstone inscriptions, architecture and manuscript illuminations, and archaeology. No prior knowledge of Medieval history is necessary.
Taught by: Leja
Course not offered every year
Activity: Seminar
1 Course Unit

RELS 242 Muslim Sainthood Practices
This course aims at introducing various classical, popular and modern Muslim saints in South Asia. We will read the life stories of these saints and focus on their contribution to various religions in South Asia. We will learn about the major concepts initiated and circulated by these saints and their distinctive ways of dealing with spiritual aspects. While focusing on their sainthood practices, we also study the nature of the dialogue which addresses the questions such as pluralism, localism, and a new paradigm of spirituality that continually interacts with diverse modes of everyday life in South Asia. In order to understand their impact on visual and media cultures, we also watch two documentaries and compare these visual sources with sainthood literature and practices.
Taught by: Mohammad, M.A.
Also Offered As: SAST 251
Activity: Seminar
1 Course Unit

RELS 244 From Miracles to Mindfulness
In 1902, the most famous philosopher in America, William James, revolutionized the study of religion by analyzing religion as an experience rather than as a set of doctrines or scriptures. In this course, we will pick up the inquiry that James and scholars such as Sigmund Freud began by exploring new approaches to the science and philosophy of religious experience. We will invite a series of experts from a wide range of fields—neuroscience, psychoanalysis, phenomenology, psychology, anthropology, to name only a few—to present their cutting-edge research on the nature of religious experience. How can religious experience be studied? What does the research reveal about religious experience? And what can we learn from such experiences about the workings of the human mind and human society? The course has two components: 1) a discussion-centered mini-seminar from 3:30-5:00 will open consideration of the subject with help from relevant readings 2) a guest lecture series every Tuesday from 5:00-6:30, featuring leading scholars who approach religious experience from different disciplinary angles or in light of different questions.
Taught by: Steve Weitzman and Phil Webster
Also Offered As: JWST 244
Activity: Lecture
1 Course Unit

RELS 245 Sufism
This course is a survey of the large complex of Islamic intellectual and social perspectives subsumed under the term Sufism. Sufi philosophies, beliefs, practices, and social organizations have been a major part of the Islamic tradition in all historical periods and Sufism has also served as a primary muse behind Islamic aesthetic expression in poetry, music, and the visual arts. In this course, we will attempt to understand the nature and importance of Sufism by addressing both the world of ideas and socio-cultural practices. We will trace the development of Sufism as a form of Muslim piety linked to key notions in the Quran as well as living practices of venerating the Prophet Muhammad. We will then immerse ourselves in Sufi theoretical writings through a select list of primary sources introducing foundational Sufi concepts concerning the annihilation of oneself in God, and the various stages of the Sufi quest for spiritual union. From there, we will shift to a discussion of the interactions between Sufism and philosophy by looking at the writings of two of the most influential Sufi thinkers, Al-Ghazali and Ibn al-Arabi. We will also study the important role of Sufi poetry through a close reading of a selection of Rumi’s works. In our discussion of the social and political dimensions of Sufism, we will explore the relations between Sufi movements and religious and political authority, focusing on antinomianism and patronage in the Ottoman Empire, and on Sufi responses to colonial rule. The last part of the course will look at the roles of Sufis and Sufism in contemporary societies from South Asia to North America.
Taught by: Harris
Course usually offered in spring term
Activity: Seminar
1 Course Unit
**RELS 246 Spirituality in the Age of Global Warming: How Can Science & the Humanities Work Together?**

We are living in the midst of one of the most severe crises in the Earth’s history. Science confirms the glaciers are melting, hurricanes are growing more intense, and the oceans are rising. But there is also a deeply spiritual dimension to global warming that does not factor into the scientific explanations. This part of the problem has been more powerfully expressed in film, literature, and art. We will be looking at films like Spike Lee’s “When the Levees Broke,” about how the people of New Orleans turned to music and storytelling to rebuild their communities in the wake of Hurricane Katrina and Linda Hogan’s novel, “Solar Storm,” which explores how Native American women draw upon spirituality to heal their community after a dam flooded their ancestral homeland. The class will also work on an ongoing research project in partnership with the Canadian government and Ojibwe First Nations who submitted a successful UNESCO World Heritage Site application to preserve the boreal forest and the Native people’s traditional knowledge about their land. The class will be working on an interactive map to document how photographs, oral histories, and artwork helped convince UNESCO to preserve the land and the Traditional Ecological Knowledge (TEK) of the people who have lived on that land for thousands of years.

Taught by: Timothy Powell
Course not offered every year
Also Offered As: ENGL 282, ENVS 246
Activity: Seminar
1 Course Unit

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**RELS 248 Introduction to Islamic Law**

This course will introduce students to classical Islamic law, the all-embracing sacred law of Islam. Among the world’s various legal systems, Islamic law may be the most widely misunderstood and even misrepresented; certainly, misconceptions about it abound. Islamic law is, however, the amazing product of a rich, fascinating and diverse cultural and intellectual tradition. Most of the readings in this course will be taken from primary sources in translation. Areas covered will include criminal law, family law, law in the Quran, gender and sexuality, the modern application of Islamic law, Islamic government and other selected topics.

Taught by: Lowry
Course usually offered in fall term
Also Offered As: NELC 238
Activity: Lecture
1 Course Unit

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**RELS 249 Re-enchanting Modernity: A Guide to Sufism in South Asia**

This undergraduate level course introduces students to Sufism in modern South Asia, with a particular focus on how Muslim ‘mystics’ and their ‘mystical’ methods interacted with modernity, colonialism, technological developments and globalization. This course is divided into three parts. In the first part of this course, students are provided with an overview of the theological and historical background of the dominant expression of Islam that came to be identified as ‘Sufism’ of ‘Islamic mysticism’, the historical development of Sufi institutions and spaces in South Asia, and the historical emergence of South Asia as a prominent global center of Sufism. The second and main part of this course introduces students to a range of anthropological and historical works that are revelatory about how Sufi in modern South Asia were and remain intimately connected to modern political and technological developments. Providing students with an overview of Sufi re-enchantments of modernity from the 19th to 21st century, this section of the course focuses upon Sufi movements and masters who perpetuated or defended customary Islam through sophisticated appropriations of technologies and print networks, and negotiations with non-Muslim rulers and societies. Moreover, students will be introduced to anthropological and historical scholarship on religious worlds in modern South Asia that were and remain steeped in ‘customary Islam’ and Sufi performances and interpretations of Islam. These sources reveal how ‘mystical’ methods of performing Sufism through ecstasy and spiritual restoration, and interpretations of dreams and visions, have regularly interacted with contemporaneous technologies. The third part of this course introduces students to the globalization of South Asian Sufism in North America, Europe and Southeast Asia. Herein, students will be encouraged to engage with anthropological and literary works pertaining to itinerant South Asian Sufi masters and their devotional cults, and introduced to active South Asian Sufi centers in Philadelphia.

Taught by: Sevea
One-term course offered either term
Also Offered As: SAST 249
Activity: Seminar
1 Course Unit
RELS 256 Existential Despair
This is an experimental course that seeks to combine creative pedagogical methods and alternative scheduling to encourage intellectual reflection and emotional vulnerability through an in depth study of the way people cope with existential despair. Through a reading of memoirs, novels, poetry, and essays in an atmosphere conducive to close-reading and full-participation students will explore a wide-range of ways of coping with, describing, and comprehending moments of great despair. Lectures will explain the ritual, liturgical, homiletic, meditative, reflective, self-destructive, psycho-somatic, and ascetic ways despair is both conditioned and mitigated by different thinkers from various traditions over time. Format: This course is different from most others in that there is no homework, no class participation, no outside reading, and no research papers. There will be no work given to students or expected of them outside of class. All work is done in class and class is very long (8 hours straight, once a week, from four PM to midnight). Students will eat together in class, there will be three bathroom breaks, but there will be no internet, no phones, no computers, and no auditors. Each student must be fully committed to the class and 75% of the grade will be determined by class participation.
Taught by: McDaniel
Prerequisite: Permission needed from instructor
Activity: Seminar
1 Course Unit

RELS 259 Ultimate Meanings
Does life have some ultimate meaning? In their search for an answer to this question, people tell stories—stories about the creation of the world, about great human beings confronted with the mysteries of existence, about what happens to people after death. To explore the role of stories in finding meaning in life, we will focus on some of the most meaningful stories ever composed: the biblical stories of Adam and Eve, Abraham and his family, the Exodus, Job and his friends, and the life and death of Jesus. One of our goals is to try to retrieve the original meaning of these narratives, what their authors intended, but we will also explore what they have come to mean for readers in our own day for believers and skeptics, scientists and artists, fundamentalists and feminists.
For BA Students: Arts and Letters Sector
Taught by: Weitzman
Also Offered As: JWST 249
Activity: Seminar
1 Course Unit

RELS 267 Food & Religion
Activity: Lecture
1 Course Unit

RELS 270 Topics in East Asian Religions
This course examines the history, doctrines, and practices of Zen Buddhism in China, Japan and the West. Topics include the monastic life, notable Zen masters, Zen's cultural impact, and enlightenment.
One-term course offered either term
Activity: Lecture
1 Course Unit

RELS 276 Zen Buddhism
This course examines the history, doctrines, and practices of Zen Buddhism in China, Japan and the West. Topics include the monastic life, notable Zen masters, Zen's cultural impact, and enlightenment.
Activity: Seminar
1 Course Unit

RELS 273 Buddhist Literature
This course seeks to introduce students to the diversity of texts, textual practices, and textual communities in Buddhist Asia. We will look at cosmological, historical, narrative, psychological, grammatical, magical, didactic, and astrological genres to gain an understanding of how Buddhist writers from various places and times have expressed their views on the inner workings of the mind, the nature of action, the illusion of phenomena, the role of the ethical agent, the origin of chaos, the persistence of violence, the contours of the universe, and the way to Enlightenment.
Taught by: McDaniel
Also Offered As: EALC 036
Activity: Seminar
1 Course Unit

RELS 303 Power and Peril
We imagine ancient Greece and Rome as the cradles of democracy and republicanism, the early Judent as pious theocracy, but the evidence tells us that monarchy was the most common and prevalent form of government in antiquity (and the premodern world in general). Despite their ubiquity, the King was a polarizing figure—both in reality and in conception. On the one hand, some idealized the monarchy as the ideal leader, and monarchy provided the language with which to describe and even imagine the very gods—but on the other, monarchs were widely reviled in both theory and practice, from the Greek tyrant to the biblical Saul. The Emperor Augustus loudly denied his own affinity to the office of “king” even as he ruled alone and was revered as a god. In other words, kings stood for both the ideal ruler and the worst form of government. This class confronts the paradox of the King. This class will take a special look at the idea and institution of kingship in the Near East, among the Jews, Greeks, and Romans to assess and discuss similarities, differences, and mutual influences among these cultures. Through the lens of the “king” we will explore the idea of god, government, human frailty, and utopianism. Why did the rule of one prevail, why was it so attractive to so many? How was the royal rule legitimized? What role did religious beliefs play for keeping a monarchical system stable? What did people expect from their rulers and what happened if the ruler failed to fulfill these expectations? How was the concept of monarchical rule adopted and transferred into other spheres, such as religious belief systems or hopes for messianic kingship? While kingship is a rich field of scholarly inquiry, the question of its ubiquity, and the entanglement and divergences of these three cultures is rarely studied in context and comparison.
Also Offered As: ANCH 303, CLST 338, JWST 303
Activity: Seminar
1 Course Unit

RELS 309 Honors Thesis Seminar
Required of honors majors who choose the research option. Course usually offered in spring term
Activity: Independent Study
1 Course Unit
RELS 310 American Jesus
Images and beliefs about Jesus have always been a compelling part of American life. This course seeks to examine the social, political, religious and artistic ways that Jesus has been appropriated and used in American life, making him a unique figure for exploring American religious life. Special attention will be given to how Jesus is used to shape social and political concerns, including race, gender, sexuality, and culture.
Taught by: Anthea Butler
Course not offered every year
Also Offered As: AFRC 308
Activity: Seminar
1 Course Unit

RELS 311 Muslim, Christian, and Jewish Relations in the Middle East and North Africa: Historical Perspectives
This class is a reading- and discussion-intensive seminar that addresses several recurring questions with regard to the Middle East and North Africa. How have Islam, Judaism, and Christianity influenced each other in these regions historically? How have Jews, Christians, and Muslims fared as religious minorities? To what extent have communal relations been characterized by harmony and cooperation, or by strife and discord, and how have these relations changed in different contexts over time? To what extent and under what circumstances have members of these communities converted, intermarried, formed business alliances, and adopted or developed similar customs? How has the emergence of the modern nation-state system affected communal relations as well as the legal or social status of religious minorities in particular countries? How important has religion been as one variable in social identity (along with sect, ethnicity, class, gender, etc.), and to what extent has religious identity figured into regional conflicts and wars? The focus of the class will be on the modern period (c. 1800-present) although we will read about some relevant trends in the early and middle Islamic periods as well. Students will also pursue individually tailored research to produce final papers. Prior background in Islamic studies and Middle Eastern history is required. This class is intended for juniors, seniors, and graduate students.
Taught by: Sharkey
Course not offered every year
Also Offered As: JWST 335, NELC 335
Activity: Seminar
1 Course Unit

RELS 320 Modern Jewish Intellectual and Cultural History
An overview of Jewish intellectual and cultural history from the late 18th century until the present. The course considers the Jewish enlightenment Reform, Conservative and Neo-Orthodox Judaism, Zionist and Jewish Socialist thought, and Jewish thought in the 20th century, particularly in the context of the Holocaust. Readings of primary sources including Mendelsohn, Geiger, Hirsch, Herzl, Achai-da-Am, Baeck, Buber, Kaplan, and others. No previous background is required.
Taught by: Ruderman
One-term course offered either term
Also Offered As: HIST 380, JWST 380
Activity: Lecture
3 Course Units

RELS 329 Wisdom in the Hebrew Bible
What does God want from us? Why are we here? How can we make the most of our existence? In this course we will explore how the Bible answers above questions and what this can tell us about the human condition during biblical times. Students will read select passages in the Book of Proverbs, Job and Qohelet (Ecclesiastes) in conjunction with Near Eastern texts. We will learn how ancient sages faced the uncertainties of life and the fleeting nature of human existence.
Taught by: Crantz
Course usually offered in fall term
Also Offered As: NELC 350, NELC 650, RELS 629
Activity: Seminar
1 Course Unit

RELS 332 Topics in Byzantine Art
Topic Varies. Fall 2017: This undergraduate seminar explores the Byzantine icon and its legacy. Spanning nearly two millennia, from the emergence of Christian sacred portraiture to the reception of icon painting by the early twentieth-century avant-garde, the seminar will introduce you to the history, historiography, and theories of the icon. While our focus will be on Byzantium and the wider world of Orthodox Christianity, the seminar will also engage with fundamental questions concerning the nature, status, and agency of images across cultures. Topics to be addressed include iconoclasm and the problem of idolatry; the social and ritual lives of icons; authorship, originality, and replication; viewer response and the cultural construction of vision; the frontier between art and the sacred image; and the afterlife of the icon in modernity.
Taught by: Ousterhout
Course not offered every year
Also Offered As: ARTH 332
Activity: Seminar
1 Course Unit

RELS 335 St. Paul and his interpreters
Taught by: Webster
Activity: Seminar
1 Course Unit

RELS 352 Jewish Political Thought & Action
Weekly seminar explores expressions of Jewish political thought—and, where possible, political action—from biblical times to the present. Themes include the leadership of biblical priests, prophets and kings; covenant as the basis of the theocratic polity; the status of outsiders in biblical and rabbinic societies; constructions of political authority; changing understandings of Jewish "nationhood"; messianism; medieval Jewish ruminations on ideal government; the non-sovereign Jewish community's relationship to rulers; manifestations of Jewish communal autonomy; tensions between rabbinic and lay leadership; biblical Israel as a model for governance in early modern political thought; debates over Jewish Emancipation; expressions of Jewish socialism; varieties of pre-state Zionist thought; contemporary messianic Zionism; contemporary manifestations of Jewish political concerns. Primary sources (English translation) include readings from Hebrew Bible, ancient rabbinic texts, Jewish communal decrees, Moses Maimonides and other medieval Jewish thinkers; Baruch Spinoza, Moses Mendelssohn, Ber Baruchov, Theodor Herzl, Martin Buber, Rabbi Abraham Isaac Kook, Yeshayahu Leibovitz and contemporary writers. One session will take place in the Rare Book Room of Van Pelt Library. No prior knowledge is assumed.
Taught by: Fishman
Course not offered every year
Also Offered As: JWST 353
Activity: Seminar
1 Course Unit
RELS 356 Living Deliberately: Monks, Saints, and the Contemplative Life
Students who are not Religious Studies Majors and are not honors students must gain permission from instructor to enroll in this course. This is an experimental course in which students will experience monastic and ascetic ways of living. There will be no examinations, no formal papers, and very little required reading. However, each participant will need to be fully committed intellectually and participate in the monastic rules in the course involving restrictions on dress, technology, verbal communication, and food. The course subject matter is about ways in which nuns, monks, shamens, and swamis in various religious traditions (Buddhist, Muslim, Catholic, Jain, Taoist, Hindu, Animist, among others) have used poetry, meditation, mind-altering chemicals, exercise, magic, and self-torture to cope with pain and suffering, as well as struggle with spiritual, ethical, and metaphysical questions concerning the nature of the soul, the afterlife, and reality. Through monastic and spiritual practice, this course hopes to provide students with an opportunity to struggle with these questions themselves. Taught by: McDaniel Course not offered every year
Prerequisites: Students must complete an interview with instructor before acquiring a permit. Activity: Seminar 1 Course Unit

RELS 370 Corpse as Material Culture in the Study of Religion
Taught by: Toulson Activity: Seminar 1 Course Unit

RELS 399 Directed Reading
Students arrange with a faculty member to pursue a program of reading and writing on a suitable topic. One-term course offered either term Activity: Independent Study 1 Course Unit

RELS 400 The Religious Right in America
From the Scopes Monkey Trial to Sarah Palin, conservative religion figures and groups have attempted to define and shape government and public policy in the United States. This course will look at the impact of conservative religion in American Politics and the ideas, personalities, and policy it has shaped. Special attention will focus on the 2008 and 2012 Election cycles, the use of media in the Religious Right, political personalities, and grassroots organizing integral to the Religious Right and its impact on American politics. Taught by: Butler Course usually offered in fall term Activity: Seminar 1 Course Unit

RELS 409 Native American Spirituality, Health, and Contemporary Concerns
Spring 2014 Topic: "Native American Spirituality, Health, and Contemporary Concerns" will focus on traditional and contemporary conceptions of Health in four Native American communities—Lakota or Sioux, Navajo or Dine, Cherokee, and Ojibwe or Anishinaabe. The methodology will be interdisciplinary, drawing upon writings from the fields of health care, anthropology, literature, history, film studies, and religious studies. Students will learn about the the complex interrelationships between traditional knowledge systems’ and modern, western conceptions of "medicine." Some examples of this include the Lakota Ghost Dance, Navajo sand paintings, Cherokee protocols regarding sacred knowledge, and Anishinaabe herbal medicine. The readings will include anthropological studies of these forms of "medicine," a history of Indian Health Services, first hand accounts of a female Navajo doctor trained in western medicine who then returned home to practice on the Navajo reservation, studies of historical trauma resulting from the massacre of Lakota at Wounded Knee, and contemporary studies of health care on Indian reservations. Students will be evaluated on the basis of in-class presentations and two research papers. The class will also participate in an ongoing project to develop a Cultural Sensitivities workshop that is being implemented at the Indian Health Care clinic at the Cass Lake Hospital on the Leech Lake Ojibwe reservation. Taught by: Powell One-term course offered either term Also Offered As: AFRC 409, ANTH 409 Activity: Lecture 1 Course Unit

RELS 410 American Religion and the LGBTQ Experience
Taught by: Philip Francis One-term course offered either term Activity: Lecture 1 Course Unit

RELS 412 African American Spiritual Autobiography
This seminar will engage works of autobiography in the African American tradition with particular attention to the spiritual and religious contexts of the authors. We will discuss recurring themes, scriptural motifs, and religious and social tensions expressed in the works. Gender, political ideology, social activism, and religious identification will also be explored. Course not offered every year Also Offered As: AFRC 412 Activity: Seminar 1 Course Unit
RELS 418 Ancient Interpretation of the Bible
Christianity and Judaism are often called "Biblical religions" because they are believed to be founded upon the Bible. But the truth of the matter is that it was less the Bible itself than the particular ways in which the Bible was read and interpreted by Christians and Jews that shaped the development of these two religions and that also marked the difference between them. So, too, ancient Biblical interpretation—Jewish and Christian—laid the groundwork for and developed virtually all the techniques and methods that have dominated literary criticism and hermeneutics (the science of interpretation) since then. The purpose of this course is to study some of the more important ways in which the Bible was read and interpreted by Jews and Christians before the modern period, and particularly in the first six centuries in the common era. We will make a concerted effort to view these interpretive approaches not only historically but also through the lens of contemporary critical and hermeneutical theory in order to examine their contemporary relevance to literary interpretation and the use that some modern literary theorists (e.g. Bloom, Kermode, Derrida, Todorov) have made of these ancient exegetes and their methods. All readings are in English translation, and will include selections from Philo of Alexandria, the Dead Sea Scrolls, Rabbinic midrash, the New Testament and early Church Fathers, Gnostic writings, Origen, and Augustine. No previous familiarity with Biblical scholarship is required although some familiarity with the Bible itself would be helpful.
Course not offered every year
Also Offered As: COML 556, JWST 356, JWST 555, NELC 356
Activity: Seminar
1 Course Unit

RELS 419 Jewish-Christian Relations Through the Ages
This is a Bi-directional course which explores attitudes toward, and perceptions of, the religious "Other", in different periods of history. Themes include legislation regulating interactions with the Other, polemics, popular beliefs about the Other, divergent approaches to scriptural interpretation, and cross-cultural influences, witting and unwitting. Different semesters may focus on Late Antiquity, the Middle Ages, Early Modern period, or contemporary times. May be repeated for credit.
Taught by: Fishman
Course not offered every year
Also Offered As: JWST 419
Activity: Seminar
1 Course Unit

RELS 422 Jewish Intellectual and Cultural History in the Early Modern Era: From the Spanish Expulsion to Spinoza
God and Nature examines the place of the natural world, medicine, and science in Jewish thought from antiquity to the modern era. It looks especially at a body of primary sources in Hebrew written during the age of the so-called "scientific revolution" and during its aftermath. The course is a seminar open to undergraduate and graduate students with a reading knowledge of classical Hebrew. Students without Hebrew with special interest in the subject might enroll with special permission from the instructor.
Taught by: Ruderman
One-term course offered either term
Also Offered As: HIST 449, JWST 449
Activity: Seminar
1 Course Unit

RELS 426 Rabbinic Writers on Rabbinic Culture
The course traces reflections on rabbinic culture produced within Jewish legal literature of the classic rabbinic period - Midrash, Mishna and Talmud - and in later juridical genres - talmudic commentary, codes and responsa. Attention will be paid to the mechanics of different genres, the role played by the underlying prooftext, the inclusion or exclusion of variant opinions, the presence of non-legal information, the balance between precedent and innovation. Reading knowledge of Hebrew is required.
Taught by: Fishman
Course not offered every year
Also Offered As: HEBR 486, JWST 426
Prerequisite: Reading knowledge of Hebrew
Activity: Seminar
1 Course Unit

RELS 429 Topics In Jewish History
Reading and discussion course on selected topics in Jewish history.
Course not offered every year
Also Offered As: GRMN 581, HIST 490, JWST 490
Activity: Seminar
1 Course Unit

RELS 433 Christian Thought From 200-1000
This course introduces students to the major intellectual issues of Christianity from the period of the formulation of orthodox theology (the third to the fifth centuries), through the early medieval era, to the dawn of scholastic theology around the year 1000. Although the emphasis is on the evolution of Christian thought, several aspects of social and political history will also be considered, for example, the growth of ascetic movements and the monastic ideal, relationship between Christianity and the Roman Empire, and the role of women in Christian history. Readings will be largely from primary sources, with several secondary authors (especially Peter Brown) serving as foils to interpretation. Students will be expected to do independent research in the library and on line, beyond the assigned readings of the course.
Taught by: Matter
Course not offered every year
Prerequisites: None—some background in European history helpful.
Activity: Seminar
1 Course Unit
RELS 434 Christian Thought From 1000-1800
This course will trace the development of Christian thought (including philosophy, theology, spirituality and mysticism) from the early Scholastic period to early Methodism. Readings will be from both primary and secondary sources. A research paper will be required of each student. Spring 2014. This course will give an overview of the main currents of Western Christian thought from the first age of reform (that is, the Central Middle Ages) through the Reformations of the sixteenth century, to the eve of the Enlightenment. In these centuries, "Christendom" underwent an almost constant process of internal and external self-definition. The most striking results of this process were the definitive separation of eastern and western Christianity and the division of the western church into what became known as Protestant and Catholic Christianity. Our focus will be on the changing definitions of Christian culture, including theological formulations (definitions of orthodoxy and heterodoxy), trends of spirituality and mysticism, forms of worship, and gender roles and definitions. Attention will also be given to institutional questions such as ecclesiastical hierarchy, monasticism, scholasticism and the rise of universities, and the changing relationship between the secular and religious worlds. Readings will be from both original and secondary sources. Additional primary sources will be available online, attached to the course Blackboard page. I will supply copies of other readings. Taught by: Matter
Course not offered every year
Prerequisites: None-some background in European history helpful.
Activity: Seminar
1 Course Unit

RELS 438 Topics in Medieval History
This seminar introduces students to the development of Jewish and Christian biblical interpretation by focusing on ancient, medieval, and modern interpretations of the Sermon on the Mount. The Sermon on the Mount is part of the Gospel of Matthew and is often considered to summarize the essential teachings of Jesus of Nazareth. Students will encounter a variety of important interpreters (including Origen, John Chrysostom, Augustine of Hippo, Thomas Aquinas, Martin Luther, Leo Tolstoy, Albert Schweitzer, Dietrich Bonhoeffer, Clarence Jordan, and Hans Dieter Betz), guided by appropriate secondary sources. The seminar will utilize a combination of lecture, discussion, student presentations, reports, close reading, and a research paper. Students will be encouraged to do original research in the primary sources. This course has no prerequisites. The readings will be made available in English. The class will utilize a combination of lecture, discussion, student presentations, reports, close reading, and a research paper. Taught by: Treat
One-term course offered either term
Also Offered As: JWST 410
Activity: Seminar
1 Course Unit

RELS 439 Religion, Social Justice & Urban Development
Urban development has been influenced by religious conceptions of social and economic justice. Progressive traditions within Judaism, Christianity, Islam, Buddhism, Hinduism, Jainism, Baha'i, Humanism and other religions and systems of moral thought have yielded powerful critiques of oppression and hierarchy as well as alternative economic frameworks for ownership, governance, production, labor, and community. Historical and contemporary case studies from the Americas, Europe, Africa, Asia, and the Middle East will be considered, as we examine the ways in which religious responses to poverty, inequality, and ecological destruction have generated new forms of resistance and development. Taught by: Lamas
Course usually offered in spring term
Also Offered As: AFRC 405, URBS 405
Activity: Seminar
1 Course Unit

RELS 440 Later Islamic Art & Architecture
Istanbul, Samarkand, Isfahan, Cairo and Delhi as major centers of art production in the fourteenth to seventeenth centuries. Attention is given to urban and architectural achievement as well as to the key monuments of painting and metalwork. The visual environment of the "gunpowder empires" is discussed. Taught by: Holod
Also Offered As: AAMW 531, ARTH 436, COML 417, NELC 436
Activity: Lecture
1 Course Unit

RELS 446 Digital Humanities
Penn recently opened the Price Lab for Digital Humanities as part of the universitys new strategic plan, so it is a very exciting moment for DH at Penn. This class might be considered an advanced introduction to the relatively short history of DH. It will focus on one of the questions that has vexed the field from the beginning: Why are the Digital Humanities So White? as Tara McPherson put it rather bluntly in a chapter of Debates in the Digital Humanities. The class will provide an overview of some of the foundational texts of DH, but the primary focus of the class will be involving students in a new DH project to construct an interactive timeline, built in Omeka. The spatio-temporal timeline seeks to represent Iroquois history as seen from the perspective of Iroquois scholar and Faithkeeper, Richard Hill. Hill is the director of the Deyohahage: Indigenous Knowledge Centre on the Six Nations reserve in the Grand River region of Ontario and one of the most highly regarded traditional knowledge keepers of his generation, so it is a great honor to be able to work with him. On a more theoretical level, the class will be addressing the relationship between cultural codes and digital codes. In other words, how to represent Iroquois spiritual history (i.e., mythical events) on a chronological timeline? How to represent indigenous space on maps created by the people who colonized the Iroquois (e.g., the boarder between Canada and the US cuts the Iroquois traditional homeland in half)? Students will learn how to evaluate a complex and challenging project like this, which is still in its earliest stages. On a more practical level, students will learn skills in the exhibit building software Omeka. The class will engage many different forms of history from archival documents to You Tube videos, in its study of how digital technology makes it possible to represent the indigenous oral tradition much more accurately than is possible on the printed page. Taught by: Tim Powell
Also Offered As: HIST 446
Activity: Seminar
1 Course Unit
RELS 471 Religion in Eleven Objects
This advanced course for Religious Studies majors and minors approaches the study of religion through material objects. By looking at both sacred and everyday objects like rosaries melted in atomic blasts, magical amulets used in healing rituals, temple murals defaced by invading armies, manuscript stained by flood water, we will explore the many ways people express their spiritual aspirations and existential fears through objects. Not only will a different object from a variety of religious traditions be examined each week (eleven in total), but we will also explore different methodological and theoretical approaches to the study of religion. Psychological, phenomenological, bio-genetic, sociological, art historical, discursive, post-modern, and narrative approaches will be discussed.
Taught by: Justin McDaniel
Activity: Seminar
1 Course Unit

RELS 473 Southeast Asian Buddhism
This course traces the history and development of Buddhist culture and religion in Southeast Asia. It is a discussion seminar course that examines the role of foundational texts like the Traibhumikatha and Mulasasana, as well as debating the role of kingship, magic, politics, economics, and art in the growth of Buddhism and Buddhist teachings in the region. It is open to undergraduates and graduates.
Course not offered every year
Also Offered As: SAST 373
Activity: Seminar
1 Course Unit

RELS 498 Advanced Research Project
One-term course offered either term
Activity: Independent Study
1 Course Unit

RELS 500 Theory and Method in the Study of Religion
This graduate seminar will map the theories and methods underpinning the contemporary study of religion. To draw this map, we will consider the history of the field. We'll proceed by examining how problems within religious studies have been resolved in different ways at different times, constructing a web of dialogues and debates between different figures across history. Specific topics to be considered will include experience, discourse, embodiment, feminism, postcolonialism, science, and materiality.
Taught by: Schaefer
Course not offered every year
Activity: Seminar
1 Course Unit

RELS 509 Teaching Religious Studies
Many faculty in academia, especially at a research university, think of themselves as scholars first and teachers second. The emphasis on scholarship is essential for a position at a research university, but what the culture of such institutions can obscure is the importance of teaching as part of the academic vocation. The purpose of this course is to help prepare graduate students to teach academic religious studies, not to teach them how to teach, a skill developed through experience and feedback, but to encourage students to plan in advance for their work as educators and to develop their teaching aspirations and approach in dialogue with issues and debates in Religious Studies, the Humanities and the field of Education.
Taught by: Weitzman
Course usually offered in fall term
Activity: Seminar
1 Course Unit

RELS 510 Civil Religion
In the first half of the course, we will examine the theoretical question of whether modern liberal societies need a civil religion—a concept first proposed in the late eighteenth century by the writer who feared that without some unifying ideal or principle the centrifugal forces at work in modern societies would lead them to disintegrate. We will examine various authors who have defended the idea of civil religion in these terms (including J.J. Rousseau, J.G. Herder, and G.W.F. Hegel) as well as several who (implicitly or explicitly) have rejected the argument (Max Weber, Michael Oakeshott, Daniel Bell, and Niklas Luhmann). In the second half of the class, we will turn to the American context and explore the way these arguments have played themselves out from the time of the constitutional frames to today. In this part of the class, we will read and discuss excerpts from the Federalist Papers and Tocqueville's Democracy in America, selected presidential speeches, nineteenth- and twentieth-century debates surrounding Manifest Destiny and American Exceptionalism, John Dewey/Richard Rorty's proposal for a religion of democratic "common faith," and the neoconservative case for a civil religion of "national greatness." Along the way we will also have occasion to examine sociological treatments of civil religion by such authors as Emile Durkheim, Robert Bellah, and Seymour Martin Lipset.
Taught by: Butler
Course not offered every year
Activity: Seminar
1 Course Unit

RELS 517 Topics in American Religion
From Marvin Gaye, to Tammy Faye Baker, to Sarah Palin and James Baldwin, Pentecostalism has influenced many, including politicians, preachers, writers, and the media. One of the fastest growing religious movements in the world, Pentecostalism continues to have a profound effect on the religious landscape. Pentecostalism's unique blend of charismatic worship, religious practices, and flamboyant, media-savvy leadership, has drawn millions into this understudied and often controversial religious movement. This course will chronicle the inception and growth of Pentecostalism in the United States, giving particular attention to beliefs, practices, gender, ethnicity, and Global Pentecostalism.
Taught by: Butler
Course not offered every year
Also Offered As: AFRC 518, FOLK 517
Activity: Seminar
1 Course Unit
**Religious Studies (RELS)**

**RELS 519 An Introduction to Religion in South Asia**
This undergraduate-level course introduces students to the multi-religious complexion of South Asia as a region, with a particular focus upon key religious traditions and the resemblances and interactions between them. This course is divided into two parts. In the first part of this course, students are introduced to key religious traditions of South Asia, Hinduism, Buddhism, Jainism, Islam and Sikhism. Students will be encouraged to survey academic works pertaining to, on the one hand, the literature, doctrines, cosmologies, rituals and histories of, and prominent places of worship in, the Hindu, Buddhist, Jain, Muslim and Sikh religious traditions. On the other hand, the development of South Asia into a distinctive space and spiritual 'homeland' for multi-religious communities. Whilst the first part of the course focuses upon religious traditions autonomously, the subsequent section of the course is thematic and encourages students to make comparisons, and discover sophisticated relationships and dynamic interactions between religious traditions in South Asia. Students are introduced to scholarly writings that are revelatory of the materiality of religious traditions in pre-modern and modern South Asia; everyday forms of piety in South Asia; gender positions in religious traditions; encounters of religious traditions with European colonialism; and, perceptions of the 'other' in pre-modern religious traditions. Herein, students will find multiple sites of resemblances or differences, and cultural negotiations, engagements and contests, within religious traditions in South Asia.

Taught by: Sevea
One-term course offered either term
Also Offered As: RELS 119, SAST 529
Activity: Lecture
1 Course Unit

**RELS 520 Spirit and Law**
While accepting “the yoke of the commandments”, Jewish thinkers from antiquity onward have perennially sought to make the teachings of revelation more meaningful in their own lives. Additional impetus for this quest has come from overtly polemical challenges to the law, such as those leveled by Paul, medieval Aristotelians, Spinoza and Kant. This course explores both the critiques of Jewish Law, and Jewish reflections on the law's meaning and purpose, by examining a range of primary sources within their intellectual and historical contexts. Texts (in English translation) include selections from Midrash, Talmud, medieval Jewish philosophy and biblical exegesis, kabbalah, Hasidic homilies, Jewish responses to the Enlightenment, and contemporary attempts to re-value and invent Jewish rituals.

Taught by: Fishman
Course not offered every year
Also Offered As: JWST 320, JWST 520, NELC 454, RELS 321
Activity: Seminar
1 Course Unit

**RELS 523 Studies in Medieval Jewish Culture**
Primary sources include readings from ancient, medieval and early modern Jewish texts. Students must be able to read unvocalized Hebrew. Open to undergraduates only with the instructor's permission.

Taught by: Fishman
One-term course offered either term
Also Offered As: HEBR 583, HIST 523, JWST 523
Prerequisites: Reading knowledge of Hebrew.
Activity: Seminar
1 Course Unit

**RELS 533 Ancient and Medieval Church History**
Many historians have argued that the most successful type of religious life in the Christian tradition is that founded by Saint Benedict of Nursia in early medieval Italy. The vision of a devout life in community dominated the medieval Christian landscape, and inspired some of the greatest classics of western Christian spirituality. This course will trace the Benedictine ideal from its roots in the Desert Fathers of the early Church, through Benedict's life and the formation of his Rule, to the role played by Benedictines in the development of medieval secular learning, theology, music, and spirituality. We will end by reading some contemporary works on the Benedictine ideal in the modern world.

Taught by: Matter
One-term course offered either term
Also Offered As: HIST 533
Activity: Seminar
1 Course Unit

**RELS 535 Varieties of Christian Thought before Irenaeus**
A survey of the known groups and perspectives that emerged in the first 150 years or so of the development of "Christianity" from its roots in Judaism and the hellenistic world(s), with special attention to the primary sources (especially literary) and to modern attempts at historical synthesis.

Taught by: Reed
Course offered spring; odd-numbered years
Activity: Seminar
1 Course Unit

**RELS 537 Medieval Christian Mysticism**
Selected topics in Christian mystical writings. Authors will be read in English translation. Knowledge of medieval languages is helpful, but not required.

Taught by: Matter
One-term course offered either term
Also Offered As: ITAL 530
Activity: Seminar
1 Course Unit

**RELS 538 Modern Christian Thinkers**
Close study of selected texts dealing with the relation between Christian ideas and modern thought.

Taught by: Matter
One-term course offered either term
Activity: Seminar
1 Course Unit

**RELS 540 David and Solomon**
Also Offered As: JWST 541
Activity: Lecture
1 Course Unit
RELS 541 Religion and the Visual Image: Seeing is Believing
Seeing is Believing engages in a historical, theoretical, and cross-cultural analysis of the place of visuality in religion and of religion in visual culture. We will examine images, buildings, places, objects, performances and events. The geographical, cultural and historical scope of the material is broad, including subjects from Europe, the Islamic World, non-Muslim South Asia, the US and Latin America from the medieval period until the present. Theoretical works will be read in conjunction with representative examples to invite intellectual engagement in a socially and historically grounded way. Important issues to be covered include the relationship of visual to material culture; visual theories versus theories of vision; locating religion in human sensory experience; perception at individual and collective levels; authenticies, fakes and simulacra; iconoclasm and image veneration; aesthetics, use and utility; and things.

Taught by: Jamal Elias
Course not offered every year
Also Offered As: NELC 589, SAST 541
Activity: Seminar
1 Course Unit

RELS 543 RELS Graduate Methodology Course
This course is an introduction to a variety of critical approaches to religion. The first part of the course will take an historical approach to the development of Religious Studies through the lens of seven foundational theorists: Muller, Marx, Weber, Durkheim, Eliade, Geertz, and Said. The second part of the course will explore contemporary approaches to these theorists, in the process discussing anthropological, sociological, and phenomenological approaches to topics of concern currently to Religious Studies. Throughout the semester, we will trace different approaches to these themes across multiple theorists. In this course, we will consider the category of 'religion' as constructed. We will cultivate a critical approach that orients itself toward the disciplinary object (and the conditions for its emergence), the disciplinary subject (and the conditions for its emergence), and their dialectical interaction. Objects and ideas will not be approached as intrinsically or exclusively religious. Rather, we will explore historical, ideological, political, and cultural dynamics.

Taught by: Robb
Also Offered As: SAST 543
Prerequisite: Graduate Students Only
Activity: Seminar
1 Course Unit

RELS 545 Sufism
Selected topics, such as Sufi Texts or The Qur'an, in the study of Islamic religion.

Taught by: Elias
One-term course offered either term
Also Offered As: NELC 534
Prerequisite: Reading knowledge of Arabic
Activity: Seminar
1 Course Unit

RELS 549 The Mullah & The Englishman - Islam in Modern South Asia
This course introduces students to Islam in modern South Asia, with a particular focus on the development of 'new' Muslim religious idioms, orientations, pedagogies and movements in 19th and 20th century South Asia. This course is divided into three parts. In the first part of this course, students are provided with an overview of: Muslim institutions and spaces in pre-colonial South Asia, the historical emergence of South Asia as a prominent global center of Islam, and the development of Urdu as an Islamic idiom. The second and main part of this course introduces students to academic literature concerning sophisticated encounters between the Muslim elite in north India and modern political and technological developments. The intimate interactions of the 'Mullah' and the 'Englishman' from the 19th to 20th century will thus be revealed to students. This part focuses upon, on the one hand, the role of Islam and pious Muslims in the colonial army, and on the other hand, Muslim initiatives to educate an Islamic 'modernism', 'traditionalism', 'fundamentalism' and 'Sufism', and appropriate print technologies for the creation of public spheres. Students will be introduced to historical scholarship revelatory of how these Muslim pedagogies and print initiatives were based upon sophisticated transcultural networks and exchange. In the third part of this course, students will be encouraged to engage with contemporary literature on South Asian Muslim political philosophy and nationalism, and the transcultural intellectual exchanges that produced key Muslim political ideologies.

Taught by: Sevea
One-term course offered either term
Also Offered As: RELS 149, SAST 502
Activity: Seminar
1 Course Unit

RELS 551 History of Hinduism
This course will explore the history of the religion(s) designated by the term 'Hinduism' from their earliest articulations down to the rise of modern reforms in the nineteenth century. The study of Hinduism is perhaps unique among the scholarly traditions on world religions in that it has to date had no serious connected account of its historical development, as scholars have preferred to take structural, sociological, phenomenological, and doctrinal approaches to the religion. The course, after a brief review of scholarly approaches to Hinduism and their interpretive legacies, will seek to develop a historical sense of the religion through attention to shifts in liturgy, ritual, theology, doctrine, sacrality, kingship, and soteriology. The course will include the reading of primary sources relevant to understanding these changes as well highlight both modern and premodern traditions of their interpretation. It will also consider and assess some of the key interpretive ideas in the study of Hinduism, including, Sanskritization, Great and Little Traditions, cult formation, regional and popular religious movements, and canon formation. There will also be sustained consideration of the question of religion and socio-political power as well as relations between Hinduism and other religions like Buddhism and Islam.

Taught by: Ali
Also Offered As: SAST 550
Activity: Seminar
1 Course Unit
RELS 555 History of Print Culture in South Asia, 1600 to the present
This course asks the question: what changes with the arrival of print in South Asia? The printing press arrived in India in force in 1800, within 25 years, hundreds of publications proliferated in several South Asian languages. The adoption and response to print in South Asia offers understanding not only regarding information dissemination but also authority production among a wide range of religious and cultural groups in South Asia. We will consider critically the relationship between material culture, networks of political power, modes of authority transmission and religious meaning in South Asia from 1600 to the present. This course will start with a unit considering the techniques of manuscript knowledge reproduction and transmission across South Asia from 1600 to 1800. We will then consider the rise of the East India Company’s Press in the late 18th century, the development of print techniques, and the appearance of the private publishing company. We will then consider the rise of Lahore as a printing hub and center of print culture in the 19th century, alongside the wider entrenchment of a newspaper print network, railway and postal networks. The early 20th century sees the rise of both large urban and qasbah-based newspaper networks, alongside a thriving print culture in the context of nationalist movements and communal conversations. A final unit on the post-Partition milieu looks at the rise of digital and new medias. Crucial to our conversation will be the symbiotic role of print and formation of new boundaries around the category of religion.

Taught by: Robb
Course usually offered in fall term
Prerequisite: Graduate Course
Activity: Seminar
1 Course Unit

RELS 571 Advanced Topics in Buddhism
This is an advanced course for upper level undergraduates and graduate students on various issues in the study of Buddhist texts, art, and history. Each semester the theme of the course changes. In recent years themes have included: Magic and Ritual, Art and Material Culture, Texts and Contexts, Manuscript Studies. Fall 2013 Topic: Buddhist repertoires (idiosyncratic and personal assemblages of beliefs, reflections, wonderings, possessions, and practices) for a large part, material and sensual. Buddhists are often sustained by their collection, production, and trading of stuff amulets, images, posters, protective drawings, CDs, calendars, films, comic books, and even Buddhist-themed pillow cases, umbrellas, and coffee mugs. Aspirations are interconnected with objects. Beliefs are articulated through objects. Objects are not empty signifiers onto which meaning is placed. The followers and the objects, the collectors and their stuff, are overlooked in the study of religion, even in many studies in the growing field of material culture and religion. What is striking is that these objects of everyday religiosity are often overlooked by art historians as well. Art historians often remove (through photography or physical movement to museums or shops) images and ritual implements from their ritual context and are seen as objets d’art.

Taught by: McDaniel
Course not offered every year
Also Offered As: ARTH 510, EALC 718
Activity: Seminar
1 Course Unit

RELS 581 How Digital Humanities Can Help Save the Planet
Students will be taught each phase of designing a sophisticated digital exhibit of museum quality. This includes choosing a platform, designing a compelling exhibit, writing metadata, learning about grant writing to support and sustain digital exhibits, and theorizing how digital technology can be used to educate the general public about the importance of preserving forests in the Anthropocene (Age of Climate Change). A significant part of the course will be dedicated to learning about Environmental Humanities including: 1) Scientific studies of climate change in the Arctic, the Amazon, the forests of North America; 2) Contemporary politics effecting the Environmental Protection Agency; 3) Why Native Americans were successful at the first standoff at Standing Rock; and 4) the Data Rescue project that Penn is participating in to save Environmental data being removed from the web by the present administration. We will also study state-of-the-art digital exhibits like the WWhat is Missing?: Creating a Global Memorial to the Planet site by Maya Lin, who designed the Vietnam Memorial in Washington D.C.

Taught by: Powell
Also Offered As: ANTH 581
Activity: Seminar
1 Course Unit

RELS 586 History of Islam in Asia
This class looks at the history of Islam across South Asia, East Asia, and Southeast Asia with a focus on the last three centuries. Contrary to the popular perception that the Middle East defines Islam, Asia has been the source of some of Islams most important social and reform movements. Students will contrast different Muslim societies over the last three centuries, examine points of confluence for geographically- or culturally-distinct Muslim peoples, and in their writing assignments focus on the history of one society in a wider Islamic context.

Taught by: Robb
Activity: Seminar
1 Course Unit
RELS 605 Theories of Myth
Theories of myth are the center of modern and post-modern, structural and post-structural thought. Myth has served as a vehicle and a metaphor for the formulation of a broad range of modern theories. In this course we will examine the theoretical foundations of these approaches to myth focusing on early thinkers such as Vico, and concluding with modern twentieth century scholars in several disciplines that make myth the central idea of their studies.
Taught by: Ben-Amos
Course not offered every year
Also Offered As: GREK 609
Activity: Seminar
1 Course Unit

RELS 609 Divination and Semiotics
This seminar will explore ancient Greek (and some Roman) approaches to the arts. Greek audiences and critics alike were deeply interested in both theoretical and practical questions about the arts, especially literature. We will consider not only the philosophical tradition, but also popular notions of aesthetic value, including the varieties of audience responses and fandom. Among the authors we will study are various early Greek philosophical and sophistic thinkers, Plato, Aristotle, Hellenistic literary theorists, including Philodemus, Horace, Longinus, and selected theorists of late antiquity.
Taught by: Struck
Course not offered every year
Also Offered As: COML 662, FOLK 629, NELC 683
Activity: Seminar
1 Course Unit

RELS 610 Religion in Public Life
This seminar is an introduction to six of the most debated areas involving religion in public life: diversity in American religions; church-state relations and the Constitution; issues in specific eastern and western religions; religious dimensions of contemporary ethical and social debates (abortion, euthanasia, minority and gender roles); religious symbolism in the public sphere; and the prevailing understandings of religion in the media and modern society. Teachers, school administrators, journalists, public policy specialists, social workers, lawyers, and health care professionals all encounter situations in which the religious sensitivities of "clients" (students, parents, readers, etc.) affect the ways in which they discharge their duties. This seminar serves as an introduction to the Religion in Public Life concentration within the Master of Liberal Arts Program, which is designed to provide professionals with an understanding of the many historical, social and legal issues that complicate discussions of religion in public situations.
Course not offered every year
Activity: Seminar
1 Course Unit

RELS 617 Proseminar in Africana Studies
This course focuses on the historical and cultural relationship between Africans and their descendants abroad.
Taught by: Beavers, Butler, Charles, Jackson, Savage, Thomas, Zuberi
Two terms. student must enter first term.
Also Offered As: AFRC 640, COMM 740
Activity: Seminar
1 Course Unit

RELS 620 Godliness, Miracles, Madness
This graduate-level course introduces students to religious worlds within port cities of the modern Indian Ocean that were centered upon peripatetic Muslim, Savia, Christian and Sikh miracle-workers, missionaries and 'gods.' This course will particularly consider how extant, published sources reveal how religion in the 19th and 20th century cosmopolitan port cities and islands: was centered upon holy men and women or spiritual beings, and intricately connected to modern economic, political and technological developments in the India Ocean. On the other hand, to anthropological, historical and literary works on Muslim saints, Christian missionaries and Saiva gods in the Indian Ocean. In the second and main section of this course, students will be introduced to contemporary academic literature pertaining to the inter-linkages between itinerant miracle-workers, missionaries, 'gods' and devotional cults, and economic, political and technological developments in the Indian Ocean. As well as works that explore European institutions, barracks, plantations, cells, and asylums, and steam travel being steeped in customary religion, carnivals, ecstasy, madness and miracle stories. Here, students will be encouraged to consider ways in which a study of religion and religious economies of modern Indian Ocean port cities can be recovered through extracts from a range of anthropological, literary and historical sources. In the third part of this course, students will be encouraged to engage with the question of whether the religion of devotional cults preoccupied with the powers of Muslim, Saiva, Christian, and Sikh miracle-workers, missionaries and 'gods' in cosmopolitan port cities, was a distinct product of circulations within the Indian Ocean.
Taught by: Sevea
Course usually offered in fall term
Also Offered As: SAST 620
Activity: Seminar
1 Course Unit

RELS 629 Wisdom in the Hebrew Bible
Taught by: Crantz
Course not offered every year
Activity: Seminar
1 Course Unit

RELS 632 Hinduism & Colonial Modernity
This seminar deals with the question of modernity in South Asia, with a specific focus on the construction, dissemination, and politicization of Hinduism in nineteenth and twentieth century India. It focuses on three central heuristic lenses—namely those of European imperialism, Orientalism, and nationalism—to study modernity and its discontents. What was at stake in the encounter between colonial modernity and India's religions in nineteenth and early twentieth centuries? How did colonial and native discourses on “reform” and “revival” shape Indian religions as we understand them today? How is modern "Hinduism" inextricably hinged to early forms of cultural transnationalism, Orientalism, and incipient forms of nationalism? This seminar approaches questions such as these and others, with an eye to understanding how nineteenth and early twentieth century discourses continue to shape contemporary understandings of Hinduism in deep and highly politicized ways.
One-term course offered either term
Also Offered As: SAST 632
Activity: Seminar
1 Course Unit
RELS 643 The Persian Intellectual Tradition
What makes Persian culture distinctive within broader Islamic intellectual history, and what constitutes the historical and geographical boundary of the Persianate intellectual and cultural zone? These questions lie at the center of inquiry in this seminar in which participants will read and discuss a broad range of works from the 11th to the 20th centuries. Readings will include works on philosophy and language, Sufi epic poems, religious and cultural geographies, accounts of natural and manufactured wonders, urban and political histories, as well as other kinds of texts. All readings will be in English for the regular meeting of the seminar; students with a reading knowledge of Persian and an interest in participating in an additional meeting to read the assignments in their original language should register for the higher of the two numbers listed for this course.

Taught by: Elias
Course not offered every year
Also Offered As: RELS 743, SAST 633
Activity: Seminar
1 Course Unit

RELS 670 Religious Bodies and Sex in South Asia
This graduate-level course introduces students to the writings of key religious scholars in modern South Asia who associated the regeneration of Hinduism, Islam, and Sikhism with the cultivation of bodies and sexual practices. Particular attention will be paid towards religious texts produced in modern India, Pakistan and Bangladesh pertaining to sexual bodies, exercises and health; celibacy; body-building; the transmission of sexual knowledge; and the political roles of the ‘Hindu’, ‘Muslim’ and ‘Sikh’ body. In this course, students will be encouraged to engage a range of sources including religio-sexual manuals, autobiographies, novels, speeches, pamphlets, official records, recipes and films. Moreover, students will be introduced to the academic literature on South Asian religious scholars and ‘sex gurus’ in South and Southeast Asia; religious sexuality in South Asia, Southeast Asia, the Middle East and Europe; and, the transcultural literary networks that led to the production of religio-sexual texts in modern South Asia.

Taught by: Sevea
One-term course offered either term
Also Offered As: SAST 640
Activity: Seminar
1 Course Unit

RELS 701 Readings in African American Religion History
Traditional narratives of African American Religion go from slavery to civil rights to “freedom” without taking into account the complex religious lives and intellectual production of people of African descent in the Americas. This course will focus on African American Religion and the historical and theoretical frameworks that have shaped the study of this field. Readings will cover religious studies, anthropology, history, and African American studies in order to provide an understanding of the varieties of religion and religious experiences with this particular segment of the African Diaspora.

Taught by: Butler
Course not offered every year
Also Offered As: AFRC 701
Activity: Seminar
1 Course Unit

RELS 702 Topics in Medieval Art
Spring 2017: For the Christians of Medieval Europe, pilgrimages were one of the key embodied experiences of faith. Reliquaries, churches with their welcoming portals, manuscripts and music: all were crafted to augment the corporeal experience of the divine. This seminar will take the material culture surrounding the relic and its veneration as a lens for exploring the Middle Ages, from the Early Christian to the High Gothic. Cross-disciplinary methodologies and cross-cultural examples will be considered to advance our understanding of these phenomena. While proceeding chronologically, each week will focus on a distinct strategy for shaping the interaction between faith and matter.

Taught by: Guerin
Course not offered every year
Also Offered As: ARTH 740, SPAN 630
Activity: Seminar
1 Course Unit

RELS 735 Seminar in Judaism and/or Christianity in the Hellenistic Era
Selected topics from current research interests relating to early Judaism and early Christianity.

Taught by: Reed
Two terms. student may enter either term.
Also Offered As: CLST 735, JWST 735
Prerequisites: Qualified undergraduates may enroll with permission from the instructor.
Activity: Seminar
1 Course Unit

Notes: Knowledge of Greek Presupposed. Student may enter either term

RELS 736 Seminar in Medieval Religious Studies
Selected topics in medieval religious studies, especially biblical exegesis.

Reading knowledge of medieval Latin required.

Taught by: Matter
One-term course offered either term
Activity: Seminar
1 Course Unit

RELS 742 Topics in Islam
Fall 2012 Topic: TBD

Taught by: Elias
Course not offered every year
Also Offered As: NELC 782, SAST 763
Prerequisites: A reading knowledge of modern Persian (Farsi/Dari/Tajik) is required.
Activity: Seminar
1 Course Unit
RELS 743 The Persian Intellectual Tradition
What makes Persian culture distinctive within broader Islamic intellectual history, and what constitutes the historical and geographical boundary of the Persianate intellectual and cultural zone? These questions lie at the center of inquiry in this seminar in which participants will read and discuss a broad range of works from the 11th to the 20th centuries. Readings will include works on philosophy and language, Sufi epic poems, religious and cultural geographies, accounts of natural and manufactured wonders, urban and political histories, as well as other kinds of texts. All readings will be in English for the regular meeting of the seminar; students with a reading knowledge of Persian and an interest in participating in an additional meeting to read the assignments in their original language should register for the higher of the two numbers listed for this course.
Taught by: Elias
Also Offered As: NELC 713, RELS 643, SAST 633
Prerequisites: To take course as RELS743 prior knowledge of Persian is required.
Activity: Seminar
1 Course Unit

RELS 745 Visual Cultures in Islam
Activity: Lecture
1 Course Unit

RELS 771 Readings Pali Buddhism
This course is an extensive reading course in Pali literature from South and Southeast Asia. Students who wish to take the course must have at least 3 years of Sanskrit and a knowledge of at least one Southeast Asian language. Reading will be in philosophical, narrative, magical, medical, historical, and ritual texts.
Taught by: Justin McDaniel
Activity: Seminar
1 Course Unit

RELS 773 Southeast Asian Manuscript Traditions
This is an advanced PhD seminar in which the students will need advanced proficiency in Pali and at least one Southeast Asian Language (Burmese, Thai, Khmer, Lao, Leu, Khoen, Shan, and/or Lanna). Original manuscripts from Penn's collection of Southeast Asian religious, medical, botanical, historical, art, and literary archives will be examined and discussed.
Taught by: McDaniel
Course not offered every year
Also Offered As: EALC 705, SAST 674
Activity: Seminar
1 Course Unit

RELS 999 Independent Study
One-term course offered either term
Activity: Independent Study
1 Course Unit
Notes: See department for section numbers.

Robotics (ROBO)

ROBO 597 Master's Thesis Research
One-term course offered either term
Activity: Masters Thesis
1 Course Unit

ROBO 599 Masters Independ Study
One-term course offered either term
Activity: Independent Study
1 Course Unit

Romance Languages (ROML)

ROML 113 Haitian Creole
Activity: Seminar
0.5 Course Units

ROML 218 SA: Miscellaneous - Lit
Activity: Seminar
1 Course Unit

ROML 250 Golden Age Spain
For BA Students: History and Tradition Sector
One-term course offered either term
Also Offered As: HIST 179
Activity: Seminar
1 Course Unit

ROML 290 Lat American Literature
Course not offered every year
Also Offered As: COML 284, ENGL 270, LALS 291
Activity: Seminar
1 Course Unit

ROML 512 History of Literary Theory
Course not offered every year
Also Offered As: CLST 511, COML 501, ENGL 571, GRMN 534, SLAV 500
Activity: Seminar
1 Course Unit

ROML 690 Language Teaching and Learning
This is a year-long course required of all first-year Teaching Assistants in French and Italian. It is designed to provide new instructors with the necessary practical support to carry out their teaching responsibilities effectively. It will also introduce students to various approaches to foreign language teaching as well as to current issues in second language acquisition.
Course not offered every year
Also Offered As: FREN 601, ITAL 690
Activity: Seminar
1 Course Unit

ROML 691 Technology and Foreign Languages
This course will introduce participants to the field of technology and foreign language teaching and learning. It will review the pertinent theoretical underpinnings for the pedagogically-sound use of technology in the teaching of languages starting with a brief overview of the historical development of the field. Students will learn to evaluate existing programs and applications with a critical eye through a systematic examination of projects which have been implemented both here at Penn and elsewhere. The course will also have weekly hands-on workshops to introduce participants to the design and development of multimedia materials, including image, video and sound editing. The focus will be primarily on Web-based design and delivery. All participants will select a project to work on during the course of the semester; in addition they develop an online teaching portfolio.
Course not offered every year
Also Offered As: EDUC 673, GRMN 517
Prerequisite: Romance Languages 690 or its equivalent
Activity: Seminar
1 Course Unit
RUSS 001 Elementary Russian I
This course develops elementary skills in reading, speaking, understanding and writing the Russian language. We will work with an exciting range of authentic written materials, the Internet, videos and recordings relating to the dynamic scene of Russia today. At the end of the course students will be comfortable with the Russian alphabet and will be able to read simplified literary, commercial, and other types of texts (signs, menus, short news articles, short stories) and participate in elementary conversations about daily life (who you are, what you do every day, where you are from, likes and dislikes).
For BA Students: Language Course
Course usually offered in fall term
Also Offered As: RUSS 501
Activity: Lecture
1 Course Unit

RUSS 002 Elementary Russian II
Continuation of RUSS001. Further work developing basic language skills using exciting authentic materials about life in present-day Russia. At the conclusion of the course, students will be prepared to negotiate most basic communication needs in Russia (getting around town, ordering a meal, buying goods and services, polite conversation about topics of interest) and to comprehend most texts and spoken material at a basic level.
For BA Students: Language Course
Taught by: Peeney/Alley
Course usually offered in spring term
Also Offered As: RUSS 502
Prerequisite: RUSS 001 or equivalent
Activity: Lecture
1 Course Unit

RUSS 003 Intermediate Russian I
This course will develop your ability to use the Russian language in the context of typical everyday situations, including university life, family, shopping, entertainment, etc. Role-playing, skits, short readings from literature and the current press, and video clips will be used to help students improve their language skills and their understanding of Russian culture. At the end of the semester you will be able to read and write short texts about your daily schedule and interests, to understand brief newspaper articles, films and short literary texts, and to express your opinions in Russian. In combination with RUSS 004, this course prepares students to satisfy the language competency requirement.
For BA Students: Language Course
Taught by: Peeney/Alley
Course usually offered in fall term
Also Offered As: RUSS 503
Prerequisites: RUSS 001 and 002 or placement exam.
Activity: Lecture
1 Course Unit

RUSS 004 Intermediate Russian II
A continuation of RUSS003. This course will further develop your ability to use the Russian language in the context of everyday situations (including relationships, travel and geography, leisure activities) and also through reading and discussion of elementary facts about Russian history, excerpts from classic literature and the contemporary press and film excerpts. At the end of the course you will be able to negotiate most daily situations, to comprehend most spoken and written Russian, to state and defend your point of view. Successful completion of the course prepares students to satisfy the language competency requirement.
For BA Students: Last Language Course
Taught by: Peeney/Alley
Course usually offered in spring term
Also Offered As: RUSS 504
Prerequisite: RUSS 003 or placement exam
Activity: Lecture
1 Course Unit

RUSS 009 Central and Eastern Europe: Cultures, Histories, Societies
The reappearance of the concept of Central and Eastern Europe is one of the most fascinating results of the collapse of the Soviet empire. The course will provide an introduction into the study of this region its cultures, histories, and societies from the foundation of the Holy Roman Empire to the enlargement of the European Union. Students are encouraged to delve deeper into particular countries, disciplines, and sub-regions, such as Central Europe, Eastern Europe, and the Balkans, through an individual research paper and class presentations.
Taught by: Steiner/Orenstein/Verkholantsev
Course usually offered in spring term
Also Offered As: COML 010, EEUR 010
Activity: Seminar
1 Course Unit
Notes: This course is one of two required core courses for the Russian and East European Studies (REES) Major.

RUSS 010.INTRO TO RUSSIA AND EURASIA: HISTORIES, CULTURES, SOCIETIES
This course is designed as a broad introduction to the study of Russia and Eurasia that will offer students a multi-disciplinary overview of the cultures, histories and societies of this large and diverse region of the world. It is organized in units that illustrate the approaches of various disciplines to the study of the region, including history, literary studies, cinema studies, art history, and social scientific inquiry. At the conclusion of the course, students will be acquainted with these various disciplinary frameworks and the differences between them, with the modes of analysis and writing that pertain to them, and with fundamental knowledge of the region. They will be prepared for further study of the region in a variety of programs of study, including the Russian and East European Studies major, for which the course serves as a foundation.
Taught by: Platt/Staff
Course usually offered in fall term
Also Offered As: EEUR 009
Activity: Lecture
1 Course Unit
RUSS 048 The Rise and Fall of the Russian Empire, 1552-1917
How and why did Russia become the center of the world's largest empire, a single state encompassing eleven time zones and over a hundred ethnic groups? To answer this question, we will explore the rise of a distinct political culture beginning in medieval Muscovy, its transformation under the impact of a prolonged encounter with European civilization, and the various attempts to re-form Russia from above and below prior to the Revolution of 1917. Main themes include the facade vs. the reality of central authority, the intersection of foreign and domestic issues, the development of a radical intelligentsia, and the tension between empire and nation.
For BA Students: History and Tradition Sector
Taught by: Nathans/Holquist
One-term course offered either term
Also Offered As: HIST 048
Activity: Lecture
1 Course Unit

Out of an obscure, backward empire, the Soviet Union emerged to become the great political laboratory of the twentieth century. This course will trace the roots of the world's first socialist society and its attempts to recast human relations and human nature itself. Topics include the origins of the Revolution of 1917, the role of ideology in state policy and everyday life, the Soviet Union as the center of world communism, the challenge of ethnic diversity, and the reasons for the USSR's sudden implosion in 1991. Focusing on politics, society, culture, and their interaction, we will examine the rulers (from Lenin to Gorbachev) as well as the ruled (peasants, workers, and intellectuals; Russians and non-Russians). The course will feature discussions of selected texts, including primary sources in translation.
For BA Students: History and Tradition Sector
Taught by: Nathans/Holquist
Course usually offered in spring term
Also Offered As: HIST 049
Activity: Recitation
1 Course Unit

Out of an obscure, backward empire, the Soviet Union emerged to become the great political laboratory of the twentieth century. This course will trace the roots of the world's first socialist society and its attempts to recast human relations and human nature itself. Topics include the origins of the Revolution of 1917, the role of ideology in state policy and everyday life, the Soviet Union as the center of world communism, the challenge of ethnic diversity, and the reasons for the USSR's sudden implosion in 1991. Focusing on politics, society, culture, and their interaction, we will examine the rulers (from Lenin to Gorbachev) as well as the ruled (peasants, workers, and intellectuals; Russians and non-Russians). The course will feature discussions of selected texts, including primary sources in translation.
For BA Students: History and Tradition Sector
Taught by: Nathans/Holquist
Course usually offered in spring term
Also Offered As: HIST 049
Activity: Recitation
1 Course Unit

RUSS 105 Accelerated Elementary Russian
TWO IN ONE: This is an intensive two-credit course covering two semesters of the first-year sequence (RUSS001 and 002). The course is designed for students with no background in Russian and develops language competence in speaking, reading, writing and understanding contemporary Russian. Class work emphasizes development of communication skills and cultural awareness. Together with RUSS003 and 004 fulfills Penn Language Requirement.
Course not offered every year
Activity: Lecture
2 Course Units

RUSS 107 Russian Outside the Classroom I
The goal of RUSS107 is to provide students of Russian language and students who spoke Russian at home with formalized opportunities to improve their conversation and comprehension skills while experiencing various aspects of Russian culture. There will be no weekly assignments or readings, but all students will be expected to contribute at a level equivalent to their Russian-speaking abilities both in class and on the newsletter final project. The course consists of attending regular conversation hours in addition to a tea-drinking hour in the department (F 4-5pm), film viewings, and a single outside cultural event (e.g., a concert of Russian music at the Kimmel Center).
Taught by: Yakubova
One-term course offered either term
Prerequisite: At least four semesters of Russian
Activity: Seminar
0.5 Course Units

RUSS 108 Russian Outside the Classroom II
This is a half-credit course that consists of a variety of fun and entertaining non-classroom Russian language activities. Students who have taken at least one semester of Russian will take part in: 1. Russian lunch and dinner table; 2. Russian Tea and conversation, featuring cartoons, poetry readings, music listening, news broadcast, games, cooking lessons, and informal visits by guests; 3. The Russian Film Series; 4. field trips to Russian cultural events in the area (symphony, drama, film, etc.); 5. other Russian Program events.
Taught by: Yakubova
One-term course offered either term
Prerequisites: At least four semesters of Russian, and RUSS107
Activity: Seminar
0.5 Course Units
Notes: Continuation of RUSS107.

RUSS 115 Before Transgender: Hermaphrodites in 19th Century Literature
This course provides a literary and cultural prehistory to contemporary discourses on transgender identity by focusing on the figure of the hermaphrodite in 19th Russia and the West. Far from a marginal subject, the hermaphrodite and intersex characters played central roles in the novels of Balzac, Tolstoy, Dostoevsky, and many others whose work we will read in this course. Interdisciplinary in nature, this course draws on 19th century discourses in medicine, psychology, opera, religious philosophy, and political theory to understand why characters who exist outside of the male/female gender binary feature so prominently in 19th century literature and cultural texts across a wide range of traditions (Anglophone, French, and Russian, and others.)
Taught by: Wilson
Also Offered As: GSWS 115
Activity: Lecture
1 Course Unit
RUSS 123 Russia and Eastern Europe in International Affairs
Russia and the European Union (EU) are engaged in a battle for influence in Eastern Europe. EU foreign policy towards its Eastern neighbors is based on economic integration and the carrot of membership. With the application of this powerful incentive, Central and Southeastern European countries such as Poland, Hungary, the Czech Republic, and Croatia have progressed rapidly towards integration with the EU (and NATO). Yet, given Russia's opposition to the further enlargement, membership is off the table for the large semi-Western powers such as Russia itself and Turkey and the smaller countries inhabiting an emerging buffer zone between Russia and the EU, such as Georgia, Ukraine, Azerbaijan, Moldova, and Belarus. These in-between countries find themselves subject to intense competition for influence between Eastern and Western powers. In this context, EU countries must balance their energy dependence on Russia and need for new markets and geopolitical stability with concern for human rights, democratic governance, and self-determination. What are the trade-offs implicit in the foreign policies of Russia, EU member states, and Eastern Europe? What are the best policy approaches? What are the main opportunities and obstacles?
For BA Students: Society Sector
Taught by: Orenstein
Course not offered every year
Also Offered As: EEUR 152, PSCI 267
Activity: Lecture
1 Course Unit

RUSS 125 The Adultery Novel
The object of this course is to analyze narratives of adultery from Shakespeare to the present and to develop a vocabulary for thinking critically about the literary conventions and social values that inform them. Many of the themes (of desire, transgression, suspicion, discovery) at the heart of these stories also lie at the core of many modern narratives. Is there anything special, we will ask, about the case of adultery—once called “a crime which contains within itself all others”? What might these stories teach us about the way we read in general?
By supplementing classic literary accounts by Shakespeare, Pushkin, Flaubert, Chekhov, and Proust with films and with critical analyses, we will analyze the possibilities and limitations of the different genres and forms under discussion, including novels, films, short stories, and theatre. What can these forms show us (or not show us) about desire, gender, family and social obligation? Through supplementary readings and class discussions, we will apply a range of critical approaches to place these narratives of adultery in a social and literary context, including formal analyses of narrative and style, feminist criticism, Marxist and sociological analyses of the family, and psychoanalytic understandings of desire and family life.
For BA Students: Arts and Letters Sector
Taught by: Platt
One-term course offered either term
Also Offered As: CIMS 125, COML 127, GSWS 125
Activity: Seminar
1 Course Unit
Notes: All readings and lectures in English.

RUSS 130 Russian Ghost Stories
In this course, we will read and discuss ghost stories written by some of the most well-known Russian writers. The goal of the course is threefold: to familiarize the students with brilliant and thrilling texts which represent various periods of Russian literature; to examine the artistic features of ghost stories and to explore their ideological implications. With attention to relevant scholarship (Freud, Todorov, Derrida, Greenblatt), we will pose questions about the role of the storyteller in ghost stories, and about horror and the fantastic. We will also ponder gender and class, controversy over sense and sensation, spiritual significance and major changes in attitudes toward the supernatural. We will consider the concept of the apparition as a peculiar cultural myth, which tells us about the ”dark side” of the Russian literary imagination and about the historical and political conflicts which have haunted Russian minds in previous centuries. Readings will include literary works by Pushkin, Gogol, Dostoevsky, Turgenev, Chekhov, and Bulgakov, as well as works by some lesser, yet extremely interesting, authors. We will also read excerpts from major treatises regarding spiritualism, including Swedenborg, Kant, Arthur Conan Doyle, and Mme Blavatsky. The course consists of 28 sessions ("nights") and includes film presentations and horrifying slides.
One-term course offered either term
Activity: Seminar
1 Course Unit

RUSS 134 Communism
The rise and fall of Communism dominated the history of the short twentieth century from the Russian revolution of 1917 to the collapse of the Soviet Union in 1991. As a system of government, Communism is more or less dead, but its utopian ideals of liberation from exploitation and want live on. Communism remains the one political-economic system that presented, for a time, an alternative to global capitalism. In this course, students will gain an introduction to socialist and Communist political thought and explore Communist political and economic regimes their successes and failures, critics and dissidents, efforts at reform, and causes of collapse. We will learn about the remnants of Communism in China, North Korea, and Cuba and efforts of contemporary theorists to imagine a future for Communism.
For BA Students: Society Sector
Taught by: Orenstein
Also Offered As: EEUR 153, PSCI 144
Activity: Lecture
1 Course Unit

RUSS 135 Cold War: A Global History
The Cold War was more than a military confrontation between the United States and the Soviet Union: it was a global force-field within which the world developed for nearly five decades. This course will explore the Cold War as an international phenomenon, using some of the newest literature covering not only the military and diplomatic history of the period but the social and cultural impact of the confrontation between capitalism and communism. We will explore the origins of the conflict, the formation of opposing blocs, the interplay between periods of tension and détente, and the relationship between the “center” of the conflict in the North Atlantic/European area and the global “periphery”, as well as the remarkable way the Cold War ended. Curiosity about Cold War history and a willingness to explore its drama and complexity are the only prerequisites for this course. No prior knowledge of the subject is assumed.
For BA Students: Humanities and Social Science Sector
Taught by: Nathans
Also Offered As: HIST 135
Activity: Recitation
1 Course Unit
RUSS 136 Portraits of Russian Society: Art, Fiction, Drama
This course covers 19C Russian cultural and social history. Each week-long unit is organized around a single medium-length text (novella, play, memoir) which opens up a single scene of social history—birth, death, duel, courtship, tsar, and so on. Each of these main texts is accompanied by a set of supplementary materials—paintings, historical readings, cultural-analytical readings, excerpts from other literary works, etc. The object of the course is to understand the social codes and rituals that informed nineteenth-century Russian life, and to apply this knowledge in interpreting literary texts, other cultural objects, and even historical and social documents (letters, memoranda, etc.). We will attempt to understand social history and literary interpretation as separate disciplines yet also as disciplines that can inform one another. In short: we will read the social history through the text, and read the text against the social history.
For BA Students: Humanities and Social Science
Taught by: Platt
Course not offered every year
Also Offered As: HIST 047
Activity: Lecture
1 Course Unit
Notes: No prior language experience required.

RUSS 145 Masterpieces of 19th Century Russian Literature
Major Russian writers in English translation: Pushkin, Gogol, Turgenev, early Tolstoy, and early Dostoevsky.
For BA Students: Arts and Letters Sector
Taught by: Steiner
Course usually offered in fall term
Activity: Lecture
1 Course Unit

RUSS 149 Slavery, Serfdom, and Cultures of Bondage in the U.S. and Russia
During the Cold War, the United States and Russia were locked in an ideological battle, as capitalist and communist superpowers, over the question of private property. So how did these two countries approach the most important question regarding property that ever faced human civilization: how could governments justify the treatment of its subjects, people, as property? In 1862, Russia abolished serfdom, a form of human bondage that had existed in its territories since the 11th century. Just a year later, in 1863, Abraham Lincoln signed the Emancipation Proclamation, declaring America’s slaves “then, thenceforward, and forever free.” What forces, both domestic and international, both political and cultural, influenced this near simultaneous awakening in which huge swaths of the Russian and U.S. populations were liberated?
While scholars have often sought to compare slavery and serfdom as institutions, this course does not attempt to draw connections between the two. Rather, we will focus on how the slavery/anti-slavery and serfdom/anti-serfdom debates were framed in each respective country as well as how Russia used American slavery and the U.S. used Russian serfdom to shape their own domestic debates.
Taught by: Wilson
Course not offered every year
Also Offered As: AFRC 148, COML 148
Activity: Seminar
1 Course Unit

RUSS 155 Masterpieces of 20th Century Russian Literature
Major Russian writers in English translation: Tolstoy, Chekhov, Pasternak, Babel, Solzhenitsyn, and others.
For BA Students: Arts and Letters Sector
Taught by: Steiner
Course usually offered in spring term
Activity: Lecture
1 Course Unit

RUSS 160 SEX AND SOCIALISM
This seminar examines classic and current scholarship and literature on gender and sexuality in contemporary Eastern Europe, and examines the dialogue and interchange of ideas between East and West. Although the scholarly and creative works will primarily investigate the changing status of women during the last three decades, the course will also look at changing constructions of masculinity and LGBT movements and communities in the former communist bloc. Topics will include: the woman question before 1989; gender and emerging nationalisms; visual representations in television and film; social movements; work; romance and intimacy; spirituality; and investigations into the constructed concepts of freedom and human rights.
Course not offered every year
Also Offered As: EEU 160, GSWS 160
Activity: Lecture
1 Course Unit

RUSS 165 Russian and East European Film After WWII
This course examines the Russian and East European contribution to world cinema after WWII - Stalinist aesthetics and desalinization, WWII in film, the installation of totalitarianism in Eastern Europe and the Cold War in film, the fall of the Berlin Wall, the collapse of the Soviet Union and the post-soviet condition, cinematic representations of Yugoslavia’s violent breakup; the new Romanian waive. Major filmmakers in discussion include Kalatozov, Tarkovsky, Wajda, Polanski, Forman, Mentzel, Sabo, Kusturitsa, Konchalovsky, Mikhailov and others.
Taught by: Todorov
Course not offered every year
Also Offered As: CIMS 165, EEU 165
Activity: Lecture
1 Course Unit
RUSS 171 THE SOCIALIST CITY
This course will explore the ideology and politics of the socialist city in the Soviet Union, Eastern Europe, and the Second World. We will focus on how design professionals, politicians, and residents realized utopian socialist values in the face of national design traditions, local politics, and limited resources. Beginning with the Soviet case, the course will consider how planners and architects addressed modernization, multi-family housing, and neighborhood units in new city plans. We will consider capitals, like Moscow, as well as less well-known regional centers that had strong local identities, such as Tashkent, Belgrade, and Prague. We will examine the state's use of public spaces for commemorations and preservationists' reinterpretation of existing historic sites. In addition, we will consider how everyday residents experienced the socialist city, including its multi-family housing, shopping centers, and subway systems. We will address how citizens circumvented official state channels to obtain state housing and illegally build homes for themselves, sometimes in a folk style. The course will center on Soviet and East European cities, but also address socialist cities in Cuba and Africa whose design was influenced by transnational exchanges.
Taught by: Aplenc
Course not offered every year
Also Offered As: EEUR 171
Activity: Seminar
1 Course Unit

RUSS 189 Soviet and Post-Soviet Economy
The course will cover the development and operation of the Soviet centrally planned economy—one of the grandest social experiments of the 20th century. We will review the mechanisms of plan creation, the push for the collectivization and further development of Soviet agriculture, the role of the Soviet educational system and the performance of labor markets (including forced labor camps—GULags). We will discuss the strengths and weaknesses of the Soviet system and the causes of its collapse. Privatization, called by some “piratization,” will be one of the central issues in our consideration of the transition from central planning to a market economy in the early 1990s. Even though our main focus will be on the Soviet economy and post-Soviet transition, we will occasionally look back in time to the tsarist era and even further back to find evidence to help explain Soviet/Russian economic development.
Taught by: Vekker
Also Offered As: PPE 062
Activity: Lecture
1 Course Unit

RUSS 190 Terrorism: Russian Origins and 21st Century Methods
This course studies the emergence of organized terrorism in nineteenth-century Russia. It examines the philosophy of the terrorist struggle through its methods, causes, various codes, and manifestoes that defined its nature for the times to come. We critique intellectual movements such as nihilism, anarchism, and populism that inspired terrorism defining the political violence and disorder as beneficial acts. The issue of policing terrorism becomes central when we study a police experiment to infiltrate, delegitimize and ultimately neutralize terrorist networks in late imperial Russia. The discussions draw on the ideology and political efficacy of the conspiratorial mode of operation, terrorist tactics such as assassination and hostage-taking, the cell structure of the groups and underground incognito of the strikers, their maniacal self-denial, revolutionary asceticism, underground mentality, faceless omnipotence, and other attributes-intensifiers of its mystique.
Taught by: Todorov
Course not offered every year
Activity: Lecture
1 Course Unit

RUSS 191 Putin's Russia: Culture, Society and History
Winston Churchill famously said that Russia "is a riddle, wrapped in a mystery, inside an enigma. Strikingly, today many informed Russians would agree: no one can provide definitive answers concerning what has driven Russian public life and politics over the past three years, as it ricocheted from the mass protests of 2011 and 2012, into the Pussy Riot scandal, then the Olympics, and most recently to the intense patriotism driving the Russian annexation of Crimea and intervention in Ukraine. In this course we will examine how Russians themselves communicate about and represent Russia and what this reveals about this complex society and its development. We will consider print journalism, novels, films, televised media, and the internetpaying close attention both to particular representations and to social institutions for their production, dissemination and consumption. Topics of special concern will include: conspiracy theories, representations of Russian history, collective identity and patriotism, intellectuals and elites, gender and sexuality, consumption and wealth. Putins Russia is an introductory level course for which no prior knowledge Russian history, culture or society is required.
All readings and screenings will be in English.
For BA Students: Society Sector
Taught by: Platt
Course not offered every year
Also Offered As: COMM 291
Activity: Lecture
1 Course Unit
Notes: No prior knowledge of Russian is required.

RUSS 193 War and Representation in Russia, Europe and the U.S.
Representations of war have been created for as many reasons as wars are fought: to legitimate conflict, to celebrate military prowess, to critique brutality, to mobilize popular support, to vilify an enemy, and to generate national pride. In this course we will examine literary and cinematic representations of war, produced in Russia, Europe, and the United States. Over the course of the semester we will reflect on the tension between the need for memorialization and the limits of representation: How is war represented in literature and film? How do those mediums both enable and thwart us in our attempt to capture wartime experiences? What is the relationship between perspective, politics, and representation? And finally, how is the experience of being in a war refracted through gender, race, class, and sexuality? Authors we will read in this class might include Leo Tolstoy, Harriet Beecher Stowe, Stephen Crane, Ernest Hemingway, Albert Camus, John Okada, Virginia Woolf, Kurt Vonnegut, Rabih Alameddeine, and Toni Morrison.
For BA Students: Humanities and Social Science S
Taught by: Platt
Course not offered every year
Also Offered As: COML 150
Activity: Seminar
1 Course Unit
RUSS 195 History as Culture
The object of the course is to investigate what happens when historical events and personages are represented in cultural life. We will study plays, novels, paintings, film and television as well as a bit of history-taking us from Shakespeare to Downton Abbey. Auxiliary readings in theory and method will allow us to grapple with the deeper questions of our readings: How and why do modern societies care about the past? What is the difference between a historical novel and a work of historiography? Do different kinds of writing offer different forms of truth about human events? As we will learn, the representation of history has a history of its own, which we can trace from the renaissance up to the present day. Readings will include works by: Shakespeare, Scott, Tolstoy, Hughes, Eisenstein, Marquez, Eco and others. In the course of the semester, students will gain competence in the interpretation of literary texts from a variety of cultures and periods, and also improve their analytical writing skills.
For BA Students: Arts and Letters Sector
Taught by: Platt
Also Offered As: COML 100, ENGL 100
Activity: Lecture
1 Course Unit

RUSS 196 Russian Short Story
This course studies the development of 19th and 20th century Russian literature through one of its most distinct and highly recognized genres, the short story. The readings include great masters of fiction such as Pushkin, Gogol, Dostoevsky, Tolstoy, Chekhov, Solzhenitsyn, and others. The course presents the best works of short fiction and situates them in a literary process that contributes to the history of a larger cultural-political context. Students will learn about the historical formation, poetic virtue, and thematic characteristics of major narrative modes such as romanticism, utopia, realism, modernism, socialist realism, and post-modernism. We critique the strategic use of various devices of literary representation such as irony, absurd, satire, grotesque, anecdote, etc. Some of the main topics and issues include: culture of the duel; the role of chance; the riddle of death; anatomy of madness; imprisonment and survival; the pathologies of St. Petersburg; terror and homo sovieticus.
Taught by: Todorov
Course not offered every year
Activity: Lecture
1 Course Unit

RUSS 197 Madness and Madmen in Russian Culture
This course will explore the theme of madness in Russian literature and arts from the medieval period through the October Revolution of 1917. The discussion will include formative masterpieces by Russian writers (Pushkin, Dostoevsky, Tolstoy, Chekhov, and Bulgakov), painters (Repin, Vrubel, Filonov), composers (Mussorgsky, Tchaikovsky, and Stravinsky), and film-directors (Protazanov, Eisenstein), as well as non-fictional documents such as Russian medical, judicial, political, and philosophical treatises and essays on madness.
For BA Students: Humanities and Social Science Sector
Taught by: Peeney
Course not offered every year
Also Offered As: COML 197
Activity: Lecture
1 Course Unit

RUSS 201 Dostoevsky and His Legacy
This course explores the ways Fyodor Dostoevsky (1821-1881) portrays the "inner world(s)" of his characters. Dostoevsky's psychological method will be considered against the historical, ideological, and literary contexts of middle to late nineteenth-century Russia. The course consists of three parts: External World (the contexts of Dostoevsky), "Inside" Dostoevsky's World (the author's technique and ideas) and The World of Text (close reading of Crime and Punishment and The Brothers Karamazov).
Students will write three essays on various aspects of Dostoevsky's "spiritual realism."
Course usually offered in fall term
Also Offered As: COML 207
Activity: Seminar
1 Course Unit

RUSS 202 Tolstoy
Few authors have ever been able to combine their moral and artistic visions as closely as Tolstoy. Over the course of the semester, we will plot how Tolstoy's ethical concerns changed over the course of his life and how this was reflected in works, which include some of the greatest prose ever written. We will begin by surveying the majestic and far-reaching world of his novels and end with some of Tolstoy's short later works that correspond with the ascent of Tolstoyism as virtually its own religion.
Taught by: Todorov
Course usually offered in spring term
Also Offered As: COML 204
Activity: Seminar
1 Course Unit
Notes: Ben Franklin Seminar

RUSS 213 Saints and Devils in Russian Literature and Tradition
This course is about Russian literary imagination, which is populated with saints and devils, believers and religious rebels, holy men and sinners. In Russia, where people's frame of mind had been formed by a mix of Eastern Orthodox Christianity and earlier pagan beliefs, the quest for faith, spirituality, and the meaning of life has invariably been connected with religious matters. How can one find the right path in life? Is humility the way to salvation? Should one live for God or for the people? Does God even exist? In "Saints and Devils" we read works of great masters of Russian literature and learn about the historic trends that have filled Russia's national character with religious and mystical spirit. We start with old Russian fanciful stories and legends of crafty demons and all-forgiving saints. The master of fantastic writing, Nikolai Gogol, will teach us how to triumph over the devil. Together with Anton Chekhov and Leo Tolstoy, we contemplate an ambivalent cultural image of woman as a victim or a sinful agent of the devil. Immersed in the world of Dostoevsky's The Brothers Karamazov, we follow the characters in their search for truth, faith, and love. In The Master and Margarita, Mikhail Bulgakov will tell us his fantastic and devilish story of Pontius Pilate and we will see for ourselves that "A man will receive his deserts in accordance with his beliefs."
For BA Students: Arts and Letters Sector
Taught by: Verkholantsyev
Course not offered every year
Also Offered As: COML 213, RELS 218
Activity: Seminar
1 Course Unit
RUSS 217 Russian Politics
This course will present an in-depth examination of political, economic and social change in post-Soviet Russia within a historical context. After a brief discussion of contemporary problems in Russia, the first half of the course will delve into the rise of communism in 1917, the evolution of the Soviet regime, and the tensions between ideology and practice over the seventy years of communist rule up until 1985. The second part of the course will begin with an examination of the Gorbachev period and the competing interpretations of how the events between 1985 and 1991 may have contributed to the collapse of the Soviet Union. We will then proceed to make sense of the continuities and changes in politics, economics and society in contemporary Russia. Important topics will include the confrontations accompanying the adoption of a new constitution, the emergence of competing ideologies and parties, the struggle over economic privatization, the question of federalism and nationalism, social and political implications of economic reform, and prospects for Russia's future in the Putin and post-Putin era.
Course usually offered in spring term
Also Offered As: PSCI 217
Activity: Recitation
1 Course Unit

RUSS 220 Russia and the West
This course will explore the representations of the West in eighteenth- and nineteenth-century Russian literature and philosophy. We will consider the Russian visions of various events and aspects of Western political and social life Revolutions, educational systems, public executions, resorts, etc. within the context of Russian intellectual history. We will examine how images of the West reflect Russia's own cultural concerns, anticipations, and biases, as well as aesthetic preoccupations and interests of Russian writers. The discussion will include literary works by Karamzin, Pushkin, Gogol, Dostoevsky, Leskov, and Tolstoy, as well as non-fictional documents, such as travelers' letters, diaries, and historiosophical treatises of Russian Freemasons, Romantic and Positivist thinkers, and Russian social philosophers of the late Nineteenth century. A basic knowledge of nineteenth-century European history is desirable. The class will consist of lectures, discussion, short writing assignments, and two in-class tests.
For BA Students: Humanities and Social Science S
One-term course offered either term
Also Offered As: COML 220, HIST 220
Activity: Seminar
1 Course Unit
Notes: From the Other Shore: Russia and the West

RUSS 222 Imagining Asia: Russia and the East
This course examines the important role of the East in Russian literature and nationalism. Focusing specifically on the Caucasus, Central Asia, Iran, and Turkey, this course will analyze how Russian writers connected the East to Russian identity, and how their approaches implicate different artistic periods (Romanticism, Realism, Socialist Realism, Post-Modernism) and different political atmospheres (Tsarist Russia, Soviet Union, Post-Soviet). Students will also ascertain how Russian literature on the East has affected and influenced literature and political movements produced in the East. In particular, students will analyze how Soviet Central Asian writers, Iranian Socialists, and contemporary Turkish writers were influenced by Russian literature and Soviet ideology. Ultimately, this course examines the impact of Russian cultural and political history in 20th century Central Asia and the Middle East.
Readings will include works by: Pushkin, Lermontov, Tolstoy, Dostoievsky, Platonov, Chingiz Aitmatov, Sadek Hedayaat, Orhan Pamuk, and others. Also Offered As: COML 217, NELC 222
Activity: Seminar
1 Course Unit

RUSS 234 Medieval Russia: Origins of Russian Cultural Identity
This course offers an overview of the cultural history of Rus from its origins to the eighteenth century, a period which laid the foundation for the Russian Empire. The course takes an interdisciplinary approach to the evolution of the main cultural paradigms of Russian Orthodoxy viewed in a broader European context. Although this course is historical in content, it is also about modern Russia. The legacy of Medieval Rus is still referenced, often allegorically, in contemporary social and cultural discourse as the Russian, Ukrainian and Belarusian societies attempt to reconstruct and reinterpret their histories. In this course, students learn that the study of the medieval cultural and political history explains many aspects of modern Russian society, its culture and mentality.
Taught by: Verkholantsvev
Course not offered every year
Also Offered As: COML 235, HIST 219, SLAV 517
Activity: Lecture
1 Course Unit

RUSS 234 Medieval Russia: Origins of Russian Cultural Identity
This course offers an overview of the cultural history of Rus from its origins to the eighteenth century, a period which laid the foundation for the Russian Empire. The course takes an interdisciplinary approach to the evolution of the main cultural paradigms of Russian Orthodoxy viewed in a broader European context. Although this course is historical in content, it is also about modern Russia. The legacy of Medieval Rus is still referenced, often allegorically, in contemporary social and cultural discourse as the Russian, Ukrainian and Belarusian societies attempt to reconstruct and reinterpret their histories. In this course, students learn that the study of the medieval cultural and political history explains many aspects of modern Russian society, its culture and mentality.
Taught by: Verkholantsvev
Course not offered every year
Also Offered As: COML 235, HIST 219, SLAV 517
Activity: Lecture
1 Course Unit

RUSS 240 Napoleonic Era and Tolstoy
In this course we will read what many consider to be the greatest book in world literature. This work, Tolstoy's War and Peace, is devoted to one of the most momentous periods in world history, the Napoleonic Era (1789-1815). We will study both the novel and the era of the Napoleonic Wars: the military campaigns of Napoleon and his opponents, the grand strategies of the age, political intrigues and diplomatic betrayals, the ideologies and human dramas, the relationship between art and history. How does literature help us to understand this era? How does history help us to understand this great novel? Because we will read War and Peace over the course of the entire semester, readings will be manageable (circa 100 pages of the epic and 50 pages of additional reading per week) and very enjoyable.
Taught by: Holquist
Course not offered every year
Also Offered As: COML 236, HIST 333
Activity: Lecture
1 Course Unit
Notes: All readings and lectures in English.
RUSS 250 Tarkovsky's Passions
Andrei Tarkovsky is universally acknowledged to be the greatest Soviet filmmaker of the last half of the twentieth century. In Kurosawas assessment following Tarkovskys death in the late 1980s, he had no equal among film directors alive now. In Ingmar Bergmans words, Tarkovskys work was a miracle. His films are beautiful, intellectually challenging, and spiritually profound. They range from Ivans Childhood, an exploration of wartime experience through the eyes of a child; to Solaris, a philosophical essay in the form of a science-fiction thriller; to Andrei Rublev, an investigation of the power of art and spirituality. In this course, we will study Tarkovskys films and life, with attention both to his formal and artistic accomplishments, his thought and writings concerning art and film, and the cultural and political contexts of his work.

Taught by: Platt
Course not offered every year
Also Offered As: CIMS 250
Activity: Seminar
1 Course Unit

RUSS 260 USSR after Stalin
How are human behaviors and attitudes shaped in a socialist society? What forms do conformity and dissent take under a revolutionary regime? This course will explore the cultural history of the Soviet Union from the end of the Second World War to the collapse of communism in 1991. We will investigate a variety of strategies of resistance to state power as well as the sources of communisms enduring legitimacy for millions of Soviet citizens. Above all, we will be concerned with the power of the word and image in Soviet public and private life. Assigned texts will include memoirs, manifestos, underground and officially approved fiction & poetry, films, works of art, and secondary literature.

Taught by: Platt & Nathans
Course not offered every year
Also Offered As: HIST 413
Activity: Seminar
1 Course Unit

RUSS 261 Russian Thinkers
This class focuses on the complex relations between philosophy, history, and art in Russia and offers discussions of works of major Russian authors (such as Dostoevsky, Tolstoy, Khebnikov), religious and political thinkers (Chadaev, Herzen, Berdiaev, Lenin, Bogdanov), avant-garde artists (Filonov, Malevich), and composers (Scriabin) who created and tested in their lives their own, sometimes very peculiar and radical, worldviews. We will consider these worldviews against a broad cultural background and will reenact them in class in the form of philosophical mini-dramas. The only prerequisite for this course is intellectual curiosity and willingness to embrace diverse, brave and often very weird ideas.

Course not offered every year
Also Offered As: COML 255
Activity: Seminar
1 Course Unit

RUSS 275 Russian History in Film
This course draws on fictional, dramatic and cinematic representations of Russian history based on Russian as well as non-Russian sources and interpretations. The analysis targets major modes of imagining, such as narrating, showing and reenacting historical events, personae and epochs justified by different, historically mutating ideological postulates and forms of national self-consciousness. Common stereotypes of picturing Russia from "foreign" perspectives draw special attention. The discussion involves the following themes and outstanding figures: the mighty autocrats Ivan the Terrible, Peter the Great, and Catherine the Great; the tragic ruler Boris Godunov; the brazen rebel and royal impostor Pugachev; the notorious Rasputin, his uncanny powers, sex-appeal, and court machinations; Lenin and the October Revolution; images of war; times of construction and times of collapse of the Soviet Colossus.

Taught by: Todorov
Course not offered every year
Also Offered As: CIMS 275
Activity: Lecture
1 Course Unit

RUSS 299 Independent Study
One-term course offered either term
Activity: Independent Study
1 Course Unit

RUSS 311 Russian Conversation and Composition
This course develops students' skills in speaking and writing about topics in Russian literature, contemporary society, politics, and everyday life. Topics include women, work and family; sexuality; the economic situation; environmental problems; and life values. Materials include selected short stories by 19th and 20th century Russian authors, video-clips of interviews, excerpts from films, and articles from the Russian media. Continued work on grammar and vocabulary building.

For BA Students: Advanced Language Course
Course usually offered in fall term
Also Offered As: RUSS 511
Prerequisites: RUSS 004 or placement exam.
Activity: Lecture
1 Course Unit

RUSS 312 Russian Conversation and Composition II
Primary emphasis on speaking, writing, and listening. Development of advanced conversational skills needed to carry a discussion or to deliver a complex narrative. This course will be based on a wide variety of topics from everyday life to the discussion of political and cultural events. Russian culture and history surveyed briefly. Materials include Russian TV broadcast, newspapers, Internet, selected short stories by contemporary Russian writers. Offered each spring.

For BA Students: Advanced Language Course
Course usually offered in spring term
Also Offered As: RUSS 512
Prerequisite: RUSS 311
Activity: Lecture
1 Course Unit
RUSS 360 Russian for Heritage Speakers I
This course is intended for students who have spoken Russian at home and seek to achieve proficiency in the language. Topics will include an intensive introduction to the Russian writing system and grammar, focusing on exciting materials and examples drawn from classic and contemporary Russian culture and social life. Students who complete this course in combination with RUSS361 satisfy the Penn Language Requirement.
Taught by: Nazyrova
One-term course offered either term
Activity: Lecture
1 Course Unit
Notes: Previous language experience required

RUSS 361 Russian for Heritage Speakers II
This course is a continuation of RUSS360. In some cases, students who did not take RUSS360 but have basic reading and writing skills may be permitted to enroll with the instructor's permission. Students who complete RUSS361 with a passing grade will satisfy the Penn Language Requirement.
For BA Students: Last Language Course
Taught by: Nazyrova
Course usually offered in spring term
Prerequisites: Prerequisites: Russian 360 or at least three and no more than six years of Russian formal schooling, or instructor's permission.
Activity: Lecture
1 Course Unit

RUSS 399 Supervised Work
Hours and credits on an individual basis.
One-term course offered either term
Activity: Independent Study
1 Course Unit

RUSS 408 Reading Russian History
The course explores defining episodes, concepts, and figures in Russian history, from the earliest time to the present day, and their reception in today's scholarship and society. Students learn about Russian historical heritage through the reading of primary sources and analytical essays, as well as examining how this history is used in the present socio-political and ideological discourse. Work on language focuses on matters of style, sentence structure, and vocabulary building.
Taught by: Verkholantsev
Course not offered every year
Activity: Seminar
1 Course Unit

RUSS 412 Nineteenth-Century Russian Literature and Culture: Romantics and Realists
This course continues developing students' advanced skills in Russian, and combines advanced study of the Russian language with an examination of the fundamental literary movements and figures of nineteenth-century Russian literature and culture. Course materials include prosaic and poetic texts by Pushkin, Gogol', Lermontov, Dostoevsky, Tolstoy, Chekhov, as well as films and art. Language work will be devoted to writing, syntactical and stylistic analysis, vocabulary, academic speech, and listening comprehension.
Taught by: Verkhолantsev
Course not offered every year
Prerequisites: Russian 312 or placement exam.
Activity: Lecture
1 Course Unit
Notes: Conducted in Russian.

RUSS 413 Twentieth-Century Russian Literature, Film and Culture: Utopia, Revolution and Dissent
This course continues developing students' advanced skills in Russian, and introduces students to major movements and figures of twentieth-century Russian literature and culture. We will read the works of modern Russian writers, and watch and discuss feature films. The course will introduce the first Soviet films and works of the poets of the Silver Age and beginning of the Soviet era as well as the works from later periods up to the Perestroika and Glasnost periods (the late 1980s).
Taught by: Bourlatskaya
Course not offered every year
Prerequisites: Russian 312 or placement exam.
Activity: Seminar
1 Course Unit
Notes: Conducted in Russian.

RUSS 416 Business and Democracy in the New Russia
This course continues developing students' advanced skills in Russian, and is designed to familiarize students with contemporary Russian society, its historical background and its present political and economic structure, and to develop functional proficiency in speaking, writing, reading and listening. The course will focus on a variety of issues central to Russian society since the fall of the Soviet Union, including changing values, political parties and movements, the business climate and businessmen, various nationalities within Russia, women in the family and at work. Course materials will include interviews, articles, essays by leading Russian journalists and statesmen, and contemporary Russian movies.
Taught by: Bourlatskaya
Course not offered every year
Prerequisites: RUSS 312 or placement exam.
Activity: Seminar
1 Course Unit

RUSS 417 Russian Modernism: Literature, Music & Visual Arts
This course continues developing students' advanced skills in Russian, while closely studying a representative selection of texts from the modernist period. The course will explore central issues of the period, such as the relationship between literature and revolution, reconceptualizations of society, history and the self. Of particular interest will be authors' experimentation in form and language in order to present afresh the experience of life. Textual study is combined with a general overview of the period, including reference to parallel trends in the visual arts, architecture and music, as well as contemporary intellectual movements. Principal writers studied will include Belyi, Sologub, Remizov, Andreev, Artsybashev, Gorky, Zamoskvorecky, Platonov, Zoshchenko, Babel, Olesha, and Khalmagomedov.
Course offered spring; even-numbered years
Prerequisites: RUSS 312 or placement exam.
Activity: Lecture
1 Course Unit
Notes: Conducted in Russian.
RUSS 418 Russian Culture and Society Now
This course continues developing students’ advanced skills in Russian, while surveying main social, political and cultural developments in Russia since 1991. In these two turbulent decades Russia has undergone colossal changes ranging from disintegration of the Soviet Empire to the rapid development of new gastronomic tastes and new trends in literature and culture. The course will explore diverse and often conflicting cultural sensibilities in contemporary Russian fiction, poetry, journalism, scholarly writing, performance art, as well as in pop-culture and film. Topics under consideration will include reassessing Russia’s luminous cultural heritage as well as traumatic periods in Soviet history; search for identity and the recent drift towards neo-nationalism; gender issues and the contemporary focus on fatherlessness; changing attitudes towards former cultural taboos; dealing with Russia’s current political and cultural dilemmas. The course also incorporates two advanced Russian colloquiums with guest appearances of Prof. Kevin Platt and Ilya Vinitsky.
Course usually offered summer term only
Prerequisites: Russian 312 or placement exam.
Activity: Lecture
1 Course Unit
Notes: Conducted in Russian.

RUSS 419 Russian Song and Folklore
This course continues developing students’ advanced skills in Russian. Song and, in particular, folk song is an essential and exciting component of Russian culture and social life, and an important language learning tool. The course offers a general introduction to the history of Russian folklore, song and musical culture. Students will explore the historical trajectory of Russian song and its various genres (from folk to the modern Estrada), examine the poetic and literary principles of song, discuss its aesthetic properties, and analyze the educational, community-building and ideological roles of song in Russian society.
Taught by: Verkholantsev
Course not offered every year
Prerequisites: Russian 312 or placement exam.
Activity: Seminar
1 Course Unit
Notes: Conducted in Russian.

RUSS 420 Contemporary Russia Through Film
This course continues developing students’ advanced skills in Russian and offers intensive study of Russian film, arguably the most powerful medium for reflecting changes in modern society. This course will examine Russia’s transition to democracy and market economy through the eyes of its most creative and controversial cinematographers. The course will focus on the often agonizing process of changing values and attitudes as the country moves from Soviet to Post-Soviet society. Russian films with English subtitles will be supplemented by readings from contemporary Russian media sources. The course provides an excellent visual introduction to the problems of contemporary Russia society.
Taught by: Bourlatskaya
One-term course offered either term
Prerequisites: Russian 312 or placement exam.
Activity: Lecture
1 Course Unit
Notes: Conducted in Russian.

RUSS 426 Chekhov: Stage & Screen
Whats so funny, Mr. Chekhov? This question is often asked by critics and directors who still are puzzled with Chekhov’s definition of his four major plays as comedies. Traditionally, all of them are staged and directed as dramas, melodramas, or tragedies. Should we cry or should we laugh at Chekhovian characters who commit suicide, or are killed, or simply cannot move to a better place of living? Is the laughable synonymous to comedy and the comic? Should any fatal outcome be considered tragic? All these and other questions will be discussed during the course. The course is intended to provide the participants with a concept of dramatic genre that will assist them in approaching Chekhov’s plays as comedies. In addition to reading Chekhov’s works, Russian and western productions and film adaptations of Chekhov’s works will be screened. Among them are, Vanya on 42nd Street with Andre Gregory, and Four Funny Families. Those who are interested will be welcome to perform and/or direct excerpts from Chekhov’s works.
Taught by: Zubarev
Course not offered every year
Also Offered As: CIMS 430, EEUR 430
Activity: Seminar
1 Course Unit
Notes: Forms a part of the LPS Masters in Liberal Arts Program.

RUSS 430 Nationalism and Ethnic Conflict in Film
This course studies the cinematic representation of civil wars, ethnic conflicts, nationalistic doctrines, and genocidal policies. The focus is on the violent developments that took place in Russia and on the Balkans after the collapse of the Soviet Bloc and were conditioned by the new geopolitical dynamics that the fall of communism had already created. We study media broadcasts, documentaries, feature films representing the Eastern, as well as the Western perspective. The films include masterpieces such as "Time of the Gypsies", "Underground", "Prisoner of the Mountains", "Before the Rain", "Behind Enemy Lines", and others.
Taught by: Todorov
Course not offered every year
Also Offered As: CIMS 365
Activity: Seminar
1 Course Unit
Notes: Forms a part of the LPS Masters in Liberal Arts Program.

RUSS 432 Fate and Chance in Literature and Culture
In Fate and Chance in Literature and Culture, we will explore these two interrelated concepts in comparative perspective over a broad historical range. As a result, the students will learn how the philosophy of fate and chance has been reflected in works of different Russian authors and in different cultural and political environments. In Russian as well as western systems of belief fate and chance represent two extreme visions of the universal order, or, perhaps, two diametrically opposed cosmic forces: complete determinism, on the one hand, and complete chaos or unpredictability, on the other. These visions have been greatly reflected by various mythopoetic systems. In this course, we will investigate religious and folkloric sources from a series of Russian traditions compared to other Indo-European traditions (Greek, East-European). Readings will include The Song of Prince Igor’s Campaign, The Gambler by Dostoevsky, The Queen of Spades by Pushkin, Vij by Gogol, The Black Monk by Chekhov, The Fatal Eggs by Bulgakov, and more.
Taught by: Zubarev
Course not offered every year
Also Offered As: CIMS 432, COML 196
Activity: Seminar
1 Course Unit
Notes: Forms a part of the LPS Masters in Liberal Arts Program.
RUSS 434 Media and Terrorism
This course draws on fictional, cinematic and mass-media representation of terrorism based on Russian as well as Western examples. We study how the magnitude of the political impact of terrorism relates to the historically changing means of production of its striking iconology. The course exposes students to major modes of imagining, narrating, showing, reenacting terrorism and forging its mystique. We examine the emergence of organized terrorism in nineteenth-century Russia as an original political-cultural phenomenon. We trace its rapid expansion and influence on the public life in the West, and on the Balkans. Historical, political, and aesthetic approaches converge in a discussion of several case studies related to intellectual and spiritual movements such as nihilism, anarchism, populism, religious fundamentalism, and others. The public appearance of the terrorist activism and its major attributes are viewed as powerful intensifiers of its political effect: self-denial, ascetic aura, and stratagem of mystification, underground mentality, and martyrdom. The pedagogical goal of this course is to promote and cultivate critical view and analytical skills that will enable students to deal with different historical as well as cultural modes of (self-)representation of terrorism. Students are expected to learn and be able to deal with a large body of historical-factual and creative-interpreted information.

Taught by: Todorov
Course not offered every year
Activity: Lecture
1 Course Unit
Notes: Forms a part of the LPS Masters in Liberal Arts Program.

RUSS 444 Haunted House: Russian Realism in European Context
In this class we will examine works of major Russian Realist writers, painters, and composers considering them within Western ideological contexts of the 1850-1880s: positivism, materialism, behaviorism, spiritualism, etc. We will focus on Russian Realists ideological and aesthetic struggle against Romantic values and on an unpredicted result of this struggle -- a final spectralization of social and political realities they claimed to mirror in their works. Paradoxically, Russian Realism contributed to the creation of the image of Russia as a house haunted by numerous apparitions: nihilism and revolution, afflicted peasants and perfidious Jews, secret societies and religious sects. The spectropoetics (Derrida) of Russian Realism will be examined through works of Dostoevsky, Tolstoy, Turgenev, Leskov, Chekhov, as well as paintings by Ilya Repin and operas by Mussorgsky and Tchaikovsky. Requirements include one oral presentation, mid-term theoretical survey essay, and a final paper. Relevant theories include M.H. Abrams, Brookes, Levine, Greenblatt, Castle, and Derrida.

Course not offered every year
Also Offered As: COML 541, RUSS 544
Activity: Seminar
1 Course Unit

RUSS 455 The Living & the Dead: The Great Patriotic War in Russ Cultural Imagination
This course is dedicated to the 70th anniversary of the Great Patriotic War, 1941-45. Students will explore the cultural myth of the war, created in the 1960-80s. The materials will include literary texts, documentaries, photographs, and films. We will focus on three major themes of this myth: 1. moral strength and courage; 2. respect for Russia's military past; and 3. the rise of national consciousness.

Prerequisites: Prior language experience required.
Activity: Seminar
1 Course Unit

RUSS 460 Post-Soviet Russia in Film
This course is intended for students who have spoken Russian at home and seek to improve their capabilities in formal and professional uses of the Russian language. Film is arguably the most powerful medium for reflecting changes in modern society. This course will examine Russia's transition to democracy and market economy through the eyes of its most creative and controversial cinematographers. The course will focus on the often agonizing process of changing values and attitudes as the country moves from Soviet to Post-Soviet society. Russian films with English subtitles will be supplemented by readings from contemporary Russian media sources. The course provides an excellent visual introduction to the problems of contemporary Russia society.

Taught by: Bourlatskaya
One-term course offered either term
Prerequisites: RUSS361 or comparable language competence.
Activity: Lecture
1 Course Unit
Notes: Conducted in Russian.

RUSS 461 20th Century Russian Literature: Fiction and Reality
This course is intended for students who have spoken Russian at home and seek to improve their capabilities in formal and professional uses of the Russian language. Russian 461 introduces the major movements and figures of twentieth-century Russian literature and culture, works of modern Russian writers, and feature films. In studying the poetry of Mayakovsky, Block, and Pasternak, students will become familiar with the important literary movements of the Silver Age. The reality of the Soviet era will be examined in the works of Zamyatin, Babel, and Zoshchenko. There will be a brief survey of the development of Soviet cinema, including films of Eisenstein, Tarkovsky, and Mikhalkov. Literary trends in the later Soviet period will be seen in war stories, prison-camp literature, village prose, and the writings of female authors of that time.

Taught by: Bourlatskaya
Course not offered every year
Prerequisites: RUSS361 or comparable language competence.
Activity: Seminar
1 Course Unit
Notes: Conducted in Russian.
**RUSS 464 Russian Humor**

One of the most fascinating and most difficult things for a student of foreign culture is to understand national humor, as it is presented in various stories and films, jokes and shows. To an extent, humor is a gateway to national mentality. In the present course we will examine Russian cultural history, from the sixteenth through the twenty-first centuries, through the vehicle of Russian humor. How does Russian humor depend on religion and history? What was considered funny in various cultural trends? What are the peculiarities of Russian humorist tradition? Students will be familiarized with different Russian theories of humor (Bakhtin, Likhachev, Panchenko, Tynianov, etc.) and, of course, with a variety of works by Russian kings of humor Pushkin and Gogol, Chekhov and Zoshchenko, Bulgakov and Ilf and Petrov, Erofeev and Kibirov, etc. Class lectures will be supplemented by frequent video and musical presentations ranging from contemporary cartoons to high comedies and from comic songs (Chaliapins The Flea) to the music of Shostakovich (The Nose). This course is intended for students who have spoken Russian at home and seek to improve their capabilities in formal and professional uses of the Russian language.

Course not offered every year
Prerequisites: RUSS361 or comparable language competence.
Activity: Seminar
1 Course Unit

Notes: Conducted in Russian.

**RUSS 465 Singing in the Snow: The History of Russian Song**

This course is intended for students who have spoken Russian at home and seek to improve their capabilities in formal and professional uses of the Russian language. Song is an essential and exciting component of Russian culture and social life, and an important language learning tool. The course offers a general introduction to the history of Russian song. Students will explore the historical trajectory of Russian song and its various genres (from folk to the modern Estrada), examine the poetic and literary principles of song, discuss its aesthetic properties, and analyze the educational, community-building and ideological roles of song in Russian society. Among the wide-ranging topics and genres that we will discuss and work with are lyrics of folk songs, romances, Soviet and patriotic songs, Anti-Soviet songs, Russian/Soviet anthems, bard song, film and theater songs, childrens songs, Soviet and Russian Rock and Pop.

Taught by: Verkholantsev

Course not offered every year
Prerequisites: RUSS361 or comparable language competence.
Activity: Lecture
1 Course Unit

Notes: Conducted in Russian.

**RUSS 466 RUSSIAN REVOLUTION**

This course is a content-based course intended for students who speak Russian at home and seek to improve their command of formal and professional registers of the Russian language. Paying tribute to the centennial of the Russian Revolution, the course examines the sociopolitical milestone of the 20th century through the works of literature, art, music, film, and material culture that both refracted the revolutionary situation and responded to the revolutionary change. The course’s primary sources include works of Russian symbolist poets (e.g. Blok) and realist writers (e.g. Korolenko, Chekhov, Gorky, Andrei Platonov), the music of modernist composers, Soviet montage films, and the Soviet architecture of the International Style. The specific attention will be on the relationship between sociopolitical transformation and the rise of avant-garde movements in visual arts and poetry known as the artistic revolution (e.g. Khlebnikov, Maiakovskii, Kandinskii, Goncharova, Malevich, Chagall).

Taught by: Nazyrova

Course not offered every year
Prerequisite: RUSS361 or equivalent proficiency
Activity: Seminar
1 Course Unit

**RUSS 467 Classic Russian Literature Today**

This course is intended for students who have spoken Russian at home and seek to improve their capabilities in formal and professional uses of the Russian language. A study of classic Russian literature in the original. Readings will consist of some of the greatest works of 19th and 20th-century authors, such as Pushkin, Gogol, Tolstoy, Dostoevsky, and Bulgakov. Students will examine various forms and genres of literature, learn basic techniques of literary criticism, and explore the way literature is translated into film and other media. An additional focus of the course will be on examining the uses and interpretations of classic literature and elitist culture in contemporary Russian society. Observing the interplay of the "high" and "low" in Russian cultural tradition, students will develop methodology of cultural analysis.

Course not offered every year
Prerequisites: RUSS361 or comparable language competence.
Activity: Lecture
1 Course Unit

Notes: Conducted in Russian.

**RUSS 468 Post-Soviet Russian Society: People, Business, Democracy**

This course is intended for students who have spoken Russian at home and seek to improve their capabilities in formal and professional uses of the Russian language. It offers an introduction to contemporary Russian society, its historical background and its present political and economic structure. The course will focus on the political, economic and sociological developments in Russia from Perestroika (late 1980s) to Putin. The course will discuss the society’s changing values, older and younger generations, political parties and movements, elections, the business community and its relations with the government, common perceptions of Westerners and Western society, and the role of women in the family and at work. Emphasis will be placed on the examination, interpretation and explanation of peoples behavior and their perception of democracy and reforms, facilitating comparison of Western and Russian social experience.

Taught by: Bourlatskaya

Course not offered every year
Prerequisites: RUSS361 or comparable language competence.
Activity: Lecture
1 Course Unit

Notes: Conducted in Russian.
RUSS 469 Russian Utopia in Literature, Film, and Politics
This course is intended for students who have spoken Russian at home and seek to improve their capabilities in formal and professional uses of the Russian language. In this course we will undertake a fascinating journey to the Dreamland of Russian culture. Students will read and discuss Russian utopian imagination as presented in a variety of literary texts, paintings, musical works, films, as well as philosophical texts and economic theories. Topics for discussion will include Russian fairy tales and legends, religious prophesies and communist projects, history and imagination, technological and patriarchal utopias.
Course not offered every year
Prerequisites: RUSS361 or comparable language competence.
Activity: Seminar
1 Course Unit
Notes: Conducted in Russian.

RUSS 471 Moscow: Cultural History
This course is intended for students who have spoken Russian at home and seek to improve their capabilities in formal and professional uses of the Russian language. An extraordinary diverse city, Moscow has acquired a number of names, referring both to its size and role in the national history: The Third Rome, The Whitestone One, The First Throne, The Forty Forties, The Hero City, and even The Big Village. In this course, students will examine the cultural history of the great city from 1147 to the present. The "itinerary" for this imaginary trip will include the Kremlin and the banyas, Saint Basil's Cathedral and the Bolshoi Theater, the Ostankino Tower and the underground palaces of the Metro, the workers' canteen and the dining rooms of the posh restaurants, etc. The course discussions will be centered on literary texts, travelers' accounts, films, and works of art and architecture.
Activity: Seminar
1 Course Unit

RUSS 475 Doctor Zhivago in Historical Context
Russian heritage students are invited to read in original and discuss in class one of the most unusual novels of 20th century Russian literature, Doctor Zhivago. In 1958, the author of this novel Boris Pasternak was awarded the Nobel Prize "for his important achievement both in contemporary lyrical poetry and in the field of the great Russian epic tradition," an event which enraged the Soviet government. Students will follow the main characters of this poetic saga in the most terrible and glorious moments of the Russian history, from the Russian Revolution of 1905 to the beginning of the Great War.
Prerequisites: RUSS361 or comparable language competence.
Activity: Seminar
1 Course Unit

RUSS 485 Russian Poetics
Introduction to the analysis of poetic texts, based on the works of Batyushkov, Lermontov, Tyutchev, Fet, Mandelshtam, and others.
Taught by: Steiner
Course usually offered in fall term
Also Offered As: COLL 224
Prerequisites: RUSS312, RUSS361 or comparable language competence
Activity: Seminar
1 Course Unit
Notes: This course is open to all advanced students of Russian (including students who speak Russian at home).

RUSS 506 Pushkin
The writer's lyrics, narrative poems, and drama.
Taught by: Steiner
Course usually offered in spring term
Prerequisites: RUSS312, RUSS361 or comparable language competence.
Activity: Seminar
1 Course Unit
Notes: This course is open to all students of Russian (including students who speak Russian at home)

RUSS 508 Advanced Russian for Business
This advanced language course focuses on developing effective oral and written communication skills for working in a Russian-speaking business environment. Students will discuss major aspects of Russian business today and learn about various Russian companies using material from the current Russian business press. In addition, students will be engaged in a number of creative projects, such as business negotiation simulations, and simulation of creating a company in Russia.
For BA Students: Advanced Language Course
Taught by: Bourlatskaya
Course not offered every year
Prerequisites: At least one RUSS400-level course or comparable language competence.
Activity: Seminar
1 Course Unit

RUSS 519 History of Russian Literary Language and Culture
This course examines the linguistic, literary, and social history of the Russian language from the medieval period to the modern day. Course topics include: the creation of the Slavic alphabets and the first literary language of the Slavs, Old Church Slavonic; the beginnings and development of writing and literacy in Old Russia; the evolution of the Russian literary language, its styles, and registers; grammatical categories of Russian; features of Russian lexicography; the social history and politics of language use; analysis of texts. Taught in Russian; readings in Russian & English; advanced language proficiency required. Taught by: Verkholantsev
Prerequisites: Any RUSS 400 level course or comparable proficiency.
Activity: Seminar
1 Course Unit
RUSS 528 From Late-Soviet to Non-Soviet Literature and Culture
The aims of this course are threefold: to introduce students to some signature literary and cultural texts form roughly the post-Stalin era to the present, to equip them with relevant theoretical approaches and concerns, and finally, to offer a space where they can develop their own research projects. A major theme will be the relations between "Russian" literature and history, in which literature is not only a mimesis of the historical process but often an active agent. Throughout, we will be particularly attentive to the periphery of literature. In the first place, this means an expanded geography, the inclusion of non-Russian Soviet and emigre writers before and after 1991, as well as an effort to theorize their structural position. Secondly, we will adopt the late Formalists' understanding of literary periphery as the genres, cultural forms, institutions, and phenomena that abutted the literary field and affected its processes. Depending on student interest, our attention to these objects of inquiry could be directed toward bardic song and the later lyric-centric Russian rock, samizdat and literary internet, thick journals and literary prizes, Soviet-era dissidence and today's protest culture.
Taught by: Platt
Also Offered As: COML 528
Activity: Seminar
1 Course Unit

RUSS 544 Haunted House: Russian Realism in European Context
In this class we will examine works of major Russian Realist writers, painters, and composers considering them within Western ideological contexts of the 1850-1880s: positivism, materialism, behaviorism, spiritualism, etc. We will focus on Russian Realists ideological and aesthetic struggle against Romantic values and on an unpredicted result of this struggle -- a final spectralization of social and political realities they claimed to mirror in their works. Paradoxically, Russian Realism contributed to the creation of the image of Russia as a house haunted by numerous apparitions: nihilism and revolution, afflicted peasants and perfidious Jews, secret societies and religious sects. The spectropoetics (Derrida) of Russian Realism will be examined through works of Dostoievsky, Tolstoy, Turgenev, Leskov, Chekhov, as well as paintings by Ilya Repin and operas by Mussorgsky and Tchaikovsky. Requirements include one oral presentation, mid-term theoretical survey essay, and a final paper. Relevant theories include M.H. Abrams, Brookes, Levine, Greenblatt, Castle, and Derrida.
Course not offered every year
Also Offered As: COML 541, RUSS 444
Activity: Seminar
1 Course Unit

RUSS 548 Borderland Literature and Minority Nationalism: The role of Central Asia in Russian-Iranian Relations
Advanced graduate course on Central Asian and Iranian literature and history. Particular attention is given to the role of literature in Tajik-Iranian cultural exchange, the culture and history of Persian-speaking minorities in late 19th and early 20th century Caucasus and Central Asia, and the relations between center and periphery. Theories concerning Orientalism, minority nationalism and subaltern studies are also examined.
Taught by: Yountchi
Course not offered every year
Activity: Seminar
1 Course Unit

RUSS 549 Stalinist Culture
In the Soviet Union in the late 1920s the dynamic cultural life of the revolutionary era, characterized by avant-gardism, experimentation, and diversity, gave way to a new organization of Soviet cultural life-one dominated by the newly formulated official style of "Socialist Realism" and bureaucratic institutions such as the Soviet Writers Union. In this course we will study the conditions that gave rise to this new era, its institutional realities, and masterworks in film, photography and literature of official art, including those by Kavelin, Pasternak and Eisenstein. We will also examine the social phenomena of cultural resistance and non-conformism of this period and its works written "for the drawer" or for non-official consumption, such as those of Akhmatova, Mandelstam, Bulgakov, Kharm's and Druskin. Taught by: Platt/Staff
Course not offered every year
Also Offered As: COML 550
Activity: Seminar
1 Course Unit

RUSS 555 History of Emotions: Russia and the West
One of the most eccentric heroes of Yuri Olesha's novel Envy (1927), contemplates a spectacular farewell parade of individual human emotions, rejected by the new, Soviet, collectivist regime: love, envy, friendship, etc. Clearly, the emotions for him have rhetorical, ideological, and historical nature. They can be legitimate and illegitimate, they extinct, like some species of animals and plants, they can be banned, and even violently annihilated by the government (along with the social groups, the collective subjectivity of which they express). To replace them, either naturally or by means of violence, "a new series of states of the human soul" must be installed. The hero believes that this historical process is inevitable, and the only thing the patriot of the old subjectivity can do is to organize a farewell procession of the departed emotional culture, a conspiracy of the doomed feelings. Yet, can the feelings, related to the "old" culture, be completely destroyed? Can they survive in some new, cryptic, forms? Do feelings have history? How do they influence history? Do "pure," "natural," emotions exist? How do political regimes control the emotional sincerity of their subjects? What is the role of emotions in the formation of certain cultural communities (a family in the age of sensibility, a circle of political conspirators, etc.)? What is the role of literature in cultivating and preserving certain emotional modes (styles, codes, or regimes)? How do people interpret and express their emotions in different periods and in different national traditions?
Also Offered As: COML 555
Activity: Seminar
1 Course Unit

RUSS 575 Russian History in Film
Also Offered As: CIMS 575
Activity: Seminar
1 Course Unit

RUSS 618 Cultural History of Medieval Rus' (800-1700)
Taught by: Verkholantsev
Also Offered As: COML 621, HIST 620
Activity: Seminar
1 Course Unit
Sanskrit (SKRT)

SKRT 460 Sanskrit 1st Year, Part I
During the first semester of beginning Sanskrit, students will be introduced to the script, phonetics, and grammar of the Sanskrit language. By the end of the semester they will be able to begin to read Sanskrit texts and compose Sanskrit sentences in addition to carrying out simple conversation. They will build the requisite skills to read, by the second semester, simple inscriptions and sections from texts like the Ramayana, the Mahabharata, the Bhagavad Gita, Pancatantra, and Yoga Sutra. Students will also be introduced to many features of Sanskrit culture.

For BA Students: Language Course
Taught by: Obrock
Course usually offered in fall term
Activity: Lecture
1 Course Unit
Notes: Contact professor to discuss actual class times that work for all students.

SKRT 461 Sanskrit 1st Year Part II
During the first semester of beginning Sanskrit, students will be introduced to the script, phonetics, and grammar of the Sanskrit language. By the end of the semester they will be able to begin to read Sanskrit texts and compose Sanskrit sentences in addition to carrying out simple conversation. They will build the requisite skills to read, by the second semester, simple inscriptions and sections from texts like the Ramayana, the Mahabharata, the Bhagavad Gita, Pancatantra, and Yoga Sutra. Students will also be introduced to many features of Sanskrit culture.

Taught by: Obrock
Prerequisites: Beginning Sanskrit Part I or equivalent ascertained through placement test or permission of instructor.
Activity: Seminar
1 Course Unit

SKRT 470 Sanskrit 2nd Year Part I
This course will lead students to consolidate their knowledge of Sanskrit grammar and increase their familiarity with Sanskrit literature of all kinds, including epic, literary, philosophical, and narrative genres of texts. It will also introduce students to the study and reading of inscriptive materials.

Taught by: Obrock
Two terms. student must enter first term.
Prerequisite: SKRT 460
Activity: Lecture
1 Course Unit
Notes: Contact professor to discuss actual class times that work for all students.

SKRT 471 Intermediate Sanskrit Part II
This course will lead students to consolidate their knowledge of Sanskrit grammar and increase their familiarity with Sanskrit literature of all kinds, including epic, literary, philosophical, and narrative genres of texts. It will also introduce students to the study and reading of inscriptive materials.

For BA Students: Last Language Course
Taught by: Obrock
Prerequisites: Intermediate Sanskrit II or equivalent ascertained through placement test or permission of instructor.
Activity: Seminar
1 Course Unit

SCND 101 Elementary Swedish I
Basic language course stressing grammatical structures and vocabulary, pronunciation, simple conversation and reading of elementary texts. Credit for this course will only be given upon successful completion of SCND 102.

For BA Students: Language Course
Taught by: Williams
Course offered fall; odd-numbered years
Also Offered As: SCND 501
Activity: Lecture
1 Course Unit

SCND 102 Elementary Swedish II
Continuation of SCND 101. This is a two-semester course designed to teach beginning skills in Swedish reading comprehension, vocabulary acquisition, listening comprehension, writing, and conversation. Swedish social development will also be examined in relation to its cultural milieu. A trip to Gloria Dei Old Swedes Church in Philadelphia for their Luciafest will be included on a December weekend, a visit to a Swedish film during the Philadelphia Film festival will take place in late April, and other events as announced.

For BA Students: Language Course
Taught by: Williams
Course offered spring; even-numbered years
Also Offered As: SCND 502
Prerequisites: SCND 101 or equivalent.
Activity: Lecture
1 Course Unit

SCND 103 Intermediate Swedish I
For BA Students: Language Course
Taught by: Williams
Course offered fall; even-numbered years
Also Offered As: SCND 503
Prerequisite: SCND 102 or equivalent
Activity: Lecture
1 Course Unit

SCND 104 Intermediate Swedish II
For BA Students: Last Language Course
Taught by: Williams
Course offered spring; odd-numbered years
Also Offered As: SCND 504
Prerequisite: SCND 103 or equivalent
Activity: Lecture
1 Course Unit

SCND 105 Advanced Swedish I
Course not offered every year
Also Offered As: SCND 505
Prerequisite: SCND 104 or equivalent
Activity: Lecture
1 Course Unit
SCND 106 Advanced Swedish II  
Course not offered every year  
Also Offered As: SCND 506  
Prerequisite: SCND 105 or equivalent  
Activity: Lecture  
1 Course Unit

SCND 501 Elementary Swedish I  
For BA Students: Language Course  
Taught by: Williams  
Course offered fall; odd-numbered years  
Also Offered As: SCND 101  
Activity: Lecture  
1 Course Unit

SCND 502 Elementary Swedish II  
Continuation of SCND 501.  
Taught by: Williams  
Course offered spring; even-numbered years  
Also Offered As: SCND 102  
Activity: Lecture  
1 Course Unit

SCND 503 Intermediate Swedish I  
Taught by: Williams  
Course offered fall; even-numbered years  
Also Offered As: SCND 103  
Activity: Lecture  
1 Course Unit

SCND 504 Intermediate Swedish II  
For BA Students: Last Language Course  
Taught by: Williams  
Course offered spring; odd-numbered years  
Also Offered As: SCND 104  
Activity: Lecture  
1 Course Unit

SCND 505 Advanced Swedish I  
Course usually offered in fall term  
Also Offered As: SCND 105  
Activity: Lecture  
1 Course Unit

SCND 506 Advanced Swedish II  
Course usually offered in spring term  
Also Offered As: SCND 106  
Activity: Lecture  
1 Course Unit

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Science, Technology & Society (STSC)

STSC 001 Emergence of Modern Science  
During the last 500 years, science has emerged as a central and transformative force that continues to reshape everyday life in countless ways. This introductory course will survey the emergence of the scientific world view from the Renaissance through the end of the 20th century. By focusing on the life, work, and cultural contexts of those who created modern science, we will explore their core ideas and techniques, where they came from, what problems they solved, what made them controversial and exciting and how they relate to contemporary religious beliefs, politics, art, literature, and music. The course is organized chronologically and thematically. In short, this is a "Western Civ" course with a difference, open to students at all levels.  
For BA Students: Hum/Soc Sci or Nat Sci/Math Sector  
Taught by: Kucuk  
Course usually offered in fall term  
Also Offered As: HSOC 001  
Activity: Lecture  
1 Course Unit

STSC 002 Medicine in History  
This course surveys the history of medical knowledge and practice from antiquity to the present. No prior background in the history of science or medicine is required. The course has two principal goals: (1) to give students a practical introduction to the fundamental questions and methods of the history of medicine, and (2) to foster a nuanced, critical understanding of medicine's complex role in contemporary society. The course takes a broadly chronological approach, blending the perspectives of the patient, the physician, and society as a whole—recognizing that medicine has always aspired to "treat" healthy people as well as the sick and infirm. Rather than history "from the top down" or "from the bottom up," this course sets its sights on history from the inside out. This means, first, that medical knowledge and practice is understood through the personal experiences of patients and caregivers. It also means that lectures and discussions will take the long-discredited knowledge and treatments of the past seriously, on their own terms, rather than judging them by today's standards. Required readings consist largely of primary sources, from elite medical texts to patient diaries. Short research assignments will encourage students to adopt the perspectives of a range of actors in various historical eras.  
For BA Students: History and Tradition Sector  
Taught by: Barnes  
Course usually offered in fall term  
Also Offered As: HIST 036, HSOC 002  
Activity: Lecture  
1 Course Unit
STSC 003 Technology and Society
Technology plays an increasing role in our understandings of ourselves, our communities, and our societies, in how we think about politics and war, science and religion, work and play. Humans have made and used technologies, though, for thousands if not millions of years. In this course, we will use this history as a resource to understand how technologies affect social relations, and conversely how the culture of a society shapes the technologies it produces. Do different technologies produce or result from different economic systems like feudalism, capitalism and communism? Can specific technologies promote democratic or authoritarian politics? Do they suggest or enforce different patterns of race, class or gender relations? Among the technologies we'll consider will be large objects like cathedrals, bridges, and airplanes; small ones like guns, clocks and birth control pills; and networks like the electrical grid, the highway system and the internet.
For BA Students: Society Sector
Taught by: Benson
Course usually offered in spring term
Also Offered As: HSOC 003, SOCI 033
Activity: Lecture
1 Course Unit

STSC 021 From Darwin to DNA
Evolution has been one of the productive and important ideas in the history of biology. It has also been a scientific idea with many complex social and political meanings. In this freshman seminar, we explore the history of ideas about evolution, heredity, DNA and genomics, attentive to the profound social dimensions of biological ideas. We consider the political and intellectual history of genetics and genomics, from pre-Darwinian ideas about evolution (there were many theories before Darwin's) to contemporary debates about ancestry testing and creation science. We look at evolution's role in the politics of race, eugenics, creation science and identity. This course will provide students with critical historical and social perspectives on science, technology and medicine.
Taught by: Lindee
Course not offered every year
Activity: Seminar
1 Course Unit

STSC 026 Relativity and the Philosophy of Space and Time
This course will present a detailed introduction to Einstein's special and general theories of relativity and will examine their historical development and philosophical significance. No previous physics or philosophy will be presupposed, and only high school mathematics will be used.
For BA Students: Natural Science and Math Sector
Taught by: Domoter
Course usually offered in fall term
Also Offered As: PHIL 026
Activity: Lecture
1 Course Unit
Notes: Also fulfills General Requirement in Science Studies for Class of 2009 and prior

STSC 032 Risky Business
This freshman seminar on medical decision making will focus on personal and public medical and health decisions - how we make them and how they can be improved. While in theory medical decisions are in large part both informed and constrained by scientific evidence, in reality they are much more complex. Drawing upon a range of information sources including original research and popular media, the seminar will introduce students to the challenges of making personal and public (i.e., policy) decisions under conditions of inherent uncertainty and resource constraint. We will examine how research and scholarship can inform and improve such decisions and decision making processes. Using a variety of approaches (class discussions, examination of primary research, popular media, simple experiments, expert guests) this highly interactive seminar will provide a strong introductory foundation to medical decision making specifically and, by extension, to decision making under conditions of uncertainty more generally. Using a variety of approaches (class discussions, examination of primary research, popular media, simple experiments, expert guests) this highly interactive seminar will provide a strong introductory foundation to medical decision making specifically and, by extension, to decision making under conditions of uncertainty more generally.
Taught by: Schwartz
Course not offered every year
Also Offered As: HSOC 032
Activity: Seminar
1 Course Unit

STSC 062 American Way of War
Do Americans fight wars differently than do the people of other nations? Are there unique American tactics or technologies? Does America's success in war owe to its arsenal of sophisticated weapons, or to the fighting spirit of its people? What characterizes the American experience in combat? A respect for limits, or a willingness to win at any cost? And can we even answer these questions, or do the myths we tell ourselves about our past get in the way? This seminar explores the scientific and technological development of warfare in the United States from the time of European settlement of the Americas to the era of unmanned aerial vehicles. The changing nature of warfare beginning in 1775 and continuing through 2014 involved the creation and deployment of increasingly complex and powerful weapons, as well as a corresponding evolution in tactics and strategy.
Course not offered every year
Activity: Seminar
1 Course Unit

STSC 069 Computer Worlds
Taught by: Voskuhl
One-term course offered either term
Activity: Seminar
1 Course Unit

STSC 070 Gaming the Machine
One-term course offered either term
Activity: Seminar
1 Course Unit
STSC 077 Voyages of Discovery
Across the nineteenth century, voyages of sail and steam made possible the creation of empires and a globalized world, through the transportation of people and commodities. Similarly, this course is a voyage of discovery based on the study of actual ship’s logs held in Penn’s Rare Book collection. We will use these accounts to guide our investigation into the science, technology, medicine, economic and environmental history of life at sea and in the ports of call for these ships around the Indian and Atlantic Oceans. Collectively, the seminar will produce an online exhibition built on logs, diaries and other sources held at Penn, in other local collections and gleaned from archives around the world.
Taught by: Petrie
Course not offered every year
Activity: Seminar
1 Course Unit

STSC 078 Everyday Technologies and the Making of the Modern World
Long before iPhones and Fitbits, personal technology — small(ish), portable, purchasable — had a tremendous impact on the lives of people around the globe. Items such as wristwatches, bicycles, sewing machines and radios could empower their users (or sometimes discipline them), creating economic, educational or recreational opportunities while also being associated with grander ideas and ideologies. This course will explore such everyday technologies across the nineteenth and twentieth centuries, in locations spanning the Americas, Europe, Africa and Asia. We will consider how the use and significance of particular technologies varied according to time and place; how these everyday items contributed to “self-fashioning” for individuals, nations, and empires; and how, through use and modification, consumers themselves could become part of the story of technological change. In addition to reading a variety of classic and recent scholarship, students will work with a wide array of primary sources (newspapers, photographs, patent records, trade cards) and use digital tools to present their own research projects.
Taught by: Petrie
Activity: Seminar
1 Course Unit

STSC 079 Animal City: Humans & Animals in Urban America 1850-present
Cities are popularly viewed as the opposite of Nature; animals are popularly viewed as the embodiment of Nature. Yet history and our own observations inform us that animals have always been and continue to be part of city life. Furthermore, most of the many roles that animals play in human lives, and most of the relationships between animals and humans take place in urban settings. In this freshman seminar, we examine human/animal relationships in urban society since the early 19th century, through readings, movies and speakers. This course will help students understand the different ways that Americans interact with animals and how those interactions have changed over time. It will address the way that science, technology and medicine have shaped human-animal interactions, and introduce students to the fields of animal history and the animal sciences.
Taught by: Greene, A
One-term course offered either term
Activity: Seminar
1 Course Unit

STSC 107 Science, Technology & Medicine in Colonial India
In this course we will explore the broad contours of the histories of Science, Medicine and Technology in Colonial India (c. 1757 - 1947). This broad overview will be developed each week through a case study based on any one particular scientific discipline, technological project or medical event. Overall the course will attempt to locate the development of science, technology and medicine within the social, political and cultural context of colonial India. It is also worth noting that 'Colonial India', will include discussions of regions which today make up the Republic of India, Pakistan and Bangladesh.
Taught by: Mukharji
One-term course offered either term
Also Offered As: HSOC 107
Activity: Seminar
1 Course Unit

STSC 108 Introduction to Philosophy of Science
A discussion of some philosophical questions that naturally arise in scientific research. Issues to be covered include: The nature of scientific explanation, the relation of theories to evidence, and the development of science (e.g., does science progress? Are earlier theories refuted or refined?).
Taught by: Domotor
Course not offered every year
Also Offered As: COML 224, PHIL 225
Activity: Seminar
1 Course Unit

STSC 110 Science and Literature
This course will explore the emergence of modern science fiction as a genre, the ways it has reflected our evolving conceptions of ourselves and the universe, and its role as the mythology of modern technological civilization. We will discuss such characteristic themes as utopias, the exploitation of space and time, biological engineering, superman, robots, aliens, and other worlds—and the differences between European and American treatment of these themes. For BA Students: Arts and Letters Sector
Taught by: Adams
Course usually offered in spring term
Also Offered As: COML 074, ENGL 075, HIST 117, HSOC 110
Activity: Lecture
1 Course Unit

STSC 123 Darwin's Legacy: The Evolution of Evolution
Darwin's conceptions of evolution have become a central organizing principle of modern biology. This lecture course will explore the origins and emergence of his ideas, the scientific work they provoked, and their subsequent re-emergence into modern evolutionary theory. In order to understand the living world, students will have the opportunity to read and engage with various classic primary sources by Darwin, Mendel, and others. The course will conclude with guest lectures on evolutionary biology today, emphasizing current issues, new methods, and recent discoveries. In short, this is a lecture course on the emergence of modern evolutionary biology—its central ideas, their historical development and their implications for the human future. For BA Students: Living World Sector
Taught by: Gil-Riano
Course usually offered in spring term
Also Offered As: HSOC 123
Activity: Seminar
1 Course Unit
STSC 135 Modern Biology and Social Implications
This course covers the history of biology in the 19th and 20th centuries, giving equal consideration to three dominant themes: evolutionary biology, classical genetics, and molecular biology. The course is intended for students with some background in the history of science as well as in biology, although no specific knowledge of either subject is required. We will have three main goals: first, to delineate the content of the leading biological theories and experimental practices of the past two centuries; second, to situate these theories and practices in their historical context, noting the complex interplay between them and the dominant social, political, and economic trends; and, third, to critically evaluate various methodological approaches to the history of science. For BA Students: Natural Science and Math Sector Taught by: Cecatti One-term course offered either term Also Offered As: HIST 035 Activity: Seminar 1 Course Unit

STSC 145 Comparative Medicine
This course explores the medical consequences of the interaction between Europe and the “non-West.” It focuses on three parts of the world Europeans colonized: Africa, South Asia, and Latin America. Today's healing practices in these regions grew out of the interaction between the medical traditions of the colonized and those of the European colonizers. We therefore explore the nature of the interactions. What was the history of therapeutic practices that originated in Africa or South Asia? How did European medical practices change in the colonies? What were the effects of colonial racial and gender hierarchies on medical practice? How did practitioners of “non-Western” medicine carve out places for themselves? How did they redefine ancient traditions? How did patients find their way among multiple therapeutic traditions? How does biomedicine take a different shape when it is practiced under conditions of poverty, or of inequalities in power? How do today's medical problems grow out of this history? This is a fascinating history of race and gender, of pathogens and conquerors, of science and the body. It tells about the historical and regional roots of today’s problems in international medicine. For BA Students: History and Tradition Sector Taught by: Mukharji Course usually offered in fall term Also Offered As: HIST 146, HSOC 145 Activity: Lecture 1 Course Unit

STSC 152 Chinese Science
This course explores the social, cultural and political contexts of scientific knowledge in China over the course of two millennia, through a diverse cast of historica actors spanning emperors and midwives, Buddhist monks and Jesuits, eminent authorities and everyday people. We will examine the evolution of various learned traditions (astronomy, alchemy, medicine, natural history) that sought to define and understand the heavens, the earth and the body - and the manner in which those forms of knowledge could be deployed for the good of state, society or individual. In the process, we will compare Chinese experience to other cultures and evaluate the status and dynamics of Chinese traditions in the modern era of Western political and scientific dominance. No prior knowledge of Chinese history is assumed. Class discussion will be a part of each meeting. One-term course offered either term Also Offered As: HSOC 157 Activity: Lecture 1 Course Unit

STSC 160 The History of the Information Age
Certain new technologies are greeted with claims that, for good or ill, they must transform our society. The two most recent: the computer and the Internet. But the series of social, economic and technological developments that underlie what is often called the Information Revolution include much more than just the computer. In this course, we explore the history of information technology and its role in contemporary society. We will explore both the technologies themselves—calculating machines, punched card tabulators, telegraph and telephone networks, differential analyzers, digital computers, and many others—and their larger social, economic and political contexts. To understand the roots of these ideas we look at the prehistory of the computer, at the idea of the post-industrial or information society, at parallels with earlier technologies and at broad historical currents in the United States and the world. For BA Students: Humanities and Social Science S Taught by: Dick One-term course offered either term Also Offered As: SOCI 161 Activity: Lecture 1 Course Unit

STSC 162 Technology and Medicine in Modern America
Medicine as it exists in contemporary America is profoundly technological; we regard it as perfectly normal to be examined with instruments, to expose our bodies to many different machines; and to have knowledge produced by those machines mechanically/electronically processed, interpreted and stored. We are billed technologically, prompted to attend appointments technologically, and often buy technologies to protect, diagnose, or improve our health: consider, for example, HEPA-filtering vacuum cleaners; air-purifiers; fat-reducing grills; bathroom scales; blood pressure cuffs; pregnancy testing kits; blood-sugar monitoring tests; and thermometers. Yet even at the beginning to the twentieth century, medical technologies were scarce and infrequently used by physicians and medical consumers alike. Over the course of this semester, we will examine how technology came to medicine's center-stage, and what impact this change has had on medical practice, medical institutions and medical consumers - on all of us! Taught by: Johnson Course usually offered summer term only Also Offered As: HSOC 152 Activity: Seminar 1 Course Unit

STSC 168 Environment and Society
This course examines contemporary environmental issues such as energy, waste, pollution, health, population, biodiversity and climate through a historical and critical lens. All of these issues have important material, natural and technical aspects; they are also inextricably entwined with human history and culture. To understand the nature of this entanglement, the course will introduce key concepts and theoretical frameworks from science and technology studies and the environmental humanities and social sciences. For BA Students: Humanities and Social Science S Taught by: Benson Course not offered every year Activity: Lecture 1 Course Unit
STSC 169 Engineering Planet Earth
Taught by: Benson
One-term course offered either term
Also Offered As: ENVS 169
Activity: Lecture
1 Course Unit

STSC 179 Environmental History
This course provides an introduction to environmental history—the history of the interrelationship between humans and the rest of nature. In the words of historian J.R. McNeill, “Human history has always and will always unfold within a larger biological and physical context, and that context evolves in its own right. Especially in recent millennia, that context has co-evolved with humankind.” In this course we will study this co-evolution between human actors and non-human actors in global history, analyzing political, social, cultural and economic factors that affect ideas about nature and material effects on nature. We will consider the concept of the Anthropocene and study current environmental changes and challenges.
Taught by: Greene, A
Course not offered every year
Also Offered As: HSOC 179
Activity: Lecture
1 Course Unit

STSC 201 Hist Phys Sci 19th & 20th Century
Over the last two centuries, scientists have produced a broad range of knowledge about the physical world, from light to electromagnetism to atoms to nuclei, facilitating or explaining an ever increasing mastery over the natural world. Because of their success, these developments played an important role in forming our views of how to effectively generate knowledge of the natural world. This course will examine some of the major developments in the physical sciences during the 19th and 20th century, asking how that knowledge and the means by which it was produced related to institutions, technical practices and broader cultural knowledge and knowledge production to explore how past practices have, or have not, left their traces in later science. The course will meet twice a week for lecture and discussion. Readings will consist of Pursuing Power and Light: Technology and Physics from James Watt to Albert Einstein by Bruce J. Hunt When Physics Became King by Iwan Rhys Morus Night Thoughts of a Classical Physicist by Russel McCormmach as well as articles from a course reader. Students will produce three short papers (about three pages) and a term paper (about ten pages)
Taught by: Ashrafi
Course not offered every year
Activity: Lecture
1 Course Unit

STSC 203 Science, Medicine and Technology in Africa
Course not offered every year
Activity: Lecture
1 Course Unit

STSC 208 Science and Religion: Global Perspectives
This survey course provides a thematic overview of science and religion from antiquity to the present. We will treat well-known historical episodes, such as the emergence of Muslim theology, the Galileo Affair and Darwinism, but also look beyond them. This course is designed to cover all major faith traditions across the globe as well as non-traditional belief systems such as the New Age movement and modern Atheism
Taught by: Kucuk
Course not offered every year
Activity: Seminar
1 Course Unit

STSC 209 Race and Gender in Global Science
This course critically examines the creation of scientific conceptions of ‘race’ and ‘sex’ in the modern era and their global impact. How did ‘race’ and ‘sex’ come to be the primary categories through which human variation has been classified in the modern West? What concepts of "race" and "sex" did colonial scientists, doctors, naturalists, and other experts invent, and how and why did they do this? How have scientific conceptions of ‘race’ and ‘sex’ been adapted to fit the sociopolitical projects of formerly colonized regions? And how have recent developments in genomic science sought to reinvent these categories? With these questions in mind, this course challenges us to think critically about the political contexts in which conceptions of ‘race’ an’sex’ have been crafted as well as how they have been contested and re-defined.
Taught by: Gil-Riano
Course usually offered in spring term
Also Offered As: HSOC 209
Activity: Seminar
1 Course Unit

STSC 212 Science Technology and War
In this survey we explore the relationships between technical knowledge and war in the nineteenth and twentieth centuries. We attend particularly to the centrality of bodily injury in the history of war. Topics include changing interpretations of the machine gun as inhumane or acceptable; the cult of the battleship; banned weaponry; submarines and masculinity; industrialized war and total war; trench warfare and mental breakdown; the atomic bomb and Cold War; chemical warfare in Viet Nam; and "television war" in the 1990s.
For BA Students: Humanities and Social Science
Taught by: Lindee
Course not offered every year
Also Offered As: HSOC 212
Activity: Lecture
1 Course Unit

STSC 217 Science, Technology and Development in South and Southeast Asia
Taught by: Petrie
Course not offered every year
Activity: Seminar
1 Course Unit
STSC 231 Insect Epidemiology Pests, Pollinators and Disease Vectors
Malaria, Dengue, Chagas disease, the Plague- some of the most deadly and widespread infectious diseases are carried by insects. The insects are also pernicious pests; bed bugs have returned from obscurity to wreak havoc on communities, invasive species decimate agricultural production, and wood borers are threatening forests across the United States. At the same time declines among the insects on which we depend- the honeybees and other pollinators--threaten our food security and ultimately the political stability of the US and other nations. We will study the areas where the insects and humans cross paths, and explore how our interactions with insects can be cause, consequence or symptom of much broader issues. This is not an entomology course but will cover a lot about bugs. It's not a traditional epidemiology course but will cover some fascinating epidemiological theory originally developed for the control of disease vectors. It will cover past epidemics and infestations that have changed the course of the history of cities and reversed advancing armies. HSOC 241. Stem Cells, Science and Society. Gearhart/Zaret.
Taught by: Levy
Course not offered every year
Also Offered As: HSOC 231
Activity: Seminar
1 Course Unit

STSC 260 Cyberculture
Computers and the internet have become critical parts of our lives and culture. In this course, we will explore how people use these new technologies to develop new conceptions of identity, build virtual communities and affect political change. Each week we'll see what we can learn by thinking about the internet in a different way, focusing successively on hackers, virtuality, community, sovereignty, interfaces, algorithms and infrastructure. We'll read books, articles, and blogs about historical and contemporary cultures of computing, from Spacewar players and phone phreaks in the 1970s to Google, Facebook, World of Warcraft, WikiLeaks, and Anonymous today. In addition, we'll explore some of these online communities and projects ourselves and develop our own analyses of them.
Taught by: Dick
One-term course offered either term
Also Offered As: ANTH 260, SOCI 260
Activity: Seminar
1 Course Unit

STSC 261 Topics in US History
Taught by: Greene, A
One-term course offered either term
Also Offered As: HIST 231
Activity: Seminar
1 Course Unit

STSC 269 Computers, Ethics, and Social Values
This course will explore the various social implication of information technology: social, cultural, political and economic. Topics will include technology policy, organizational change, globalism and the digital divide, intellectual property rights, Linux and the free software movement, cyber libertarianism, and the rise and fall of the dot.com economy.
Course not offered every year
Activity: Seminar
1 Course Unit

STSC 270 Digital Democracy
Technological infrastructure shapes what forms of political life are possible within a society. Political campaigns, investigative journalism, public engagement, protest, government - all unfold on different time scales, in different forms, and with different consequences depending on what machines mediate them. This course explores the forms of American political life that have taken shape in and through modern digital computing. We will investigate especially a perceived tension at the heart of computing technologies - from artificial intelligence to social media - as they have been introduced to so many corners of American political life: Are computing technologies agents of liberation, or of control? The internet, for example, was embraced by some as an inherently democratizing and liberating force, giving users equal access to voice and information. On the other hand, many feared the internet as an unprecedented platform for corporate and government surveillance and manipulation. This course will analyze and historicize this tension, looking to unpack the complex and controversial role of computers in American political life from the Cold War to @POTUS.
Taught by: Dick
Course usually offered in fall term
Activity: Seminar
1 Course Unit

STSC 272 Energy in America
Energy issues are central to all aspects of American life - social, cultural, environmental, political and economic. The United States possesses abundant energy resources, and Americans have long enjoyed high, even profligate energy consumption. With 5% of the world's population, the United States currently consumes 24% of the world energy. How did the United States' energy system come to be? This course looks at how this energy system developed over time, in order to understand how Americans' energy choices have been shaped by environmental conditions, economic arrangements, political practices, social structures, and cultural values. It examines the kinds of energy and power used by Americans, energy adoption and transitions, the development of power systems, the role of consumption, and the influence of energy beliefs. It emphasizes the themes of system, contingency, complementarity, and choice. Ongoing topics are the history of energy at the University of Pennsylvania and in the mid-Atlantic region, the meaning of energy efficiency, and the problem of sustainable energy.
Taught by: Greene, A
Course not offered every year
Activity: Seminar
1 Course Unit
STSC 279 Nature's Nation: Americans and Their Environment
The United States is "nature's nation." Blessed with an enormous, resource-rich geographically diverse and sparsely settled territory, Americans have long seen "nature" as central to their identity, prosperity, politics and power, and have transformed their natural environment accordingly. But what does it mean to be "nature's nation?" This course describes and explores how American "nature" has changed over time. How and why has American nature changed over the last four centuries? What have Americans believed about the nation's nature, what have they known about the environment, how did they know it and how have they acted on beliefs and knowledge? What didn't or don't they know? How have political institutions, economic arrangements, social groups and cultural values shaped attitudes and policies? How have natural actors (such landscape features, weather events, plants, animals, microorganisms) played roles in national history? In addition to exploring the history of American nature, we will look for the nature in American history. Where is "nature" in some of the key events of American history that may not, on the surface, appear to be "environmental?"
Taught by: Greene, A
Course not offered every year
Also Offered As: ENVS 279, HIST 320, HSOC 279
Activity: Seminar
1 Course Unit

STSC 288 Knowledge and Social Structure
Throughout human history, the relationships of science and religion, as well as of science and magic, been omplex and often surprising. This course we cover topics ranging from the links between magic and science in the seventeenth century to contemporary anti-science movements. For BA Students: Humanities and Social Science S
One-term course offered either term
Also Offered As: SOCI 282
Activity: Seminar
1 Course Unit

STSC 299 Independent Study
One-term course offered either term
Activity: Independent Study
1 Course Unit

STSC 307 Globalization & Medicine in Colonial & Postcolonial South Asia
This seminar will explore a wide range of themes at the intersection of globalization and therapeutic cultures in South Asia and amongst South Asian diasporas. To begin with the course understands 'supraterritoriality' as the key feature of globalization and to interrogate the myriad ways in which this supraterritoriality was produced, consumed, used an dabused within the theraeutic cultures that have been, and on occasion still are, available in South Asia both in reality and symbolically. Each week, through a specific case study, framed by a few theoretical readings, we will attempt to deepen and problematize the simple definition of globalization with which we start the course. Throughout the course there will be a strong emphasis on combining case study-based empirical material and theoretical interventions in Cultural Theory and Postcolonial Studies.
Taught by: Mukharji
One-term course offered either term
Also Offered As: HSOC 307
Activity: Seminar
1 Course Unit

STSC 308 Science, Technology and Global Capitalism
Modern capitalism has been defined by the circulation of commodities, from gold in the 16th century to sugar in the 17th, tobacco in the 18th, cotton in the 19th, oil in the 20th, and financial derivatives in the 21st. But the world is always messy and complex, rather than neatly divided into products and goods. How, why, and for whose benefit do we divide nature into the abstractions of the marketplace? Who holds power over where, why, and how that happens? In this seminar, we'll use a wide range of scholarship from the humanities, social sciences, and the sciences, along with primary texts and other sources, in order to understand the close links among global capitalism, science and technology, and the natural world.??
One-term course offered either term
Activity: Seminar
1 Course Unit

STSC 310 Futurology
This seminar will explore past attempts by scientists and visionaries to predict the future. After exploring the nature and methodological problems inherent in prognostication that have caused most such attempts to fail, we will focus on a series of interesting essays, stories, and visionary works that seem to have successfully foreseen aspects of the world we live in, and attempt to analyze what they got right, what they got wrong, and why. We will conclude with critical, historically informed analysis of some current scientific prognostications about our short, intermediate, and longer term destiny. Grading will be based on class participation, student reports, several short papers, and a final research paper.
Taught by: Adams
Course not offered every year
Prerequisites: STSC 001, STSC 110
Activity: Seminar
1 Course Unit

STSC 312 Weapons of Mass Destruction
The course explores the historical development of traditional weapons of mass destruction such as chemical, nuclear and biological agents, in addition to newer and seemingly non-traditional weapons such as land mines and civilian aircraft that can also be employed to cause large numbers of injuries and deaths among civilian and military populations. Through case studies in technology and public health, students will evaluate the medical, scientific, environmental, and cultural ramifications of these weapons and their effect on human heal and society by analyzing the rise of the military-industrial-academic-complex in twentieth century America.
Taught by: Lindee
One-term course offered every term
Also Offered As: HSOC 312
Activity: Seminar
1 Course Unit

STSC 314 Cosmopolitan Urbanism: Rio de Janeiro
Taught by: Barber/Tresch
Course not offered every year
Activity: Seminar
1 Course Unit
STSC 316 Science, Technology and Society in Modern East Asia
The course aims to survey the history of science and technology in East Asian countries-China, Japan and Koreasince the late 19th century. Since Japan was the only nation in East Asia that succeeded in modernizing itself by adopting Western science, technology and politics, it will be studied first. The Chinese and Korean cases then will be reviewed with different angles. The course will emphasize the mutual influence between science & technology and society to answer how these countries became major industrial powers in the 21st century.
Taught by: KIM
Course not offered every year
Activity: Seminar
1 Course Unit

STSC 318 Experiment in the Modern Life Sciences
Experiments on living material are now controversial for ethical reasons (think stem cells, animal experimentation and animal rights, etc), but the scientific merit of experimenting onthe living is rarely challenged. We tend to take for granted that experiments are the best way to understand biology, but inthe nineteenth century, the opposite was true. Why has this changed, and what are the implications of the change? Is the appearance of consensus around the role of experiment in biology simply a false impression? These are the sorts of questions that this course will explore through popular, scientific, and historical literature.
Course not offered every year
Activity: Seminar
1 Course Unit

STSC 322 Edgar Allan Poe's Science
You probably read Poe first in junior high, and his works are often treated as juvenile: cheap thrills, campy horror, self-indulgent longing. But Poe also engaged with the most serious issues faced by his period, from politics and philosophy to industrialization and science. His works dealt with these concerns in a variety of ways, while reflecting all along about the conditions of literature in a newly commercialized marketplace. This seminar will look at Poe's literary innovations through the lens of the developing technology and science of the early republic. It will examine the political importance of new institutions for research and diffusion as well as various emerging venues for popular science, including the journals in which Poe wrote as an early science reporter. The course thus explores the peculiar situtation of science and technology in the early USA, at the same time as it reveals the varied and complex literary production of Poe in a new and revealing light.
Taught by: Tresch
One-term course offered either term
Activity: Seminar
1 Course Unit

STSC 328 What is Prediction?
This course is an investigation into the notion of prediction from antiquity to the present. By looking closely at key practices from Homeric divination to modern actuarial science and from early modern astrology to contemporary climate models, the course seeks to historicize the way we engage with the future. As part of the course, students also explore the role that methodology, models, causation and big data have played in predictive practices. The readings include a mixture of primary sources, modern scholarship and journalism.
Taught by: Kucuk
Course not offered every year
Activity: Seminar
1 Course Unit

STSC 329 Gender and Science
This course explores the gendered nature of science as social endeavor, intellectual construct and political resource. We consider the rise of gentlemanly science, masculinity and the arms race, the notion of a "Successor science" grounded in feminist theory, and the historical role of gender in defining who can do science and what counts as scientific data. We also explore how science has interpreted male-female differences. Our goal is to understand the profound impact of social place in the history of science, and thereby to understand the social nature of scientific knowledge.
Taught by: Lindee
Course not offered every year
Also Offered As: GSWS 330
Activity: Seminar
1 Course Unit

STSC 338 Hybrid Science: Nature, health, and society in Latin America
What role did science and medicine play in the creation and growth of the Spanish and Portuguese empires? And why was the creation of science and health institutions crucial to the revolutionary movements for independence in Latin America? This course examines science and medicine in Latin America by attending to the ways that knowledge of nature and health has been central to the political struggles of the countries in this region. A crucial dynamic shaping the history and culture of this region is the interplay between the healing practices and cosmologies of European settlers, indigenous Americans, and the descendants of African slaves. Bearing this interplay in mind, this course explores how Latin America has been a fertile site of scientific creativity. It also examines the ways in which Latin American scientists and medical experts have refashioned concepts and practices from Europe and North America to fit local circumstances.
Taught by: Gil-Riano
Course usually offered in spring term
Also Offered As: HSOC 338
Activity: Seminar
1 Course Unit

STSC 363 Technology & Democracy
What is the relationship between technology and politics in global democracies? This course explores various forms of technology, its artifacts and experts in relation to government and political decision-making. Does technology "rule" or "run" society, or should it? How do democratic societies balance the need for specialized technological expertise with rule by elected representatives? Topics will include: industrial revolutions, factory production and consumer society, technological utopias, the Cold War, state policy, colonial and post-colonial rule, and engineers' political visions.
Taught by: Voskuhl
Course not offered every year
Activity: Seminar
1 Course Unit
STSC 364 Technologies of Research: Digital Methods in Action
This course asks three questions: What is technology? What is research? And how does technology aid research? These three questions beg a fourth: how can we spend a semester on three questions? Well, the answers to each of these questions may seem apparent, but think about them for more than a few seconds and you'll be hard pressed to offer a satisfactory answer. The term technology conjures images of recent, micro-processors, robots, or the Internet. But think deeper about the terms meaning for a moment and you'll see that such ancient, elemental things as mathematics and the alphabet are technologies, too. Likewise, you'll find that something we have all done before: research is an opaque and contestable term. The question of research gets at the very processes through which knowledge is produced.
Taught by: Wiggin
Course not offered every year
Also Offered As: HIST 305
Activity: Seminar
1 Course Unit

STSC 368 Sustainability & Utopianism
This seminar explores how the humanities can contribute to discussions of sustainability. We begin by investigating the contested term itself, paying close attention to critics and activists who deplore the very idea that we should try to sustain our, in their eyes, dystopian present, one marked by environmental catastrophe as well as by an assault on the educational ideals long embodied in the humanities. We then turn to classic humanist texts on utopia, beginning with More's fictive island of 1517. The "origins of environmentalism" lie in such depictions of island edens (Richard Grove), and our course proceeds to analyze classic utopian tests from American, English, and German literatures. Readings extend to utopian visions from Europe and America of the nineteenth and twentieth centuries, as well as literary and visual texts that deal with contemporary nuclear and flood catastrophes. Authors include: Bill McKibben, Jill Kerr Conway, Christopher Newfield, Thomas More, Francis Bacon, Karl Marx, Henry David Thoreau, Robert Owens, William Morris, Charlotte Perkins Gilman, Ayn Rand, Christa Wolf, and others.
Taught by: Wiggin
Course not offered every year
Also Offered As: GRMN 239
Activity: Seminar
1 Course Unit

STSC 369 Bioethics and National Security
At least since Augustine proposed a theory of "just war," armed conflict has been recognized as raising ethical issues. These issues have intensified along with the power and sophistication of weapons of war, and especially with increasing engineering capabilities and basic knowledge of the physical world. The life sciences have had their place in these developments as well, perhaps most vividly with the revelations of horrific experiments conducted by the Nazi and Imperial Japanese militaries, but with much greater intensity due to developments in fields like genetics, neuroscience and information science, and the widely recognized convergence of physics, chemistry, biology and engineering. The fields of bioethics and national security studies both developed in the decades following World War II. During the cold war little thought was given to the fact that many national security issues entail bioethical questions, but this intersection has been increasingly evident over the past two decades. In spite of the overlapping domains of bioethics and national security, there has been remarkable little systematic, institutional response to the challenges presented by these kinds of questions: - What rules should govern the conduct of human experiments when national security is threatened? - Is it permissible to study ways that viruses may be genetically modified in order to defeat available vaccines, even for defensive purposes? - What role may physicians or other health care professionals play in interrogation of suspected terrorists? - Must warfighters accept any and all drugs or devices that are believed to render them more fit for combat, including those that may alter cognition or personality? - What responsibilities does the scientific community have to anticipate possible "dual purpose" uses or other unintended consequences of its work? Deploying the resources of ethics, philosophy, history, sociology and theory, this course will address these and other problems.
Taught by: Moreno
Course usually offered in spring term
Also Offered As: HSOC 391
Activity: Seminar
1 Course Unit

STSC 379 Animals in Science Medicine Technology
This course explores human-animal relationships: the wide range of these relationships, why they originated and how they have changed over time. How have humans classified, valued, utilized, consumed, behaved toward and understood animals? Where is the boundary between humans and other animals, and how do we know, since humans are also animals? How is that boundary been maintained and redefined? Are humans part of the animal "natural" world- or apart from it? How are humans similar to and different from other kinds of animals? How do we know about animals and what is it we know? To what extent are questions about animals really questions about humans? How has the meaning of animal changed over time? The course focuses in particular to the roles and relationships of animals within science and medicine, and as biotechnologies.
Taught by: Greene, A
One-term course offered either term
Also Offered As: HSOC 379
Activity: Seminar
1 Course Unit

STSC 388 Who Owns the Past
Stories told about the past have long been understood as moral lessons. And historical narratives have also been susceptible to different readings by opposed parties. But the strength of appeals to the past is not a constant: historical experience has at some times and in some places been seen as irrelevant to practical action. Today, in the United States as well as in many other parts of the world, appeals to historical precedent carry considerable weight, and are made for many purposes. For example, the dissolution of Yugoslavia, has been explained as a result of centuries-old ethnic tensions, yet when Yugoslavia was created at the end of World War I, objections were countered with the anthropological judgment that the new nation's ethnic divisions were not really significant. Or consider the debate over the ownership of the bones of so-called "Kennewick Man," which pitted Native Americans against scientists over questions of identity and legal claims. Or, historical generalizations in biology over the value of Darwin's theory, resulting in political debates in local and school board elections and presidential contests. This course will discuss the uses of history in contemporary and past situations, drawing examples from the United States, Europe, the Middle East, and Africa.
Course not offered every year
Activity: Seminar
1 Course Unit
STSC 400 Undergraduate Seminar in Science Technology and Society
This is a capstone seminar for STSC majors, and a required seminar for any STSC junior who wishes to write a senior thesis for honors in the major. It is designed to provide the tools necessary to undertake original research by guiding students through the research and writing process. Students will produce either a polished proposal for a senior thesis project, or a completed research paper by the end of the term. Although each student will work on a different topic, the class will focus on general aspects of historical, and social scientific research and guide students through a close reading of key texts in science and technology studies. Course usually offered in spring term
Activity: Seminar
1 Course Unit

STSC 408 Depicting Data and Picturing Nature
Scientific knowledge has always relied on images, as in the cases of big, beautiful books of pictures like Audubon's Birds of America, photographs taken through telescopes, maps, readouts and today, digital images. These images can be a shorthand or guide to make patterns clearer-or sometimes are taken to represent the natural world itself. With questions about how to represent "big data," the interpretation of medical images, and about the manipulability of digital images, the role of images in contemporary science is hardly straightforward. This course will look at the development of image-making as a part of knowledge production in medicine and the sciences. We will read works by visual specialists, historians, scientists and artists, and critically examine scientific images themselves, developing our own visual literacy.
Taught by: Berkowitz
Course usually offered in spring term
Activity: Seminar
1 Course Unit

STSC 411 Sports Science Medicine Technology
Why did Lance Armstrong get caught? Why do Kenyans win marathons? Does Gatorade really work? In this course, we won't answer these questions ourselves but will rely upon the methods of history, sociology, and anthropology to explore the world of the sport scientists who do. Sport scientists produce knowledge about how human bodies work and the intricacies of human performance. They bring elite (world-class) athletes to their laboratories or their labs to the athletes. Through readings, discussions, and original research, we will find out how these scientists determine the boundary between "natural" and "performance-enhanced," work to conquer the problem of fatigue, and establish the limits and potential of human beings. Course themes include: technology in science and sport, the lab vs. the field, genetics and race, the politics of the body, and doping. Course goals include: 1) reading scientific and medical texts critically, and assessing their social, cultural, and political origins and ramifications; 2) pursuing an in-depth The course fulfills the Capstone requirement for the HSOC/STSC majors. Semester-long research projects will focus on "un-black-boxing" the metrics sport scientists and physicians use to categorize athletes' bodies as "normal" or "abnormal." For example, you may investigate the test(s) used to define whether an athlete is male or female, establish whether an athlete's blood is "too" oxygenated, or assess whether an athlete is "too" fast (false start). Requirements therefore include: weekly readings and participation in online and in-class discussions; sequenced research assignments; peer review; and a final 20+page original research paper and presentation.
Taught by: Johnson
Course not offered every year
Also Offered As: HSOC 411
Activity: Seminar
1 Course Unit

STSC 413 Perfect Bodies
Taught by: Linker
One-term course offered either term
Also Offered As: HSOC 413
Activity: Seminar
1 Course Unit

STSC 426 Philosophy of Psychology
Is there a science of psychology distinct from physiology? If there is, what is its subject matter? What is the relationship between scientific psychology and traditional philosophical investigation of the mental? Examination of these questions is followed by analysis of some concepts employed in cognitive psychology and cognitive science, particularly in the fields of perception and cognition.
Taught by: Hatfield
Course not offered every year
Also Offered As: PHIL 426
Activity: Seminar
1 Course Unit

STSC 429 The Neurological Condition
Few aspects of our physical makeup are as closely linked to who we are as people as the nervous system. We define our selves by our capacity to think, to react, by our memories. In large part, we believe we are our brains. Yet such perceptions have a history far deeper than our current neuro-obsessed moment. In this course we explore the neurological condition as the human condition: the growing sense since the nineteenth century that we are defined by our nervous systems, and the science that has fostered this vision. From theories of diminishing "nerve force" and the electric cures of the Victorian era, to fMRIs and Obama's 2013 BRAIN Initiative, we explore how science, medicine, and technology have shaped our understanding of the brain and nervous system as the center of human identity. Course topics include the rise of professional neurology and neuroscience, cultural meanings of nerves and the brain, and the intimate role of patients and human subjects in formulating this science from the nineteenth century to the present.
Taught by: Elder
Course usually offered in spring term
Also Offered As: HSOC 429
Activity: Seminar
1 Course Unit

STSC 436 Biopiracy: Medicinal Plants and Global Power
Biopiracy has emerged as the name of conflict between multinational pharmaceutical companies attempting to get genetic patents on medicinal plants and indigenous communities in the Global South who have long known and used these plants for medicinal purposes. Today the story of Biopiracy is an unfolding story of plants, patents and power. The extraction and commercial exploitation of plants and knowledge about them from the Global South however is not new. It has been happening at increasing pace for at least the last two centuries. Both the anti-malarial drug quinine and the cancer drug vincristine for instance have their plant-origins in the Global South where local communities used them medicinally long before their discovery by biomedicine. This course will put the current debates around Biopiracy in context and explore how the entanglements of plants and power have changed or not changed.
Taught by: Mukharji
Course not offered every year
Also Offered As: HSOC 436
Activity: Seminar
1 Course Unit
**STSC 442 Hospital as Curing Machine**
This course examines the technological, scientific, and spatial evolution of the modern hospital from the miasmatic, vermin-infested medieval European hospital-as-alms house, to the late twentieth-century ideal of the modern hospital as a condenser of sophisticated technologies, scientific expertise, and Taylorist efficiencies. In so doing, we will see how designers of hospital space, consciously or not, have striven to realize the mechanized, technological vision of the hospital as curing machine a phrase first invoked by 18th century French surgeon and anatomist Jacques Tenon. While the early nineteenth-century hospital had been a locus for fears about contagion, death, and disease in a pre-germ theory world, through its eventual integration of antiseptic practices, spatially produced zones of medical expertise (the operating suite, the laboratory, pediatric and maternity wards), novel technologies (incubators, hyperbaric chambers, x-rays, ultrasounds) and factory-like efficiencies the hospital came into its own as the epitome of rational modernist space. But, over the course of its evolution, the modern hospital has undergone other changes as well: as an incubator for super-bugs, as an engine for projects of renewal, and as a site for the cultural transformation of the meaning of birth, death, and health itself.
Taught by: Greene, G
Course not offered every year
Also Offered As: HSOC 442
Activity: Seminar
1 Course Unit

**STSC 443 Science and the Senses: Visual Culture, Material Objects**
Using various types of readings, podcasts, and visits to area museums and centers of research, this course examines the relationships between seeing, sensing, and knowing in science. What roles do the senses and the material objects they observe play in production of science, and how has that changed historically? Are the senses reliable and standardizable, and if so, how can we talk about them with a common vocabulary? Are some more important than others? We will begin to answer these questions historically, following the role of the senses in science from the early modern period up to the present. We will look at ways in which vision was constructed as the primary sense during the Enlightenment and at ways in which it was made objective and instrumentalized in the modern period. We will also look at objects themselves. How do museum displays, illustrations jarred specimens, photographs, and movies make and convey knowledge?
Taught by: Berkowitz
Course not offered every year
Activity: Seminar
1 Course Unit

**STSC 446 The Child in the City**
This course examines the problem of the child in urban space in 19th and 20th century European and American discourses. This course does not propose to recover the subjective experience of the child but, rather, views the child as an object around which numerous adult anxieties connected to industrialization, urbanization, and modernity itself cohered. Discourses on public health, environmental pollution, sexuality, criminality, and racial degeneration all focused their attention, anxieties, and energies on how to deal with the unique vulnerability of the child in modern urban space. This interdisciplinary course focuses specifically on atmospheres, environments, and architectures in urban settings as diverse as Chicago, New York, Paris, and London. We will examine how the built environment was envisioned as part of a set of critical technologies for resolving the threat that urban space posed to the child. We will explore objects and envy as diverse as tenement baby cages, wartime floating hospitals, open-air schools, adventu playgrounds in post-WWII London, car-less communities in Radburn, NJ, and American children's books about urban blight and renewal.
Taught by: Greene, G
Also Offered As: HSOC 461
Activity: Seminar
1 Course Unit

**STSC 462 Technological & Business Innovation: Historical Perspectives**
This course will explore the relationship between technological innovation and business history. By looking at a series of case studies of technologically driven firms – both U.S and international – we will develop a more sophisticated and historically informed model of the relationship between technological, economic, legal and political developments in the late 19th and 20th centuries.
Course not offered every year
Activity: Seminar
1 Course Unit

**STSC 467 Guns and Health**
The purpose of this course is for students to gain an understanding of the role of guns in health, and population and prevention approaches to violence. The course will include a focus on policies and regulations related to firearms, the primary mechanism by which violence-related fatalities occur in the U.S. We will address the life span of a gun, from design and manufacture through to use. In addition, we will address key aspects of the social context in which firearms exist and within which firearm policy is made.
Taught by: Sorenson
Course usually offered in fall term
Also Offered As: HSOC 471
Activity: Seminar
1 Course Unit

**STSC 498 Honors Thesis**
Course usually offered in fall term
Activity: Independent Study
1 Course Unit

**STSC 499 Undergraduate Independent Study**
Available with all members of the department faculty subjects ranging from the history of anthropology to the sociology of institutions.
One-term course offered either term
Activity: Independent Study
1 Course Unit
Scientific Computing (SCMP)

SCMP 559 Multiscale Modeling of Chemical Systems
This course provides theoretical, conceptual, and hands-on modeling experience on three different length and time scales - (1) electronic structure (A, ps); (2) molecular mechanics (100A, ns); and (3) deterministic and stochastic approaches for microscale systems (um, sec). Students will gain hands-on experience, i.e., running codes on real applications together with the following theoretical formalisms: molecular dynamics, Monte Carlo, free energy methods, deterministic and stochastic modeling.
Course not offered every year
Also Offered As: BE 559
Prerequisites: Undergraduate courses in numerical analysis and statistical mechanics.
Activity: Lecture
1 Course Unit

Slavic (SLAV)

SLAV 100 Slavic Civilization
This introductory course examines selected topics in the cultural and political history of Slavic peoples. Topics include: the origins and prehistory of the Slavs, Slavic languages and literary culture, religions of the Slavs (Orthodoxy, Catholicism, Protestantism, Islam), the origins of Slavic nationalism and Pan-Slavism and the formation of Eastern/Central Europe. The course combines lectures with discussions of literary texts in translation, film, music and art.
For BA Students: History and Tradition Sector
Taught by: Verkholantsev
Course offered fall; odd-numbered years
Also Offered As: HIST 231, RUSS 103
Activity: Lecture
1 Course Unit

SLAV 109 Central European Culture and Civilization
This course is normally offered through Penn-in-Prague during summer. The reappearance of the concept of Central Europe is one of the most fascinating results of the collapse of the Soviet empire. The course will provide an introduction into the study of this region based on the commonalities and differences between Austria, Czechoslovakia, Hungary, Poland and Germany. The topics will include the history of arts and literature, as well as broader cultural and historical patterns characteristic of this part of Europe.
Taught by: Steiner
Course not offered every year
Activity: Lecture
1 Course Unit
Notes: This is Penn-in-Prague course

SLAV 391 Slavic Language II
Activity: Lecture
1 Course Unit

SLAV 392 Topics in Film Studies
Course not offered every year
Also Offered As: AFRC 392, ARTH 389, CIMS 392, COML 391, ENGL 392
Activity: Seminar
1 Course Unit

SLAV 394 Slavic Language III
Activity: Lecture
1 Course Unit

SLAV 395 Intermediate Serbo-Croatian II
You will continue learning grammar structures and developing vocabulary related to everyday-life situations. You will further develop your listening, speaking, reading, and writing skills.
Taught by: Scepanovic-Ulia
Activity: Lecture
1 Course Unit

SLAV 399 Independent Study
One-term course offered either term
Activity: Independent Study
1 Course Unit
Notes: May be repeated for credit

SLAV 500 History of Literary Theory
Over the last three decades, the fields of literary and cultural studies have been reconfigured by a variety of theoretical and methodological developments. Bracing and often confrontational dialogues between theoretical and political positions as varied as Deconstruction, New Historicism, Cultural Materialism, Feminism, Queer Theory, Minority Discourse Theory, Colonial and Post-colonial Studies and Cultural Studies have, in particular, altered disciplinary agendas and intellectual priorities for students embarking on the professional study of literature. In this course, we will study key texts, statements and debates that define these issues, and will work towards a broad knowledge of the complex rewriting of the project of literary studies in process today. The reading list will keep in mind the Examination List in Comparative Literature we will not work towards complete coverage but will ask how crucial contemporary theorists engage with the longer history and institutional practices of literary criticism. There will be no examinations. Students will make one class presentation, which will then be reworked into a paper (1200-1500 words) to be submitted one week after the presentation. A second paper will be an annotated bibliography on a theoretical issue or issues that a student wishes to explore further. The bibliography will be developed in consultation with the instructor; it will typically include three or four books and six to eight articles or their equivalent. The annotated bibliography will be prefaced by a five or six page introduction; the whole will add up to between 5000 and 6000 words of prose. Students will prepare position notes each week, which will either be posted on a weblog or circulated in class.
Taught by: Copeland/Platt
Course not offered every year
Also Offered As: CLST 511, COML 501, ENGL 571, GRMN 534, ROML 512
Activity: Seminar
1 Course Unit
SLAV 501 Elementary Polish I
This course is for students who want to acquire the linguistic skills necessary for communication in everyday situations and that would constitute a solid base for further study of the Polish language. In addition students will become acquainted with various aspects of Polish culture (including Polish films), history and contemporary affairs. Students will learn through classroom exercises based on a modern textbook, completion of individual and group assignments and work with various audio and video materials. The textbook Hurra - Po Polsku 1 is written in the spirit of the communicative approach, which makes it possible to communicate from the very beginning of the learning process. The special attention, however, will be paid on systematic development of all language skills: listening, reading, speaking and writing.
For BA Students: Language Course
Taught by: Dziedzic
Two terms. student may enter either term.
Prerequisites: No prerequisite.
Activity: Lecture
1 Course Unit
Notes: Offered through the Penn Language Center.

SLAV 502 Elementary Polish II
This course is a continuation of the SLAV501 680. This is for students who want to acquire the linguistic skills necessary for communication in everyday situations and that would constitute a solid base for further study of the Polish language. In addition students will become acquainted with various aspects of Polish culture (including Polish films), history and contemporary affairs. Students will learn through classroom exercises based on a modern textbook, completion of individual and group assignments and work with various audio and video materials. The textbook Hurra - Po Polsku 1 is written in the spirit of the communicative approach, which makes it possible to communicate from the very beginning of the learning process. The special attention, however, will be paid on systematic development of all language skills: listening, reading, speaking and writing.
For BA Students: Language Course
Taught by: Dziedzic
Two terms. student may enter either term.
Prerequisites: SLAV 501 or Instructor's permission.
Activity: Lecture
1 Course Unit
Notes: Offered through the Penn Language Center.

SLAV 503 Intermediate Polish I
This is a first-semester intermediate -level language course that emphasizes the development of the four basic skills (reading, writing, listening, and speaking) within a culturally based context. Class time will focus on communicative activities that combine grammatical concepts, relevant vocabulary, and cultural themes. Students will learn through classroom exercises based on a modern textbook: Hurra Po Polsku 2, completion of individual and group assignments and work with various audio and video materials. Major course goals include: the acquisition of intermediate-level vocabulary, the controlled use of the Polish cases; the aspect of the verbs, the development of writing skills.
For BA Students: Language Course
Taught by: Wolski-Moskoff
Two terms. student may enter either term.
Prerequisites: SLAV 502 or placement exam.
Activity: Lecture
1 Course Unit
Notes: Offered through the Penn Language Center.

SLAV 504 Intermediate Polish II
This course is a continuation of the SLAV503 680. This is a second-semester intermediate -level language course that emphasizes the development of the four basic skills (reading, writing, listening, and speaking) within a culturally based context. Class time will focus on communicative activities that combine grammatical concepts, relevant vocabulary, and cultural themes. Students will learn through classroom exercises based on a modern textbook: Hurra Po Polsku 2, completion of individual and group assignments and work with various audio and video materials. Major course goals include: the acquisition of intermediate-level vocabulary, the controlled use of the Polish cases; the aspect of the verbs, the development of writing skills.
For BA Students: Last Language Course
Taught by: Wolski-Moskoff
Two terms. student may enter either term.
Prerequisites: SLAV 503 or placement
Activity: Lecture
1 Course Unit
Notes: Offered through the Penn Language Center.

SLAV 505 Polish for heritage speakers I.
The course is addressed to students who have spoken Polish at home and seek to achieve proficiency in the language. The main goal of this course is to provide instruction directed at students continued development of existing competencies in the Polish language. Students will acquire skills that range from learning grammar and spelling, and developing vocabulary, to interpretation and analysis of different literary genres. Students will explore a broad variety of cultural themes. Topics will include: Polish literature - classic and modern, social life, contemporary affairs and films. Upon completion of the Polish for Heritage Speakers course, students are expected to confidently understand, read, write and speak Polish with an increased vocabulary and a better command of Polish grammar. They will increase their reading skills through interpretation and analysis of different Polish literary genres. Students will be able to organize their thoughts and write in a coherent manner. They will increase their writing skills by writing personal essays, compositions and others. Students will further their knowledge of the Polish language and will engage in class discussion on various topics. Students will gain a better understanding of the Polish culture.
For BA Students: Language Course
Taught by: Dziedzic
Course not offered every year
Prerequisite: Instructor permission required
Activity: Lecture
1 Course Unit
Notes: STUDENTS WHO COMPLETE TWO SEMESTERS OF THIS COURSE SATISFY THE PENN LANGUAGE REQUIREMENT. Polish is used exclusively in the classroom.

SLAV 506 Polish for Heritage Speakers II
Continuation of SLAV505
For BA Students: Last Language Course
Taught by: Dziedzic
Course not offered every year
Prerequisites: SLAV505 or placement test.
Activity: Lecture
1 Course Unit
SLAV 526 In Defiance of Babel: the Quest for a Universal Language
This is a course in intellectual history. It explores the historical trajectory, from antiquity to the present day, of the idea that there once was, and again could be, a universal and perfect language to explain and communicate the essence of human experience. The idea that the language spoken in the Garden of Eden was a language which perfectly expressed the essence of all possible objects and concepts has occupied the minds of scholars for more than two millennia. In defiance of the myth of the Tower of Babel and the confusion of languages, they strove to overcome divine punishment and discover the path back to harmonious existence. For philosophers, the possibility of recovering or recreating a universal language would enable apprehension of the laws of nature. For theologians, it would allow direct experience of the divinity. For mystic-cabalists it would offer access to hidden knowledge. For nineteenth-century philologists the reconstruction of the proto-language would enable a better understanding of human history. For contemporary scholars, linguistic universals provide structural models both for human and artificial languages. For writers and poets of all times, from Cyrano de Bergerac to Velimir Khlebnikov, the idea of a universal and perfect language has been an inexhaustible source of inspiration. Above all, the course examines fundamental questions of what language is and how it functions. Among the course readings are works by Plato, Aristotle, St. Augustine, Dante, Horapollo, Bacon, Giordano Bruno, John Wilkins, Cyrano de Bergerac, Jonathan Swift, and Zamenhof.
Taught by: Verkholantsev
Course not offered every year
Also Offered As: COML 526, ENGL 705, HIST 526
Activity: Seminar
1 Course Unit

SLAV 530 Elementary Czech I
An introduction to the fundamentals of the Czech language, acquisition of conversational, reading and writing skills.
For BA Students: Language Course
Two terms. student may enter either term.
Activity: Lecture
1 Course Unit
Notes: Offered through the Penn Language Center.

SLAV 531 Elementary Czech II
Continuation of SLAV 530
For BA Students: Language Course
Taught by: Stejskal
Two terms. student may enter either term.
Prerequisite: SLAV 530 or Placement
Activity: Lecture
1 Course Unit
Notes: Offered through the Penn Language Center.

SLAV 532 Intermediate Czech I
Emphasis on vocabulary building, conversation and reading skills. Grammar review.
For BA Students: Language Course
Taught by: Stejskal
Two terms. student may enter either term.
Prerequisite: SLAV 531 or Placement
Activity: Lecture
1 Course Unit
Notes: Offered through the Penn Language Center.

SLAV 533 Intermediate Czech II
Continuation of SLAV 532
For BA Students: Last Language Course
Taught by: Stejskal
Two terms. student may enter either term.
Prerequisite: SLAV 532 or Placement
Activity: Lecture
1 Course Unit
Notes: Offered through the Penn Language Center.

SLAV 534 Advanced Czech I
Emphasis on advanced vocabulary building, conversation and reading skills. Advanced grammar review.
Taught by: Stejskal
Two terms. student may enter either term.
Prerequisite: Two years of Czech or placement
Activity: Lecture
1 Course Unit
Notes: Offered through the Penn Language Center.

SLAV 535 Advanced Czech II
Continuation of SLAV 534
Taught by: Stejskal
Two terms. student may enter either term.
Prerequisite: SLAV 534 or placement
Activity: Lecture
1 Course Unit
Notes: Offered through the Penn Language Center.

SLAV 535 Slavic Literary Theory in Western Context
This course will compare selected theoretical concepts advanced by Russian Formalists, Prague Structuralists, and the Bakhtin group (e.g., defamiliarization, aesthetic sign, dialogue) with similar or analogous notions drawn from Western intellectual tradition.
Taught by: Steiner
Also Offered As: COML 579
Activity: Seminar
1 Course Unit

SLAV 590 Elementary Ukrainian I
An introduction to the fundamentals of the Ukrainian language, acquisition of conversational, reading and writing skills.
For BA Students: Language Course
Taught by: Rudnytzky
Two terms. student may enter either term.
Activity: Lecture
1 Course Unit
Notes: Offered through the Penn Language Center.

SLAV 591 Elementary Ukrainian II
Continuation of SLAV 590
For BA Students: Language Course
Taught by: Rudnytzky
Two terms. student may enter either term.
Prerequisite: SLAV 590 or Placement
Activity: Lecture
1 Course Unit
Notes: Offered through the Penn Language Center.
SLAV 592 Intermediate Ukrainian I
Emphasis on vocabulary building, conversation and reading skills. Grammar review.
For BA Students: Language Course
Taught by: Rudnytzky
Two terms. student may enter either term.
Prerequisites: SLAV 591 or placement test.
Activity: Lecture
1 Course Unit
Notes: Offered through the Penn Language Center

SLAV 593 Intermediate Ukrainian II
Continuation of SLAV 592
For BA Students: Last Language Course
Taught by: Rudnytzky
Two terms. student may enter either term.
Prerequisite: SLAV 592 or Placement
Activity: Lecture
1 Course Unit
Notes: Offered through the Penn Language Center

SLAV 594 Advanced Ukrainian I
Emphasis on advanced vocabulary building, conversation and reading skills. Advanced grammar review.
For BA Students: Advanced Language Course
Taught by: Rudnytzky
Two terms. student may enter either term.
Prerequisite: SLAV 593 or Placement
Activity: Lecture
1 Course Unit
Notes: Offered through the Penn Language Center

SLAV 595 Advanced Ukrainian II
Continuation of SLAV 594
For BA Students: Advanced Language Course
Taught by: Rudnytzky
Two terms. student may enter either term.
Prerequisite: SLAV 594 or Placement
Activity: Lecture
1 Course Unit
Notes: Offered through the Penn Language Center

SLAV 599 Independent Study
Activity: Independent Study
1 Course Unit

SLAV 610 Topics in Second Language Acquisition
Taught by: Shardakova
Course not offered every year
Activity: Seminar
1 Course Unit

SLAV 619 East & West in Medieval Europe: Bohemia as Center in the Age of the Luxemburgs
The seminar will examine a range of topics in Medieval Studies viewing European medieval civilization as encompassing the whole ("global") geographic and cultural space of Europe and ignoring reference to contemporary socio-political division of Europe into "Western" and "Eastern." As a case study, the course focuses on the 14th-century Holy Roman Empire from Henry VII to the Emperor Sigismund, and particularly on the reign of Charles IV, in a context in which Prague becomes the imperial capital and Bohemia a center of Europe. A detailed examination of this monarch's vision of a "Global Europe" will allow us to explore a network of connections, a network that stretches from Prague to the farthest western, eastern and southern corners of the European continent. We will examine correspondences and differences between various linguistic, textual, political, and religious communities, while attempting to show how Latin and Slavic European cultures were interwoven. Some of the titles from the reading list are Charles IV's The Life of St. Wenceslas and Autobiography, The Golden Bull, Dante's Letters & Monarchia, Machaut's Jugement of the King of Bohemia, Petrarch's Epistolae & Poems, Froissart's Prison of Love, Johannes von Tepi's The Plowman of Bohemia, The Life of St. Constantin the Philosopher, fragments from Czech, French, Italian, Polish, Hungarian and Rus medieval chronicles, etc. All reading will be done in English, with original language versions always available.
Taught by: Brownlee and Verkholyantsev
Also Offered As: COML 619
Activity: Seminar
1 Course Unit

SLAV 620 Europe: From Idea to Union
Employing the methods from the humanities and social sciences this interdisciplinary seminar will explore the variety of factors that contributed to dividing and uniting Europe. The continent will be considered as a geographical and cultural space and the construction of its identity will be examined through several historical periods-from the Middle Ages to Modernism—comprising the rich layer of pan-European civilization across the ethnic or national borders. Finally, the structure of the European Union will be scrutinized including its institutions, decision-making mechanism, shared currency, collective security, and Europe's changing relationship with the USA. Participants will be encouraged to select a particular topic in European studies and research it through assigned readings, film, literature, and other media. The individual projects will be developed through consultations with the instructor into a class presentation leading to a final paper (about 6,000 words).
Taught by: Steiner
Course not offered every year
Activity: Seminar
1 Course Unit
SLAV 623 Historiography of Imperial and Soviet Russia
We will cover the development of Russian historical research and writing from the start of the eighteenth century to the present, focusing on major texts, schools and figures. Alongside this traditional historiographical architecture, segments of the course will be devoted as well to a variety of theoretical models and approaches to research, including: institutional history, cultural history, poetics of history, philosophy of history, "invention of tradition," trauma studies, and others.
Taught by: Platt
Course usually offered in fall term
Also Offered As: HIST 620
Prerequisites: At least advanced reading knowledge of Russian. Seminar discussion will be conducted in English, but a fair amount of reading will be assigned in Russian.
Activity: Seminar
1 Course Unit

SLAV 651 Theories of Representation
The course will examine major Western theories of sign and representation from Socrates to Derrida. Primary focus will be on twentieth-century trends including phenomenology, structuralism, and Marxism. Readings will include: Plato, St. Augustine, Pierce, Husserl, Jakobson, Bakhtin, Voloshinov, Eco, Derrida and others.
Taught by: Steiner
Course not offered every year
Also Offered As: COML 650
Activity: Seminar
1 Course Unit

SLAV 655 History, Memory, Trauma
This course will be devoted to study of the theory and practice of representation of the past in major European traditions during the modern era, with special emphasis on three topics of broad concern: revolution, genocide, and national becoming. The object of inquiry will be construed broadly, to include all manner of historiographic, artistic, filmic, literary and rhetorical representation of the past. Each of the three segments of the course will begin with examination of important theoretical readings in conjunction with case studies in major European traditions that have been among the central foci of this theoretical work (French Revolutionary history, Holocaust, English nationalism). Next we will add analogous Russian cases to the picture (Russian Revolution, Gulag memory, Ivan the Terrible and Peter the Great as national myths). Finally, at the conclusion of each segment students will bring theoretical tools to bear on the national traditions and contexts relevant to their own work. Our readings in the theory and philosophy of history and historiography will include works by: Anderson, Caruth, Guha, Hegel, LaCapra, Putnam, Ricoeur, White and others.
Taught by: Platt
Course not offered every year
Also Offered As: COML 654
Activity: Seminar
1 Course Unit
Notes: All readings and lectures in English.

SLAV 657 Formalism, Bakhtin et al.
This course deals in depth with the three seminal literary-theoretical trends in Slavic philology during the inter war and the early post-war periods. It starts with Russian Formalism, a school striving to pin down what differentiates literary discourse from all other forms of language and continues with the Prague Structuralism that redefined the tenets of Formalisms from a semiotic perspective. Finally, the Bakhtin circle’s key concepts meta-linguistics, dialogue and carnivals are discussed. All readings are in English.
Taught by: Steiner
Course not offered every year
Also Offered As: COML 657
Activity: Seminar
1 Course Unit

SLAV 999 Independent Study
One-term course offered either term
Activity: Independent Study
1 Course Unit

Social Work (SWRK)

SWRK 593 Desin Thnking Soc Impact
Course usually offered summer term only
Also Offered As: NPLD 593
Activity: Lecture
1 Course Unit

SWRK 595 Effctve Comm & Storytlng
Course usually offered summer term only
Also Offered As: NPLD 595
Activity: Lecture
1 Course Unit

SWRK 601 History and Philosophy of Social Work and Social Welfare
This course traces the development of social welfare policy in the United States and its relationship to social work. It analyzes the values and assumptions that form the foundation of existing welfare programs and institutions and explores the social, economic, political and cultural contexts in which they have developed. The course examines the development of cash assistance and social services programs in light of the enduring legacy of poverty, racism, and sexism. The view of "outsiders" in U.S. society - low-income persons, people of color, gays and lesbians - allows us to gain perspective on the source of conflict and consensus in American history, which augments material about institutional racism learned in SWRK 603 and content about behavioral responses learned in SWRK 602. The course traces, as well, the roles that social workers have played in the formulation and implementation of social welfare policy and links these historical examples to contemporary policy practice.
Course usually offered in fall term
Activity: Lecture
1 Course Unit
SWRK 602 Human Behavior in the Social Environment
This course introduces the student to the individual and family components of social interaction in a variety of different milieux. Theories of self and personality are studied, along with theories related to traditional and non-traditional family styles, different social and ethnic groups, and of assimilation and acculturation. Emphasis is given to the impact of different cultures and traditions on individual functioning. Additional attention is given to selected social characteristics of the larger society, such as factors of socio-economic class which influence individual and family behavior and functioning.
Course usually offered in fall term
Activity: Lecture
1 Course Unit

SWRK 603 American Racism and Social Work Practice
This course explores racism in America as an historical and contemporary phenomenon. It emphasizes the development of evidence-based knowledge about institutional systems of racism, analytical skill in understanding the complexity of institutional racism and other forms of oppression more broadly defined, self-awareness, and the implications of racism for social work services and practices.
Course usually offered in fall term
Activity: Lecture
1 Course Unit

SWRK 604 Foundations of Social Work Practice I
This is a first of a four-course sequence designed to help students develop a professional stance and evidence-based framework for social work services to individuals, groups, families, and communities. It integrates the student’s theoretical learning with the experience in the field placement agency. The student is introduced to a holistic process-oriented approach to social work practice and to methods for implementation. The course emphasizes the social context for practice with special attention to agency purpose, functions and structure; the client system and its perceptions of need; goals and resources and the social worker as a facilitator of change.
Course usually offered in fall term
Activity: Lecture
1 Course Unit

SWRK 604 Foundations of Social Work Practice II
This is the second in a four-course sequence and continues to examine varied practice frameworks and methods for service delivery in working with individuals, groups, families and communities. It emphasizes the eradication of institutional racism and other forms of oppression along with the integration of a culturally-sensitive approach to social work practice. Attention is given to understanding client problems in the context of different social work practice approaches and service requirements and to increased use of professional values to guide and inform practice.
Course usually offered in spring term
Prerequisite: SWRK604
Activity: Lecture
1 Course Unit

SWRK 615 Introduction to Social Work Research
This course presents the broad range of research tools that social workers can use to improve the effectiveness and efficiency of their practice. The course emphasizes the process of theory development, conceptualization, and hypothesis formulation across a broad spectrum of social work practice situations. The course includes methodological considerations relating to concept operationalization; research design (experimental, survey, and field), sampling instrumentation, methods of data collection and analysis, and report preparation and dissemination. The course also emphasizes how social work research can help professionals better understand and more effectively impact problems of racism and sexism in contemporary American society.
Course usually offered in spring term
Activity: Seminar
1 Course Unit

SWRK 620 Integrative Seminar
All Advanced Standing students are required to take the Integrative Seminar in the summer upon beginning the program. The seminar meets weekly during the second summer session and supports students as they begin their field placement. In order to enroll in the fall, students must achieve satisfactory performance in the Integrative Practice Seminar and summer field placement.
Course usually offered summer term only
Prerequisite: Advanced Standing MSW students only
Activity: Seminar
0 Course Units

SWRK 701 Health and Mental Health Policy
This course provides an overview of the historical, social and economic dimensions of the health care delivery system: how health policies are developed and implemented, and how such policies influence social work practice, program planning, and research. Key health policy issues such as financing, cost, access, and the allocation of resources are explored in the context of health reform proposals. Students investigate how health policy affects specific population groups such as women and children, persons with chronic mental illnesses, persons with AIDS, older adults, and minorities.
Course not offered every year
Activity: Lecture
1 Course Unit
Notes: MSW Policy Option

SWRK 702 Social Work Practice in Health Care
This course focuses on key issues in social work practice in health care settings. Social aspects of health and illness, including cultural variations, health beliefs and behavior, and the impact of illness on the patient and the family, are examined and their relevance for practice is discussed. Appropriate theoretical models for practice are identified and applied to practice in the areas of prevention, primary care, chronic and long-term care. New roles for social work in varied health delivery systems and inter-professional collaboration are explored.
One-term course offered either term
Activity: Lecture
1 Course Unit
Notes: Clinical Practice Elective
SWRK 703 Impacting Government: Policy Analysis & Coalition Building
This course focuses on developing a theoretical foundation for actionable skills in policy analysis and coalition building across a wide range of constituencies. The material begins with a structured focus on the ideological underpinnings of social welfare in the United States and the ways in which these perspectives shape our conception of equity, equality, and allocation of resources along the lines of race, class, gender, immigration status, and other identities. We will then utilize this basis for developing analysis frameworks, policy briefs, and media messaging that students will utilize when working with legislative bodies to advocate for and with the populations they serve. Distinct emphasis is placed on becoming conversant across differential systems, ideas, values, and assumptions while remaining grounded in relevant research and empirical approaches.
Course not offered every year
Activity: Lecture
1 Course Unit
Notes: Macro Practice Elective

SWRK 704 Advanced Clinical Social Work Practice I
Clinical Social Work Practice I and Field Practice builds on the generalist model of practice established in the foundation social work practice courses. The course work and assignments in SWRK 704 are closely linked to the students’ learning objectives and experiences in the field. This course has students critically examine and deepen their understanding of advanced theoretical frameworks and specific skills to be applied in clinical practice with children, adolescents, adults, and families. Students begin with classic and modern formulations of psychodynamic work and use this as a foundation for understanding theoretically and empirically drive models of family intervention. In addition, use of self and social work values and ethics and working with diverse clients are addressed at an advanced level.
Course usually offered in fall term
Activity: Lecture
1 Course Unit
Notes: Required for Clinical Practice Concentration

SWRK 706 Policies for Children and Their Families
This course examines policies for children and their families with a specific focus on child welfare policy. The course examines the interrelationship between: the knowledge base on child abuse and neglect; evaluations of interventions; programs and policies designed to protect maltreated children; and child welfare policy at the state and national level. The course also examines federal and state laws that govern the funding and operation of child welfare systems; the history of child welfare policies; the operation of child welfare systems; and the legal, political and social forces that influence the structure and function of child welfare systems in the United States.
Course usually offered in spring term
Activity: Lecture
1 Course Unit
Notes: Policy Option

SWRK 707 Impacting Government: Policy Analysis & Coalition Building for Clinical Practice Concentration
This course focuses on developing a theoretical foundation for actionable skills in policy analysis and coalition building across a wide range of constituencies. The material begins with a structured focus on the ideological underpinnings of social welfare in the United States and the ways in which these perspectives shape our conception of equity, equality, and allocation of resources along the lines of race, class, gender, immigration status, and other identities. We will then utilize this basis for developing analysis frameworks, policy briefs, and media messaging that students will utilize when working with legislative bodies to advocate for and with the populations they serve. Distinct emphasis is placed on becoming conversant across differential systems, ideas, values, and assumptions while remaining grounded in relevant research and empirical approaches.
Course not offered every year
Activity: Lecture
1 Course Unit
Notes: Required for Clinical Practice Concentration

SWRK 708 Advanced Macro Social Work Practice I
Advanced Macro Social Work Practice I and Field builds on the foundation social work practice courses and focuses on three areas: (1) context of macro practice; (2) organizational structure with a focus on nonprofits; and (3) program design and development. The course begins with providing theoretical frameworks for macro practice and then moves to focus on delivery of services at the community level. Knowledge and skill development focuses primarily on social work practice within communities and organizations. Students learn how to organize and build relationships with communities and develop, plan, manage, fund and assess/evaluate community-based programs. Specific skill development includes learning how to research, develop, write, and pitch a grant proposal. Course content is integrated with fieldwork and is specific to the service needs of the populations with whom students are working in their field agencies.
Course usually offered in fall term
Activity: Lecture
1 Course Unit
Notes: Required for Macro Practice Concentration

SWRK 709 Heterosexualism and Social Work
This course builds on the foundation year focus on institutional oppression by applying this model to the status of lesbian, gay, bisexual, and transgender people in U.S. society and in social welfare systems. The course assesses the relationship of heterosexualism and homophobia to other forms of institutional oppression, including racism and sexism. The course includes an overview of the treatment of sexual minorities in the U.S. and in the social work profession with a focus on issues related to lesbian, gay, bisexual, and transgender clients as an under-served and mis-served population. The intersection of racism and heterosexism is a focal point to explore the concerns and needs of LGBTQ people of color. Current theoretical frameworks for understanding sexual identity and the unique situations of lesbian, gay, bisexual, transgender and questioning people throughout the life cycle will be identified. Social work strategies for addressing heterosexism in social welfare agencies and communities will be explored by examining both micro and macro social work practice issues. The course will include a critical assessment of the state of social work education on the topic.
Course not offered every year
Activity: Lecture
1 Course Unit
Notes: MSW Elective

SWRK 710 Supervision Seminar
Students in the Employed Practitioners Program are required to take this non-credit seminar in the fall and spring terms of their second year of study. The class meets every other week. In a limited number of cases, advanced-year students may be placed in agencies where there is no available MSW field instructor. In such instances, the student is required to attend the Clinical or Macro Supervision Seminar (depending on their concentration), which meets every other week during the academic year. Students who are required to participate in the clinical or macro supervision seminars will be given 1.5 hours of compensatory time off from their field placement every other week.
Activity: Seminar
0 Course Units
Notes: Non-credit course required for students in the Employed Practitioners Program OR Non-credit course required for students without an MSW supervisor at their field placement
SWRK 711 Contemporary Social Policy
This course introduces students to the analysis of contemporary social welfare policy. Several social welfare policy areas, including social inequality, poverty, health care, and housing are examined. Each topic area is also used to illustrate a component of the policy analysis process, including the analysis of ideologies and values as they shape policy formulation, the process by which legislation is proposed and enacted, the roles of advocacy and lobbying organizations, and the challenges of policy implementation and evaluation.
One-term course offered either term
Activity: Lecture
1 Course Unit
Notes: Policy Option

SWRK 712 City Limits: The Impact of Urban Policy
This course assesses the changing role of public policy in American cities. In the past, government often believed that it could direct urban development. New realities - the rise of an informal labor market, global capital and labor flows, the flight of businesses and the middle class to the suburbs - have demonstrated that government must see itself as one - but only one - 'player' in a more complex, transnational process of policy making that crosses political boundaries and involves business, organized interest groups, and citizens. This seminar uses a case-study method to study how public policy can make a difference in the revitalization of distressed American cities. The seminar is designed for advanced undergraduates and graduate students. Seminar readings and projects will be organized around three themes: 1) history and vision, 2) data and analysis, and 3) policy and implementation. Students will be divided into project teams assigned to work on current development issues that will be reviewed by both public and private-sector experts. Extensive use will be made of real estate, economic development, and social indicator data to understand the complex forces at work in both large and small cities. Students will learn to access, analyze, and map information; to frame and interpret these data within a regional perspective; and to construct profiles of cities and neighborhoods. Students will study recent urban redevelopment initiatives in the Philadelphia region, including Philadelphia's Neighborhood Transformations Initiative and New Jersey's Camden Revitalization plans.
Course usually offered in spring term
Also Offered As: URBS 454
Prerequisites: Students must have taken an introduction to research methods.
Activity: Seminar
1 Course Unit

SWRK 713 Understanding Social Change: Issues of Race and Gender
This course builds upon the foundation of historical, psychological, sociological, economic, political, and personal knowledge about institutionalized forms of racism and discrimination developed in SWRK 603, American Racism and Social Work Practice. The course uses understanding elements of oppression to critically examine strategies for addressing racism and sexism in organizations and communities through systematic assessment and planning for social change. The course examines change at three levels: organizations, communities, and social movements.
Course usually offered in spring term
Prerequisite: SWRK 603
Activity: Lecture
1 Course Unit

SWRK 714 Advanced Clinical Social Work Practice II
The focus of learning in this semester is theories and skills related to clinical practice with individuals and groups, differential intervention, and the broadening of the professional role and repertoire. The course content and assignments for SWRK 714 are closely linked with the students’ learning objectives and experiences in the field. Students extend and refine their practice knowledge and skills and learn to intervene with cognitive, behavioral, and narrative modalities. This semester focuses also on work with complex trauma across systems and populations. Students consolidate their identification as professionals and learn to constructively use the environment to effect systems changes.
Course usually offered in spring term
Prerequisite: SWRK 704
Activity: Lecture
1 Course Unit
Notes: Required for Clinical Practice Concentration

SWRK 716 Comprehensive School Reform: From 'No Child Left Behind' through 'Race to the Top' to 'Every Student Succeeds Act'
This course examines how K-12 education policy is designed and implemented in the United States. It uses a systems analysis as the framework for looking at who makes what kinds of demands on the education policy system, how these demands are placed on the policy agenda, the decision making process, and resulting education policies and policy outcomes. The course pays particular attention to the roles of federal, state and local governments in education policy, and the impact of our intergovernmental system on the design and implementation of policy. Students will also examine major education policies and debate key education policy issues that arise at each level of government.
Also Offered As: EDUC 712
Activity: Seminar
1 Course Unit
Notes: Required for Clinical Practice Concentration

SWRK 718 Advanced Macro Social Work Practice II
Advanced Macro Social Work Practice II and Field helps students broaden and deepen the specific knowledge and skills required to become an effective and creative social work practitioner. The course focuses on five areas of macro practice: (1) community assessment and practice; (2) policy advocacy; (3) fiscal management and fundraising; (4) global human rights; and (5) emerging areas of macro practice. Students learn how to conduct a community practice analysis, engage in policy advocacy, develop an idea for a social enterprise, write an agency fundraising plan, and conduct an agency fiscal evaluation. Students learn to utilize administrative skills to promote social change within a variety of systems that influence the lives of client populations. Course content is integrated with fieldwork and is specific to the service needs of the populations with whom students are working in their field agencies.
Course usually offered in spring term
Prerequisite: SWRK 708
Activity: Lecture
1 Course Unit
Notes: Required for Macro Practice Concentration
**SWRK 719 Prenatal and Early Childhood Development**
This course presents a coherent portrait of the development that transforms a person from the prenatal period to infancy to young childhood. The course bridges standard theories of development with new approaches such as social learning, cognitive development, developmental psychobiology, and other psychological theories used to understand the child. Integration of different perspectives on development is geared to demonstrate the interrelated nature of growth in cognition, learning, language, emotions, personality, physical growth and social behaviors. Students research areas of individual interest. MSW Elective
Course not offered every year
Activity: Lecture
1 Course Unit

**SWRK 720 Middle Childhood and Adolescence**
This course focuses initially on growth and behavior in the often overshadowed period of middle childhood, and in greater depth on the adolescent period. Change in the psychological, physical, cognitive and social domains of growth is examined and is related to changing relationships and overt behaviors. The influence of social factors is a continuing theme. Concepts like "adolescent rebellion" are questioned and re-evaluated. Connections between uneven development and social problem behavior are examined. Knowledge is salient to school social work as well as to other practice domains. Students research areas of individual interest.
Course not offered every year
Activity: Lecture
1 Course Unit

**SWRK 722 Practice with Children and Adolescents**
This course provides a foundation for social work practice with children and adolescents. Beginning with an overview of normative child and adolescent development and psychosocial developmental theory, the course covers various methods for helping at-risk children and adolescents and their families. Emphasizing the complex interplay between children and adolescents and their social environments, consideration will be given to biological, temperamental, and developmental status; the familial/cultural context; the school context; and other aspects of the physical and social environment. Particular attention is paid to working with socially, emotionally, financially, and physically challenged and deprived children and adolescents and their families.
One-term course offered either term
Activity: Lecture
1 Course Unit
Notes: Clinical Practice Elective; Option for Home and School Visitor (HSV) specialization

**SWRK 724 Developmental Disabilities**
This course enhances the students’ ability to practice social work with and on behalf of people with developmental disabilities and their families. The course provides a base of knowledge about developmental disabilities and differences, their causes and characteristics. Students learn how disabilities and learning differences impact personal, familial, educational, social, and economic dimensions for the individual, family and society, with attention to the person’s special life cycle needs and characteristics. The course also emphasizes legislative, programmatic, political, economic, and theoretical formulations fundamental to service delivery.
Course usually offered in spring term
Activity: Lecture
1 Course Unit
Notes: Clinical Practice Elective; required for students in the HSV program

**SWRK 726 Brief Treatment and Crisis Intervention**
This course focuses on theory and practice of planned brief treatment in social work practice, primarily with individuals but with attention to couples, families and other groupings. The course covers the history of and different approaches to brief treatment. Topics include treatment issues such as criteria for selection of clients, understanding the importance of time in the treatment relationship, the use of history, the importance of focusing, the process of termination and other issues related to brief interventions. Particular attention will be paid to the use of brief treatment approaches in crisis situations. The course presents various methods of assessing an individual’s crisis and of helping clients mobilize their strengths to utilize customary methods of coping and learn newer ways of coping.
One-term course offered either term
Activity: Lecture
1 Course Unit
Notes: Clinical Practice Elective

**SWRK 727 Practice with Families**
This course provides students with assessment and intervention skills for social work practice with varied family/partner configurations. The course begins with a grounding in family systems theory and proceeds to explore patterns of interaction in terms of the wide range of problems that families and partners bring to social agencies. Emphasis is given to exploring ways of supporting change in interaction patterns. Readings are augmented by videotapes of family sessions and simulations of clinical situations from students’ field practice.
One-term course offered either term
Activity: Lecture
1 Course Unit
Notes: Clinical Practice Elective
SWRK 729 Social Statistics
This course provides students with a broad range of statistical methods and applications. It introduces social work students to the use of quantitative data for planning and evaluating social programs and social policy. Course topics include conceptualization and measurement of variables and basic techniques and concepts for exploring and categorizing data, for generalizing research findings and testing hypotheses, and for statistical data processing. Students will gain experience in using a Windows-based statistical software package on personal computers. Emphasis is placed on the practical application of data to address social policy and social work practice issues. Students have the opportunity to critique the application of data analysis and presentation in technical reports and professional journals. One-term course offered either term
Activity: Lecture
1 Course Unit
Notes: Research Option

SWRK 730 Community Mapping
Geographic space is important to family and community well-being, as we know. Community Mapping introduces students to geographic information systems (GIS), computer software for making maps and analyzing spatial data. Students will learn how maps have been used in social welfare history as well as how GIS can be used for needs assessments, asset mapping, program evaluation, and program planning. The course builds on research skills developed in SWRK 615. For the final project, students have an opportunity to apply their GIS skills to creating maps related to their field placement. The use of such maps may lead to both program and policy change in neighborhoods and communities. Course usually offered in spring term
Activity: Lecture
1 Course Unit
Notes: Macro Practice Elective

SWRK 731 Clinical and Macro Child Welfare Practice
Students enrolled in this course will learn about the various contexts in which child welfare practice and policy services take place and the skills and modalities that are used with children, youth, and families who are the focus of child welfare intervention. Students learn about the social conditions and unmet needs that have typically precipitated child welfare policy and ideological debates informing child welfare policy. How to structure organizations and implement planning in support of strengthening front-line practice is also addressed. Taking stock of these policies and organizational factors, students gain a firm understanding of how they influence, shape, and govern direct clinical practice in child protection and casework. Particular attention will be devoted to developing students’ practice skills in safety assessment and safety planning, risk assessment, and permanency planning. Implementation of evidence-based, trauma-informed interventions to promote positive developmental outcomes among the racially/ethnically diverse pool of children and adolescents placed in out-of-home care will also be a focus of attention. Other topics include separation, loss, and identity development; disproportionality and disparity; and self-care in child welfare practice. In the spirit of bridging connections between macro and clinical practice, course content will delve into how direct casework services influence dependency actions in the juvenile courts. How these direct practices or interventions influence case outcomes as reported by a number of federal data reporting systems will also be discussed. A social justice framework will be applied to understand how child welfare policies and organizational services sustain child and family inequalities, especially for historically oppressed and marginalized populations who are disproportionately represented in the child welfare system. Course usually offered in fall term
Prerequisites: Acceptance to the Child Well-Being and Child Welfare Specialization
Activity: Seminar
1 Course Unit
Notes: Clinical and Macro Practice Elective

SWRK 732 Integrative Seminar in Child Welfare
This capstone course in the Child Well-Being and Child Welfare specialization will integrate direct/micro and macro levels of practice; research in child welfare and related fields, as the research relates to all levels of practice; the relationship of child maltreatment and other social problems; and perspectives from several disciplines, specifically social work, other mental health professions, law, and medicine, as these disciplines address problems of child maltreatment and child welfare. The seminar will highlight issues of social justice, disproportionality - particularly the over-representation of children and families of color in the child welfare system, and disadvantaged populations, including children in general and poor children in particular. Faculty from other disciplines will be features as guest speakers throughout the course. Course usually offered in spring term
Prerequisites: Acceptance to the Child Well-Being and Child Welfare Specialization
Activity: Seminar
1 Course Unit
Notes: Clinical and Macro Practice Elective
**SWRK 736 Building Community Capacity**
This course provides an introduction to community organization and community capacity building. The course encompasses strategies, models, and techniques for the creation of organizations, the formation of federations of existing organizations, and coalition-building, all designed to address problems requiring institutional or policy changes or reallocation of resources to shift power and responsibility to those most negatively affected by current socio-economic and cultural arrangements. The course emphasizes development of strategies and techniques to organize low-income minority residents of urban neighborhoods, and to organize disenfranchised groups across geographic boundaries as the first required steps in an empowerment process.
One-term course offered either term
Activity: Lecture
1 Course Unit
Notes: Macro Practice Elective

**SWRK 738 Anxiety and Depression**
Anxiety and depression are two of the most common mental disorders seen in social work clients, and frequently they occur concurrently. This course describes the medical and “physical” concomitants and psychosocial factors associated with both conditions and introduces diagnostic and assessment procedures and methods of intervention that social workers use in working with clients with these conditions. The course also considers how culture, social class, gender, and other social differences affect the expression of these disorders and their concomitant treatment.
One-term course offered either term
Activity: Lecture
1 Course Unit
Notes: Clinical Practice Elective

**SWRK 739 Illness and Family Caregiving**
This course focuses on social work practice in medicine and the relationships between physical health, social environments, and psychosocial functioning. Student learning will be grounded in the biopsychosocial-spiritual model, and will address a number of domains, including the impact of illness on families over the life course, the impact of a diagnosis on family functioning, medical decision making, coping, health beliefs and spirituality, culture and social class. Classroom content will include conceptualization of illness challenges from the presentation/prevention of symptoms to the end of life, in addition to writing case material, building self-awareness and identifying clinical interface issues, and the compilation of a “clinician’s toolbox” for direct practice on the front lines. Activities will include the unique opportunity to participate in hands-on, interdisciplinary training at the Simulation Center in the School of Nursing.
Activity: Lecture
1 Course Unit
Notes: Clinical Practice Elective

**SWRK 740 Strategic Planning and Resource Development for Public and Nonprofit Organizations**
Resilient organizations engage in a continuous process of self-review and refocusing. Referred to as “strategic planning,” this process requires the active participation of a broad range of agency “stakeholders” who, in their work together, seek to realign the organization’s goals, structures, and programs to make them more responsive to the changing needs of their service populations. Building on the content of foundation practice foundation courses, “Strategic Planning and Resource Development” has been designed to strengthen the student’s leadership capacity for engaging in strategic planning and resource development practice across a broad range of governmental (GOs) and civil society organizations (CSOs). The importance of organizational flexibility, innovation, and the creation of cooperative public-private partnerships is emphasized throughout the course.
One-term course offered either term
Activity: Lecture
1 Course Unit
Notes: Macro Practice Elective

**SWRK 741 Gender & Social Policy**
Gender and Social Policy develops an advanced understanding of social policies through a focus on social issues and conditions through the lens of gender, economic and critical theory. The specialized focus on gender and social policy provides students with the opportunity to develop more specialized knowledge about how market dynamics and government policies respond to the needs and risks faced by women. Specific emphasis is placed on utilizing theoretical frameworks to evaluate the intersection between social policy, history and social science in relation to gender issues. Students are also expected to conduct a policy analysis that includes an evaluation of how current and former social movements surrounding gender issues shaped their policy of interest.
Taught by: Baker
Course usually offered in spring term
Also Offered As: MSSP 741
Activity: Lecture
1 Course Unit
Notes: Policy Option

**SWRK 742 Practice with At-Risk Youth**
The discourse on juvenile justice in the United States, once driven by themes of treatment and rehabilitation, has been dominated in recent years by vocabularies of punishment and incapacitation. The juvenile court, an enterprise founded by social reformers and the social work profession at the turn of the century to "save children," is now under severe political and legislative pressure to impose harsher penalties on younger and younger offenders who are increasingly portrayed as violent "super-predators," while its most vulnerable segments, children and youth, stand in greatest need of what a social service system can offer. Not surprisingly, those most likely to wind up under supervision are economically poor, under-educated, disproportionately of color and disproportionately at-risk to become victims of violent crimes. How does the profession situate itself in this discourse and what are individual social workers to do?
Course usually offered in fall term
Activity: Lecture
1 Course Unit
Notes: Clinical and Macro Practice Elective; Option for Home and School Visitor Requirement
SWRK 743 Action Research
Action research is a form of social research that combines research with intervention. It is characterized by a collaborative relationship between the researcher and a client organization that is in an immediate problematic situation. The research process is directed toward addressing the problem situation and producing knowledge that contributes to the goals of social science. Action research is compatible with many of the values and principles of social work. This course also addresses issues of social work ethics and values encountered by the action researcher.
One-term course offered either term
Prerequisite: SWRK 615
Activity: Lecture
1 Course Unit
Notes: Research Option

SWRK 744 Direct Practice Research
This course provides graduate social work students with research knowledge and skills aimed at enhancing their direct practice with clients. The course examines methods of assessment, methods for choosing and evaluating techniques of intervention, methods for determining the effectiveness of practice and the use of research in social work decision-making. A successful outcome of the course will be that students perceive a more positive relationship between research and social work practice and possess a set of tools that they will be able to utilize in their future careers as social workers. The course starts from an assumption that students have some familiarity with research and are primarily engaged in direct practice with individuals, families or groups.
Course usually offered in spring term
Prerequisites: SWRK 615, Introduction to Social Work Research
Activity: Online Course
1 Course Unit
Notes: Research Option; Course may be offered online or in classroom setting

SWRK 746 Political Social Work
This course focuses on the role of social workers and the social work profession in advocacy and the political arena. It examines the methods of advocacy (e.g., case, class, and legislative) and political action through which social workers can influence social policy development and community and institutional change. The course also analyzes selected strategies and tactics of change and seeks to develop alternative social work roles in the facilitation of purposive change efforts. Topics include individual and group advocacy, lobbying, public education and public relations, electoral politics, coalition building, and legal and ethical dilemmas in political action.
One-term course offered either term
Activity: Lecture
1 Course Unit
Notes: Macro Practice Elective

SWRK 748 Microfinance and Women's Empowerment in India
This course examines microfinance and its engagement with marginalized communities such as those in India. It is designed to provide students with an understanding of the phenomena of microfinance and its role in poverty alleviation. By studying the use of self-help groups with NGO facilitation, their impact on women's empowerment will be examined and understood through interaction with women engaged in microfinance activities.
Course usually offered in spring term
Activity: Lecture
1 Course Unit
Notes: Application required; Program fee

SWRK 749 Civil Society Promoting Coexistence in Israel
This course offers a unique opportunity to experience the challenges and complexities of coexistence in Israel, the Holy Land for Christians, Jews and Muslims; a key point of interest and dispute for the international community, and the homeland shared and claimed by both Israelis and Palestinians. The course will focus on activities carried out by nonprofit organizations operating within the Israeli civil society, dealing with issues related to coexistence and to the protection and advancement of the civil and social rights of different populations, with special emphasis on the Arab-Palestinian population in Israel. These activities include educational and social services programs, community work and advocacy activities, aimed at creating dialogues and building coexistence among the different populations in the Israeli society and Palestine.
Course usually offered summer term only
Activity: Seminar
1 Course Unit
Notes: Application required; Program fee

SWRK 754 International Social Work: Practicing in the Global South
This interdisciplinary course will introduce students to societal problems in the developing world; familiarize them with global professions in social work, education, public health, etc.; identify numerous strategies and skills social workers and other professionals have used to collaboratively build interventions within the human rights, social welfare, education, health care and sustainable community development arenas. The course will expose students to views of development as they relate to individual, interpersonal, family, community, societal and international change. Students will learn about the history of specific global problems, how cultures affect response, different social services delivery systems and initiatives aimed at resolution. Students will explore a specific development issue within a country and community.
One-term course offered either term
Activity: Lecture
1 Course Unit

SWRK 756 Human Sexuality
The aim of this course is to increase students’ ability to deal more comfortably with the sexual aspect of human functioning. Readings, written assignments, and classroom presentations are directed to realizing the diversity, complexity, and range of human sexual expression. Current information about sexuality from the biological and physiological sciences is reviewed to increase comfort and skill in discussion and handling of sex-related behavior, personal and societal attitudes will be explored. A variety of sex-related social problems encountered by social workers in family, education, health, and criminal justice settings are discussed. Diagnostic interviewing and treatment methods are presented in role play, group exercises and case studies.
Course not offered every year
Activity: Lecture
1 Course Unit
SWRK 757 Loss through the Life Cycle
This course considers loss as a central theme throughout the life cycle. Content focuses on the physical, psychosocial, spiritual, and cultural aspects of loss, dying and bereavement processes and the interaction among individuals, families and professionals. Students examine historical trends of family, community, and institutional support for the terminally ill and those experiencing traumatic loss and learn ways to advocate for a system of services that supports full decision-making on the part of the client. Course materials, journals, and special projects identify how self and other factors impact service delivery to individuals, families, and communities experiencing loss, including ethical considerations prompted by cost, technology, and end of life issues.
Course usually offered in spring term
Activity: Lecture
1 Course Unit
Notes: Clinical Practice Elective

SWRK 758 Faith-Based Practice and Management
This course prepares students to work to existing and newly formed faith-based social service agencies. It also serves as a national laboratory to extract new knowledge of best practices and the variability of managing and practicing in faith-based social service agencies.
Course not offered every year
Activity: Lecture
1 Course Unit
Notes: Clinical and Macro Practice Elective

SWRK 759 Substance Abuse Interventions
This course addresses intervention approaches used in social work practice with individuals, families, and groups who misuse addictive substances themselves or are affected by another’s misuse. Students learn about addictive substances, models of intervention, how to engage and assess clients, and how to intervene and evaluate the effectiveness of their interventions. The course incorporates theory and research findings on various strategies of intervention.
Course usually offered in fall term
Activity: Lecture
1 Course Unit
Notes: Clinical Practice Elective; Attendance at first class required

SWRK 760 Mental Health Diagnostics
This course familiarizes students with mental health and mental disorders within the context of the life cycle, viewed from a biopsychosocial perspective. Prevalent categories of psychiatric disorders are considered with respect to their differentiating characteristics, explanatory theories, and relevance for social work practice, according to the DSM and other diagnostic tools. The course includes biological information and addresses the impact of race, ethnicity, social class, age, gender, and other sociocultural variables on diagnostic processes.
Course offered summer, fall and spring terms
Activity: Lecture
1 Course Unit
Notes: Clinical Practice Elective; Required for Clinical Practice Concentration

SWRK 761 Spirituality and Social Work Practice
This course strives to seek a balance in exploring the universalistic and pluralistic in relationship to spirituality. Some pluralistic religious and/or spiritual traditions are studied as they exemplify commitments of spirituality and as they intersect with a more universalistic spirituality. The course considers how spiritual and religious systems are related to diversity, including gender, social class, ethnicity and culture, and sexual orientation.
Course not offered every year
Activity: Lecture
1 Course Unit
Notes: Clinical Practice Elective

SWRK 763 Immigration: Policy & Practice
This course will begin with the history of migration to the US, as well as legal definitions of newcomers, including obtaining documents for lawful permanent residence, refugee status, as well as grounds for exclusion and deportation, and paths to naturalized citizenship. We will then review how a framework of cultural competence, and a strength or asset-based approach can inform service to immigrant clients. The core portion of the course will then focus first on the intersection of immigrants and health, mental health, employment, crimes, public entitlements, and public education. The course will conclude with family issues relevant to immigrant families: women, children, lesbian and gay, and elderly immigrants. Public policy issues will be integrated throughout, and the course will end with specific suggestions on systems change at various levels. By the end of the course students should be able to identify strategies for individual clients advocacy (micro); agency and community strategies (mezzo), and government advocacy (macro) to empower immigrant clients to become full community participants.
Taught by: Chany-Muy
Activity: Lecture
1 Course Unit
Notes: Policy Option; Macro Practice Elective

SWRK 765 Supervision and Leadership in Human Services Organizations
This course builds on social work knowledge, values, and skills gained in foundation practice courses and links them to the roles and functions of social workers as supervisors and managers in human service organizations. Course focus is on providing students with an overview of basic supervisory and human resource development concepts so they may be better prepared as professional social workers to enter agencies and provide direct reports (supervisees) with meaningful and appropriate direction, support, and motivation.
Course not offered every year
Activity: Lecture
1 Course Unit
Notes: Clinical and Macro Practice Elective

SWRK 768 Social Policy Through Literature
This course uses works of fiction that pertain to a specific social issue in order to examine the effect these issues have in human terms on the individual, the family, and the community. Through appreciation of the human condition as portrayed in literature, students learn to frame issues more precisely and present arguments in compelling and convincing ways, thus enhancing the role of social worker as advocate for policy change.
Course not offered every year
Activity: Lecture
1 Course Unit
SWRK 769 Aging: The Intersection of Policy and Practice

This course examines a variety of social welfare policies that affect the rights and interests of older adults. These include policies related to economic security, health, long term care, and civil rights. In addition, the course reviews the policy-making process with a discussion of the influence of legislative sanctions and case law in establishing aging policy in the U.S. The focus of the course is on critical analysis of the key assumptions driving policy and policy change, e.g. social responsibility vs. individual responsibility. Finally, the course includes a critical examination of the intersection between policy and practice, that is, the influence that policy has on the design of interventions and service delivery practices at the state and local level and the impact of changing policies on communities, providers, and older adults.

Course usually offered in spring term
Activity: Lecture
1 Course Unit
Notes: Macro Practice Elective; required for students in the PAC program

SWRK 771 Social Work Values and Ethics

The purpose of this course is to familiarize students with the philosophical base, theory and practice of ethical decision making in social work. We will review some of the foundational readings including Mill, Kant, and Aristotle. We will develop ways of becoming aware of our own moral ideas and search for their impact on our professional actions. The basics of ethical decision-making will be studied. A critical examination of social and economic policies in the light of moral values will also be performed. In addition, social work distinguishes itself from other professions through its code of ethics, and in particular, its focus on issues of social justice. Accordingly, this course will explore concepts regarding the nature of rights and social justice by prominent thinkers such as Rawls, Sen, and Nozick. This course will also focus on the role of ethics in clinical decision making by addressing the unique moral challenges associated with clinical work in hospital settings as well as work with children, adolescents, and persons with mental illness.

Course not offered every year
Activity: Lecture
1 Course Unit

SWRK 772 Postcolonial Social Work Practice: International Social Welfare in India

In this course, students examine the global welfare system and its engagement with marginalized communities. This six-week course in Kolkata, India, centers around a sex workers' collaborative in Sonagachi, one of Asia's largest red light districts. Interviews with the collaborative's workers and study of their grassroots movement are combined with class discussions and research projects in which students engage with texts on HIV, sex work, feminist postcolonial theory and international social work.

Taught by: Ghose
Course usually offered summer term only
Activity: Lecture
1 Course Unit
Notes: Clinical and Macro Practice Elective; Application Required; Program Fee

SWRK 773 Mental Health Challenges in Childhood and Adolescence

This course will be an opportunity for the student and the instructor to explore the concept "psychopathology" as it has been and is applied to childhood and adolescence. There are some psychopathological challenges that are unique to childhood and which can manifest themselves throughout childhood into adolescence and adulthood. The social worker/practitioner will encounter a wide range of symptomatic presentations among his/her clients. At this time in the fields of clinical social work, psychology, psychiatry, and psychotherapy there are numerous frameworks available to the practitioner to aid in understanding of symptoms in children and adolescents. During the next several weeks three conceptual frameworks will be articulated. These three frameworks will elucidate the possible meaning, origin, and/or function of the symptoms and offer to the student a vocabulary with which to engage the situation. At the turn of the 19th century into the 20th century, psychoanalysis emerged in Europe as a method of understanding symptoms from the point of view of internal conflict within the child or adolescent. After World War II in the U.S.A., a model of understanding symptoms from a systemic/cybernetic point of view revolutionized the diagnostic processes involved in working with children and adolescents. Since the late 1980's, postmodern ideas, primarily from Europe and Australia, have greatly influenced and informed the understanding of psychopathology in children and adolescents. Narrative, social constructivist, and linguistic usage patterns have become a common vocabulary in the discourse on psychopathology. This course is not intended to be a reading of the history of child psychopathology. It is intended to expose the student to the most influential paradigms in the field of child psychopathology.

One-term course offered either term
Activity: Lecture
1 Course Unit
Notes: MSW Elective

SWRK 774 Program Evaluation

This course introduces students to theoretical and practical aspects of social service program evaluation. Students learn about the design and implementation of all phases of an evaluation, from needs assessment to analysis of findings. Skills such as survey construction and budgeting are introduced. Intensive analysis of existing studies illustrates how evaluations are designed and how findings affect social programs and policy.

One-term course offered either term
Prerequisites: SWRK 615, Introduction to SW Research
Activity: Lecture
1 Course Unit
Notes: Research Option

SWRK 775 Intimate Violence

The purpose of this course is to familiarize students with the definition, theories, causes, processes, consequences, and social interventions in intimate violence. The course will attempt to provide insight on the phenomenon of intimate violence by examining the ways in which it affects survivors, perpetrators, and their children. This will be accomplished by reviewing the current research as well as by exploring how intimate violence is constructed by the participants on the personal, interpersonal, and social structural level.

Course not offered every year
Also Offered As: PUBH 575
Activity: Lecture
1 Course Unit
SWRK 777 Cognitive Behavioral Therapy
This Cognitive Behavioral Therapy course will be taught in a one-week intensive class Monday-Friday 9am-5pm. Students are expected to start a pre-course assignment approximately 2 months prior to the first day of the course. Students will receive an information request from the instructor during course registration and must reply in a timely fashion. Cognitive Behavioral Therapy (CBT) is the world’s most effective, empirically-based psychotherapy with strong scientific evidence. CBT is a collaborative and empowering psychotherapy that educates and helps clients to motivate themselves, set goals, develop, and implement treatment plans to reach those goals. This experiential/didactic advanced clinical skills course will present a CBT model to evidence-based practice that can serve as a conceptual framework for clinical applications to a wide variety of presenting problems and populations. The purpose of this course is to introduce graduate students to the theory of CBT and to begin to apply the basic principles through the stages of a self-directed case.
One-term course offered either term
Prerequisite: Completion of MSW Foundation year curriculum or equivalent
Activity: Lecture
1 Course Unit
Notes: Clinical Practice Elective.

SWRK 778 Dialectical Behavioral Therapy
In this 5-day intensive course we will examine the underlying theories, empirical foundations, and fundamental skill sets associated with dialectical behavioral therapy (DBT). Students will be expected to participate in role plays, lead mindfulness exercises, and carry out chain analyses. Prior to the class start date, students will have to submit a 15 to 30 page outline of the required text (Linehan, M.M. (1993), Cognitive-behavioral treatment of borderline personality disorder, Guildford Press) and to review and complete the study guide for the HBSE text. Students will not be admitted to the first day of class unless these requirements have been met prior to class. No exceptions; you will be dropped from the class.
One-term course offered either term
Activity: Lecture
1 Course Unit
Notes: Clinical Practice Elective

SWRK 780 Policy and "Difference" in Postmodernity
Social constructions of "difference" permeate the institutions, spaces, and assumptions of our society. These social constructions include but are not limited to the racialized, gendered, sexed, classed, and dis/abled constructions of the body. By leaning on postmodern thinkers such as Iris Marion Young, Pierre Bourdieu, Judith Butler, Jacques Derrida, Ernesto Laclau, and Michel Foucault, this seminar course will begin by engaging the questions of what is "difference" and how is "difference" discursively constructed and reproduced in society. Using a postmodern lens, the remainder of the course will engage various social science texts that deal with the varieites of "difference" (i.e. race, gender, class, sexuality) and the explicit and/or implicit policy implications of these works. Thus, we will critically engage policies such as welfare, affirmative action, economic policies of taxation, and same-gender marriage, among others. The underlying questions throughout the course will be to what extent does social policy enable the possibilities of freedom, justice, and democracy for the "Other", the deviant, the abject, the marginalized, those of assumed "difference"? And, to what extent does policy constrain those possibilities at the same time?
Taught by: Dixon-Roman
One-term course offered either term
Also Offered As: MSSP 780
Activity: Seminar
1 Course Unit
Notes: Policy Option

SWRK 781 Qualitative Research
Qualitative research encompasses a variety of methods that enable the researcher to enter into the "lived experience" of research participants. These methods are particularly sensitive to the voices of populations whose perspectives are silenced by dominant societal discourses. The course begins by giving attention to underlying philosophical issues and traditions of qualitative research and proceeds to examine qualitative research design, methods of data collection, strategies to ensure rigor, data analysis, and presentation of findings. Students will learn about research interviewing, focus groups, and participant observation and ways in which qualitative research can be used to inform and evaluate social work practice and programs. Students will have the opportunity to apply qualitative research methods to in-class activities and individual or group projects.
One-term course offered either term
Also Offered As: PUBH 604
Prerequisites: SWRK 615, Introduction to Social Work Research
Activity: Lecture
1 Course Unit
Notes: Research Option
SWRK 783 Advanced Mental Health Practice with U.S. Veterans
Although this course is open to all students, it is designed for students in the clinical concentration and is required for students in the Cohen Veterans Network Scholars program. The course will focus on clinical knowledge and evidence-based practice skills for common mental health problems in veteran settings. The course will introduct students to the assessment and treatment of Post-Traumatic Stress Disorder (PTSD), Depression and Anxiety Disorders, Substance Abuse, Military Sexual Trauma (MST) and Suicide Assessment and Management among veteran populations. Other topics may include cultural competency, homelessness, and combat stress disorders. Since this is a seminar course, some classes will be taught by social workers/psychologists from the Veterans Hospital in Philadelphia and the Cohen Veterans Outpatient Clinic.
Course usually offered in fall term
Activity: Lecture
1 Course Unit
Notes: Clinical Practice Elective; Required for Cohen Veteran Network students

SWRK 785 Criminal Justice Policies: Implications for Social Work
The United States prison population has risen more than three hundred percent in the last three decades. More people are currently incarcerated than at any other point in the history of the United States, and that of the world. This unprecedented period of incarceration has gone largely invisible although it represents one of the greatest social epidemics in the history of the United States. This course provides a critical analysis of the criminal justice system in the United States from a historical and contemporary perspective. It examines the implications of significant criminal justice policies such as the Rockefeller Drug Laws, 3-Strike Legislations, and Mandatory Minimums on the current state of incarceration, and the phenomenon of "Reentry" and "Recidivism". The intersections of criminal justice and social work practice are unmistakable when examining staples of social work practice such as homelessness, mental health and substance abuse, thus the course is intended to facilitate a more informed/holistic practice for all social work students.
Course usually offered in spring term
Activity: Lecture
1 Course Unit
Notes: Policy Option

SWRK 786 Social Work Practice & Trauma
This course integrates trauma theory and practice and expands practice knowledge to include the treatment and assessment of the survivors of trauma. Emphasis is placed on differentiating PTSD from Complex Trauma in order to identify appropriate, evidence-based intervention strategies. Topics covered in the course include an historical overview of the development of our understanding of trauma and the exploration of various types of trauma including war trauma, domestic violence, childhood sexual and physical abuse, natural disasters, the experiences of political refugees and organizational trauma. Among the interventions covered in this course are CBT, EMDR, group and psychodynamic treatment. Students will consider issues that affect those treating the survivors of trauma, such as vicarious trauma, and will explore approaches to self-care. This is an advanced clinical course. Through assignments and class discussions, students are encouraged to use their experiences in the field to deepen their understanding of the material covered in the course.
One-term course offered either term
Activity: Lecture
1 Course Unit
Notes: Clinical Practice Elective

SWRK 788 Harm Reduction on the Borders: Substance Use and HIV Treatment in Puerto Rico
This course examines the U.S.-based substance use and HIV treatment systems, and its engagement with injection drug users in Fajardo, Puerto Rico. It is designed to provide the students with an understanding of the political economy of harm reduction initiatives, and the manner in which it is shaped by the complicated relationship between Puerto Rico and the U.S. Students are expected to gain an understanding of Puerto Rico's welfare environment, the role of social welfare and social workers in such a context, and the intertwining of social control and social change embedded in welfare initiatives in "borderlands" such as Fajardo. During the four week course in Fajardo, students will complete a placement in a needle exchange program, and engage with texts on HIV, substance use, postcolonial theory and international social work.
Course usually offered summer term only
Activity: Seminar
1 Course Unit
Notes: Clinical Practice Elective and Macro Practice Elective; Application required

SWRK 792 Psychodynamic Theory
The purpose of this course is to review the evolution of psychodynamic theory and consider key concepts in psychoanalysis, ego psychology, object relations theory, self-psychology, attachment theory, relational and intersubjective theories and current findings in cognitive neuroscience.
Participants will explore human psychological functioning as explained by these various psychodynamic theories and through the biopsychosocial lens that informs social work practice. Students will examine how external factors such as race, class, gender, culture and biology are interwoven with often unconscious, internal psychological determinants, creating the complexities of human behavior that challenge us in our clinical work. Case presentations by students, the instructor and guest lecturers will demonstrate how concepts from psychodynamic theory can be applied to social work practice with diverse clients in varied settings.
Course usually offered in spring term
Activity: Lecture
1 Course Unit
Notes: Clinical Practice Elective
SWRK 793 Global Health and Health Policy
This participatory interdisciplinary seminar course examines contemporary issues in public health policy and global health. The organizing framework is social determinants of health. We consider evidence that inequalities in education, income, and occupation influence health status, and the policy dilemma that broad interventions to improve population health may increase health disparities. We critically examine whether prevention is always better than cure, and what modern medicine has to offer in terms of health. We explore the public policy process in health using the "tobacco wars" as a case example, of how politics, policy, law, commercial interests, and research intersect to affect the public's health. We examine whether global health is in a state of decline, and the extent to which failures in public health, public policy, and foreign policy have contributed to increasing threats to world health. Likewise we will examine the potential for greater integration of health into foreign policy to create global infrastructure upon which to advance health. We will examine the global health workforce and the impact of widespread global migration of health professionals on receiving and sending countries.

There are no prerequisites. The course is designed for graduate students in the social and behavioral sciences, health professions, public health, business and law. Advanced undergraduate students will be admitted with permission.
Course not offered every year
Also Offered As: NURS 640, PUBH 551
Activity: Lecture
1 Course Unit

SWRK 794 Practice with Older Adults and Families
This course focuses on practice with older adults and families within a life course and resiliency perspective. It examines the nature of the aging process, needs and life issues, the ways in which persons adapt to changes, and the ways in which interventions may assist with these adaptations. Students learn assessment, case management, and intervention skills, including the use of rapid assessment and diagnostic tools, needed to work effectively with older populations and family caregivers in a variety of community-based and institutional settings. The course emphasizes evidence-based practices that enhance quality of life, dignity, respect for differences, and maximum independent functioning.
Course usually offered in fall term
Activity: Lecture
1 Course Unit
Notes: Clinical Practice Elective; Required for Penn Aging Concentration (PAC) students

SWRK 796 Family Economic Mobility
In this course, the experiences and voices of mothers, fathers, children, employers, children's school teachers, human service workers, job training providers, policymakers, and others in cities across America graphically illustrate the "real life" economic challenges facing today's families and organizations. These people, organizations, and policies dramatically show how economic, educational, and cultural practices and conditions intersect to perpetuate inequality among low-income and even many middle-income working families. The labor market, welfare and workforce programs, public schools and government are some of the institutions implicated in this intersection. In the course, notions such as "work ethic," "family-friendly workplace," "good jobs" and "hard work pays off" are deconstructed in terms of their meaning for today's families, organizations and policies. At base, this course examines occupational mobility in America from multiple perspectives within the broad framework of capitalism, democracy, race, ethnicity, and gender. Students read classic and contemporary literature from occupational social work, sociology, cultural anthropology, and political science to explore generative roles and directions for "meso-oriented" clinical, macro, and policy professionals.
Course not offered every year
Activity: Lecture
1 Course Unit
Notes: Policy Option

SWRK 798 Advanced Topics
Titles and Topics vary. See department website for descriptions: https://www.sp2.upenn.edu/degree-programs/master-of-social-work/academics/course-descriptions/
One-term course offered either term
Activity: Lecture
1 Course Unit

SWRK 803 History and Philosophy of Social Welfare
This seminar traces the evolution of social welfare from ancient to modern times focusing on its implications for the development of contemporary social welfare in the United States. The course examines the development of social welfare systems and the underlying philosophies in the context of the social, economic, political, and cultural environments in which they emerged. Topics include the evolution of modern conceptions of the "welfare state," the role of public, private and voluntary sectors in the social services, trends in social and family history and their relationship to social welfare, the professionalization of social work, and methods of historical and social policy analysis.
Taught by: Stern
Activity: Lecture
1 Course Unit
Notes: PhD students only
SWRK 804 Methods of Inquiry: Quantitative Research Methods
The purpose of this course is to teach the basics of practice research, with an emphasis on intervention research. This course will focus on research ethics, building a conceptual framework, source credibility, question and hypothesis formulation, design, design, sampling, measurement, and scale construction and selection. Special emphasis will be placed on the development of designing feasible and practical research studies to answer questions of importance to social work practice. The course will emphasize the selection and development of outcome measures, intervention manuals, and fidelity measures. It will closely examine the use and development of practice guidelines, evidence-based practice and meta-analytic procedures.
Prerequisites: Must be enrolled in D.S.W. program.
Activity: Lecture
0 Course Units

SWRK 805 Methods of Inquiry: Qualitative Research Methods
This course will cover the essentials of qualitative research. Students will learn how to "situate themselves" in the research process so as to best capture the lived experience of the subjects under investigation. The course will explore the appropriate use of intensive interviews, grounded theory and ethnography. Mixed methods that employ both qualitative and quantitative approaches, will also be covered.
Prerequisites: SWRK 804. Must be enrolled in D.S.W. program
Activity: Online Course
1 Course Unit

SWRK 811 Social Theory
Course reading consists of the original works of theorists who offer classical, contemporary and postmodern perspectives on social thought, social interaction and issues germane to social welfare. Through intensive examination of multiple theoretical frameworks, students are expected to increase their analytical and critical orientation to theory. This ore nuanced understanding about epistemology, underlying assumptions, and theory construction can then be used to inform the student's substantive field of study and methodological orientation to research. This course is conducted in mixed lecture-seminar format.
Students have the opportunity to practice pedagogical techniques and exercise class leadership.
One-term course offered either term
Activity: Lecture
1 Course Unit

SWRK 812 Clinical Theory I
The purpose of this course is to broaden and deepen participants' mastery of several theories of development, personality, and behavior that have contributed to social work's knowledge base across the decades and continue to inform clinical social work epistemology today. Drawing primarily from original sources, we will consider key assumptions, constructs, and propositions of each theory in terms of its congruence with social work's principles, values, and mission and in relation to the profession's person-in-environment perspective. In this first semester, we will study the evolution of theories central to psychodynamic thought, from Freud's early biological model of the mind, through various relational perspectives, to contemporary work in the fields of attachment and interpersonal neurobiology. This examination will constitute a case study of the manner in which theories are socially constructed and will lay the foundation for critical inquiry into the social and political biases inherent in the Western European intellectual tradition from which most theories of human behavior have emerged.
Prerequisites: Must be enrolled in D.S.W. program
Activity: Lecture
0 Course Units

SWRK 813 Clinical Theory II
This course critically examines theories, perspectives, and frameworks informing clinical social work practice. These theoretical perspectives provide means for practitioners to understand a client or client system in context and offer strategies for intervention. The course begins by considering the development of social work practice theory thematically and from a historical perspective. Practice theories that have contributed to the knowledge base of clinical social work practice will be examined within the social, political, and ideological contexts of their times and against the backdrop of the development of the profession. The course will explore debates within the profession (e.g., art vs. science; empirical practice vs. constructivism; what constitutes professionalism) and in related fields (modernism vs. postmodernism) and evaluate the discourse on these topics. As the course moves into contemporary times, recent developments in clinical social work practice theory will be examined.
Attention will be paid to factors that influence clinical social work practice now and are likely to influence the profession in the future.
Prerequisites: SWRK 812. Must be enrolled in D.S.W. program.
Activity: Online Course
1 Course Unit

SWRK 852 Social Work Research
This is the foundation course in social work research. It deals with the nature of scientific inquiry; theory and its relation to research design and hypothesis testing; and various models of data collection, sampling, and analysis of research and is supported in following personal interests within the structure of ethical scientific research. Each student prepares an original study which demonstrates integration of the semester's work. Students learn to work on their own. At the end of SWRK 852, they are prepared for more advanced coursework in research.
Taught by: Solomon
Course usually offered in fall term
Prerequisites: Completion of concurrent enrollment in a course on introductory Social Statistics.
Activity: Lecture
1 Course Unit

SWRK 853 Qualitative Research
This course offers the advanced graduate student an in-depth study of the theory and methods of interpretive qualitative inquiry. Topics include the philosophic assumptions and positions within qualitative research, design issues and alternatives, data collection methods, data sources, sampling, criteria for rigor, data analysis, and reporting strategies. Special attention will be given to grounded theory, ethnography, and the analysis of interviews, as well as methods of identifying and engaging hidden populations. Students will have the opportunity to use qualitative research strategies in class and in field assignments. This course is intended for doctoral students in the social sciences. Master's students will be admitted with permission.
Course usually offered in spring term
Prerequisite: SWRK 852 or an equivalent
Activity: Lecture
1 Course Unit
SWRK 855 Advanced Research Methods
The methodology of accountability research in human service programs is studied. Emphasis is placed on social program evaluation, idiographic research, and secondary data analysis in policy research as specialized methods of social work research. Students undertake a laboratory experience in an ongoing program evaluation project.
Course usually offered in spring term
Prerequisites: SWRK 852 and Introduction to Statistics
Activity: Lecture
1 Course Unit

SWRK 861 Policy Analysis
This course examines alternative models of policy development and applies them to current issues in social welfare. It emphasizes frameworks for policy research and secondary analysis of governmental data. Topics include: race, class, and sex in policy outcomes; major social welfare programs; and the design, implementation, and evaluation of social service systems.
Course usually offered in spring term
Prerequisite: Must have successfully completed a course in multivariate statistics
Activity: Lecture
1 Course Unit

SWRK 900 Clinical DSW
Topics vary; see department for current course descriptions
Prerequisites: Must be enrolled in D.S.W. program
Activity: Seminar
0 Course Units

SWRK 968 Social Welfare and Social Economics
This course examines the social welfare aspects of major economic decisions in the United States. Particular attention is paid to exploring the implications of social choices in relation to the goals of the achievement of increased equity and equality in the distribution of income and power, the elimination of unemployment, and the control of inflation. The growth of public welfare programs and the base of funding for social services are examined in terms of the nation's economic and political objectives.
Activity: Lecture
1 Course Unit

SWRK 995 Doctoral Dissertation
Doctoral Dissertation
Activity: Dissertation
1 Course Unit

Sociology (SOCI)

SOCI 001 Introduction to Sociology
Sociology provides a unique way to look at human behavior and social interaction. Sociology is the systematic study of the groups and societies in which people live. In this introductory course, we analyze how social structures and cultures are created, maintained, and changed, and how they affect the lives of individuals. We will consider what theory and research can tell us about our social world.
For BA Students: Society Sector
Taught by: Imoagene, Jacobs, Lareau, Wilde, Zuberi
One-term course offered either term
Also Offered As: AFRC 002
Activity: Lecture
1 Course Unit

SOCI 002 Social Problems and Public Policy
This course approaches some of today's important social and political issues from a sociological vantage point. The course begins by asking where social problems come from. The main sociological perspectives of Marx, Weber and Durkheim are developed in connection with the issues of inequality, social conflict and community. We then turn to the social construction of social problems by examining how various issues become defined as social problems. This involves a consideration of the role of the media, social experts and social movements. The last section of the course considers how social problems are addressed. Here we discuss the relative strengths and weaknesses of government programs and regulations versus market-based approaches. We also discuss the role of philanthropy and volunteerism. Finally, we consider the risk of unanticipated consequences of reforms. Along the way, we will consider a variety of social issues and social problems, including poverty, immigration, crime, global warming, and education.
Taught by: Bosk, Jacobs
Course not offered every year
Activity: Seminar
1 Course Unit

SOCI 003 Deviance and Social Control
A sociological analysis of the origins, development, and reactions surrounding deviance in contemporary society. Topics include labeling theory, stigma, social organization, tradition, social power, crime, sexual deviance, drug use, and racism. Theoretical and methodological issues will be discussed and evaluated.
For BA Students: Society Sector
Taught by: Bosk
One-term course offered either term
Activity: Lecture
1 Course Unit

SOCI 004 The Family
Most men and women get married during their lifetimes. In addition, most men and women become fathers and mothers at some point. This class presents social science evidence on the family. For example, it shows how "greedy" workplaces, which require long work hours, create work-family conflicts for husbands and wives. The class also illuminates how men and women have different experiences within families. The lectures will also examine how economic inequality shapes family life. Students will have the opportunity to apply key concepts to daily life. All are welcome.
For BA Students: Society Sector
Taught by: Lareau, Staff
One-term course offered either term
Also Offered As: GSWS 004
Activity: Lecture
1 Course Unit
**SOCI 005 American Society**
What is American Society? The literary critic, Leslie Fielder once wrote: "...to be an American...precisely to imagine a destiny rather than to inherit one; since we have always been, insofar as we are Americans at all, inhabitants of myth rather than history..." In this course we will explore the elements of the myth that form the basis of the civil religion as well as the facts on the ground that contradict our conceptions of American Society. Examples of mythic elements and their contradiction that we will explore are: A nation founded to pursue liberty and freedom yet allowed slavery, equality of opportunity and persistent structural inequality, and a welcoming of the Immigrant coupled with a suspicion of the outsider.
For BA Students: Humanities and Social Science S
Taught by: Bosk
One-term course offered either term
Activity: Lecture
1 Course Unit
Notes: Also fulfills General Requirement in Society for Class of 2009 and prior

**SOCI 006 Race and Ethnic Relations**
The course will focus on race and ethnicity in the United States. We begin with a brief history of racial categorization and immigration to the U.S. The course continues by examining a number of topics including racial and ethnic identity, interracial and interethnic friendships and marriage, racial attitudes, mass media images, residential segregation, educational stratification, and labor market outcomes. The course will include discussions of African Americans, Whites, Hispanics, Asian Americans and multiracials.
Taught by: Charles, Zuberi
One-term course offered either term
Also Offered As: AFRC 006, ASAM 006, URBS 160
Activity: Lecture
1 Course Unit

**SOCI 007 Population and Society**
The course serves as an introduction to the study of population and demography, including issues pertaining to fertility, mortality, migration, and family formation and structure. Within these broad areas we consider the social, economic, and political implications of current trends, including: population explosion, baby bust, the impact of international migration on receiving societies, population aging, racial classification, growing diversity in household composition and family structure, population and environmental degradation, and the link between population and development/poverty.
For BA Students: Society Sector
Taught by: Flippen, Kohler, Zuberi
One-term course offered either term
Also Offered As: GSWS 007
Activity: Lecture
1 Course Unit

**SOCI 008 Introduction to Political Sociology**
This course will introduce students to sociological approaches to politics, broadly understood. The class will begin by discussing the nature of power and authority, the rise of the nation-state and the significance of nationalism. Later topics will include social movements, urban political regimes, globalization and transnationalism, citizenship, revolutions, and the rise (and fall?) of welfare states.
Course not offered every year
Activity: Seminar
1 Course Unit

**SOCI 010 Social Stratification**
In this course we study the current levels and historical trends of inequality in the United States especially in cross-national comparative perspective. We discuss causes and consequences of inequality as well as various policy efforts to deal with inequality. Topics include intergenerational social mobility, income inequality, education, gender, race and ethnicity among others.
For BA Students: Society Sector
Taught by: Jacobs, Staff
Course not offered every year
Activity: Lecture
1 Course Unit

**SOCI 011 Urban Sociology**
This course is a comprehensive introduction to the sociological study of urban areas. This includes more general topics as the rise of cities and theories urbanism, as well as more specific areas of inquiry, including American urbanism, segregation, urban poverty, suburbanization and sprawl, neighborhoods and crime, and immigrant ghettos. The course will also devote significant attention to globalization and the process of urbanization in less developed counties.
Taught by: Flippen
Course not offered every year
Also Offered As: AFRC 011, URBS 112
Activity: Seminar
1 Course Unit

**SOCI 012 Globalization**
This course analyses the current state of globalization and sets it in historical perspective. It applies the concepts and methods of anthropology, history, political economy and sociology to the analysis and interpretation of what is actually happening in the course of the semester that relates to the progress of globalization. We focus on a series of questions not only about what is happening but about the growing awareness of it and the consequences of the increasing awareness. In answering these questions we distinguish between active campaigns to cover the world (e.g. Christian and Muslim proselytism, free-trade agreements, democratization) and the unplanned diffusion of new ways of organizing trade, capital flows, tourism and remote interaction via the Internet. The body of the course deals with particular dimensions of globalization, reviewing both the early and recent history of each. The overall approach is historical and comparative, setting globalization on the larger stage of the economic, political and cultural development of various parts of the modern world. The course is taught collaboratively by an anthropologist, an historian, and a sociologist, offering the opportunity to compare and contrast distinct disciplinary approaches. It seeks to develop a general social-science-based theoretical understanding of the various historical dimensions of globalization: economic, political, social and cultural.
For BA Students: Humanities and Social Science S
Taught by: Guillen, Spooner
Course usually offered in spring term
Also Offered As: ANTH 012, HIST 012
Activity: Lecture
1 Course Unit
SOCI 027 Introduction to Africana Studies
The aim of this course is to provide an interdisciplinary examination of the complex array of African American and other African Diaspora social practices and experiences. This class will focus on both classic texts and modern works that provide an introduction to the dynamics of African American and African Diaspora thought and practice.
For BA Students: Humanities and Social Science S
Taught by: Charles, Zuberi
Two terms. student may enter either term.
Also Offered As: AFRC 001
Activity: Lecture
1 Course Unit

SOCI 033 Technology & Society
Technology plays an increasing role in our understandings of ourselves, our communities, and our societies, in how we think about politics and war, science and religion, work and play. Humans have made and used technologies, though, for thousands if not millions of years. In this course, we will use this history as a resource to understand how technologies affect social relations, and conversely how the culture of a society shapes the technologies it produces. Do different technologies produce or result from different economic systems like feudalism, capitalism and communism? Can specific technologies promote democratic or authoritarian politics? Do they suggest or enforce different patterns of race, class or gender relations? Among the technologies we'll consider will be large objects like cathedrals, bridges, and airplanes; small ones like guns, clocks and birth control pills; and networks like the electrical grid, the highway system and the internet.
For BA Students: Society Sector
One-term course offered either term
Also Offered As: STSC 003
Activity: Lecture
1 Course Unit

SOCI 041 Freshman Seminars
Two terms. student may enter either term.
Also Offered As: AFRC 041, GSWS 041, URBS 010
Activity: Seminar
1 Course Unit
Notes: Freshman Seminars. Topics vary from semester to semester. See Freshman Seminar and Sociology websites for current offerings.

SOCI 100 Introduction to Sociological Research
One of the defining characteristics of all the social sciences, including sociology, is a commitment to empirical research as the basis for knowledge. This course is designed to provide you with a basic understanding of research in the social sciences and to enable you to think like a social scientist. Through this course students will learn both the logic of sociological inquiry and the nuts and bolts of doing empirical research. We will focus on such issues as the relationship between theory and research, the logic of research design, issues of conceptualization and measurement, basic methods of data collection, and what social scientists do with data once they have collected them. By the end of the course, students will have completed sociological research projects utilizing different empirical methods, be able to evaluate the strengths and weaknesses of various research strategies, and read (with understanding) published accounts of social science research.
Taught by: Armenta, Koppel, Park, Smith, Wilde
One-term course offered either term
Also Offered As: HSOC 100
Activity: Lecture
1 Course Unit

SOCI 101 Bioethics
This course will take an historical approach to the development of modern bioethics, which is the study of ethical issues in medicine and the life sciences. The first part of the course will be devoted to an introduction to the standard principles of academic bioethics and the way they have structured the field over the last 35 years. We will then consider topics to which the principles have long been applied, such as the care of gravely ill newborns, death and dying, and the ethics of research involving human subjects. The last part of the course will address more recent life sciences policy areas including genetics, cloning, stem cells, biodefense, and neuroscience in relation to national security. Throughout the course I will emphasize the interplay between the development of bioethics and its cultural context.
Taught by: Moreno
One-term course offered either term
Also Offered As: HSOC 102
Activity: Lecture
1 Course Unit

SOCI 103 Asian Americans In Contemporary Society
This class will introduce you to sociological research of Asian Americans and engage in the "model minority" stereotype. We begin by a brief introduction to U.S. immigration history and sociological theories about assimilation and racial stratification. The class will also cover research on racial and ethnic identity, educational stratification, mass media images, interracial marriage, multiracials, transracial adoption, and the viability of an Asian American panethnic identity. We will also examine the similarities and differences of Asian Americans relative to other minority groups.
For BA Students: Society Sector
Course not offered every year
Also Offered As: ASAM 001
Activity: Lecture
1 Course Unit

SOCI 105 Indus Rel & Hum Res Mgmt
One-term course offered either term
Activity: Lecture
1 Course Unit

SOCI 110 The Rich and The Poor
Who is rich? Who is poor? This course examines how wealth and income are distributed in the United States, and how its distribution affects individuals, groups, institutions, and society. We will gain a fuller understanding of what social class is and discuss how it affects all aspects of life, including: quality of schooling, access to employment, child rearing, and even tastes, preferences, and identity.
Taught by: Armenta, Lareau, Staff
Course not offered every year
Activity: Lecture
0 Course Units
**SOCI 111 Health of Populations**
This course is designed to introduce students to the quantitative study of factors that influence the health of populations. Topics to be addressed include methods for characterizing levels of health in populations, comparative and historical perspectives on population health, health disparities, health policy issues and the effectiveness of interventions for enhancing the health of populations. These topics will be addressed both for developed and developing world populations. The course will focus on specific areas of health and some of the major issues and conclusions pertaining to those domains. Areas singled out for attention include chronic diseases and their major risk factors, such as smoking, physical activity, dietary factors and obesity. Throughout the course, the focus will be on determining the quality of evidence for health policy and understanding the manner in which it was generated.

Taught by: Elo, Kohler
One-term course offered either term
Also Offered As: HSOC 111
Activity: Lecture
1 Course Unit

**SOCI 112 Discrimination: Sexual and Racial Conflict**
This course is concerned with the structure, the causes and correlates, and the government policies to alleviate discrimination by race and gender in the United States. The central focus of the course is on employment differences by race and gender and the extent to which they arise from labor market discrimination versus other causes, although racial discrimination in housing is also considered. After a comprehensive overview of the structures of labor and housing markets and of nondiscriminatory reasons (that is, the cumulative effects of past discrimination and/or experiences) for the existence of group differentials in employment, wages and residential locations, various theories of the sources of current discrimination are reviewed and evaluated. Actual government policies and alternatives policies are evaluated in light of both the empirical evidence on group differences and the alternative theories of discrimination.

For BA Students: Society Sector
Taught by: Madden
Course not offered every year
Also Offered As: AFRC 112, GSWS 114
Activity: Lecture
1 Course Unit

**SOCI 117 Sociology of Work**
The material world is shaped and maintained through work, but so is the social world. How work is organized, allocated, and rewarded determines the opportunities people have for developing their own capacities, the kinds of ties they will have with others, and how much control they will have over their own lives. We will consider various sociological perspectives on work and compare alternative ways of organizing work, with a focus on the contemporary United States.

Taught by: Jacobs, Leidner
Course not offered every year
Activity: Lecture
1 Course Unit

**SOCI 118 Sociology of Bioethics**
The Sociology of Bioethics explores the sociological approach to bioethics. The Sociology of Bioethics is not a course in bioethics itself; rather than discussing the merits of a position (Is assisted suicide ethical?), we will ask how the debate has been framed, who is promoting which arguments, why the debate has arisen now, and how the issue is reflected in policy. In order to do so we will make use of social science research, along with philosophical treaties, legislation, and the popular media. The course is also not designed as a comprehensive treatment of the field; it will focus instead on choice topics that we will explore in depth. Our goal is to understand the nature of the bioethics profession and its modes of argumentation, and to explore the cultural, social, political, and professional underpinnings of bioethical debates.

Taught by: Bosk
One-term course offered either term
Activity: Lecture
1 Course Unit

**SOCI 120 Social Statistics**
This course offers a basic introduction to the application/interpretation of statistical analysis in sociology. Upon completion, you should be familiar with a variety of basic statistical techniques that allow examination of interesting social questions. We begin by learning to describe the characteristics of groups, followed by a discussion of how to examine and generalize about relationships between the characteristics of groups. Emphasis is placed on the understanding/interpretation of statistics used to describe and make generalizations about group characteristics. In addition to hand calculations, you will also become familiar with using PCs to run statistical tests.

Taught by: Allison, Charles, Guillot, Koppel, Park, Parrado
One-term course offered either term
Also Offered As: AFRC 120
Activity: Recitation
0 Course Units

**SOCI 122 The Sociology of Gender**
Gender is an organizing principle of society, shaping social structures, cultural understandings, processes of interaction, and identities in ways that have profound consequences. It affects every aspect of people's lives, from their intimate relationships to their participation in work, family, government, and other social institutions and their place in the stratification system. Yet gender is such a taken for granted basis for differences among people that it can be hard to see the underlying social structures and cultural forces that reinforce or weaken the social boundaries that define gender. Differences in behavior, power, and experience are often seen as the result of biological imperatives or of individual choice. A sociological view of gender, in contrast, emphasizes how gender is socially constructed and how structural constraints limit choice. This course examines how differences based on gender are created and sustained, with particular attention to how other important bases of personal identity and social inequality--race and class--interact with patterns of gender relations. We will also seek to understand how social change happens and how gender inequality might be reduced.

For BA Students: Society Sector
Taught by: Leidner
One-term course offered either term
Also Offered As: GSWS 122
Activity: Lecture
1 Course Unit
SOCI 125 Classical Sociological Theory
This course will cover the founding classics of the sociological tradition including works of Tocqueville, Marx and Engels, Weber, Durkheim, Mauss, Simmel, and G.H. Mead. We will also examine how the major traditions have continued and transformed into theories of conflict, domination, resistance and social change; social solidarity, ritual and symbolism; symbolic interactionist and phenomenological theory of discourse, self and mind. This course satisfies the theory requirement for sociology majors.
One-term course offered either term
Activity: Lecture
1 Course Unit

SOCI 126 Contemporary Sociological Theory
A review of theoretical perspectives developed since the second half of the 20th century. Includes micro-sociological perspectives of phenomenology, ethnomethodology, symbolic interactionism, and neo-Durkheimian interaction theory; social behaviorism and exchange theory; neo-Weberian and neo-Marxian perspectives on power, conflict, and class; and attempts at synthesis by Habermas, Luhmann, and Giddens.
One-term course offered either term
Activity: Lecture
1 Course Unit

SOCI 128 Introduction to Demographic Methods
This course provides an introduction to basic demographic concepts, data, indicators, and techniques. The course emphasizes hands-on applications of techniques in the analysis of population dynamics in the U.S. and elsewhere. Students will learn about the main sources of demographic data, including censuses, surveys, and vital statistics, and methods to estimate demographic processes (e.g. mortality, fertility). Students will leave the course with a solid grounding in a) the sources and limitations of demographic indicators; b) the construction of basic demographic techniques to answer questions about human populations.
Taught by: Elo, Hannum, Smith
One-term course offered either term
Activity: Lecture
1 Course Unit

SOCI 134 Health and Social Policy
Health and Social Policy is an interdisciplinary course examining health care and social policy from domestic and international perspectives. The course is designed to engage students in critical thinking about social determinants of health, the organization and outcomes of health care systems and institutions, global health priorities and challenges, and the implications for public policy. Topics include the social inequalities and health; how organizational context of health care impacts outcomes; management of human resources in health nationally and globally; analysis of medical error, its causes, and consequences; review and critique of public policies in U.S. health care; and global health priorities and international health policy. Issues of current public debate in health and health care will provide a context for learning. There are no prerequisites. The course is intended for general lists as well as for those planning careers in health care.
For BA Students: Society Sector
Taught by: Aiken, Lake
Course not offered every year
Also Offered As: NURS 134
Activity: Lecture
1 Course Unit

SOCI 135 Law and Society
After introducing students to the major theoretical concepts concerning law and society, significant controversial societal issues that deal with law and the legal systems both domestically and internationally will be examined. Class discussions will focus on issues involving civil liberties, the organization of courts, legislatures, the legal profession and administrative agencies. Although the focus will be on law in the United States, law and society in other countries of Africa, Asia, Europe and Latin America will be covered in a comparative context. Readings included research reports, statutes and cases.
Taught by: Bosk, Feti
One-term course offered either term
Also Offered As: AFRC 135
Activity: Lecture
1 Course Unit

SOCI 137 The Sociology of Media and Popular Culture
This course relies on a variety of sociological perspectives to examine the role of media and popular culture in society, with a particular emphasis on the power of the mass media industry, the relationship between cultural consumption and status, and the social organization of leisure activities from sports to shopping.
For BA Students: Society Sector
Taught by: Grazian
One-term course offered either term
Activity: Lecture
1 Course Unit
Notes: Also fulfills General Requirement in Arts Letters for Class of 2009 and prior

SOCI 140 Social Conflict
This course will emphasize violent conflict, what leads up to it, and what determines whether it actually happens or not. Micro-sociological observations of conflict and violence as it appears in real-life observations, photos and videos. Topics include: fights and brawls; military combat; crowd and crowd-control violence; bullying and holdups; fair fights and dueling; carousing; sports violence; police violence; gangs violence; terrorist and clandestine violence; school and workplace rampages.
Course not offered every year
Activity: Seminar
1 Course Unit

SOCI 143 Modern Social Movements
Throughout modern times groups of people have come together in an attempt to change their social world. Their successes and failures teach us about society, organizations, and individuals. This course will examine case studies of historical and contemporary social movements. Using these case studies, this course will evaluate different approaches to understanding social movements, and investigate what these different approaches suggest about individuals, the society in which they live, and the potential for social change.
Course not offered every year
Activity: Lecture
1 Course Unit
SOCI 152 American Health Policy
This lecture course will introduce students to a broad range of topics that fall under the heading of American health policy. Its main emphasis will be on the history of health care in America from the U.S. Civil War to Obamacare. The primary objective of the course will be to consider why the U.S., until very recently, remained one of the only industrialized nations to have a private, non-nationalized health care system. Some of the themes addressed include: private health insurance(such as Blue Cross/Blue Shield), industrial health and workers' compensation, the welfare state (in Europe, Canada, and the U.S.), women's health, especially maternal and infant care programs, Medicare/Medicaid, the Clinton Health Plan of 1993, injured soldiers and the Veterans Administration.
Taught by: Linker
Course not offered every year
Also Offered As: HSOC 150
Activity: Seminar
1 Course Unit

SOCI 153 Lang & Social Identity
Also Offered As: LING 152
Activity: Lecture
1 Course Unit

SOCI 154 Afro-Latinos in the U.S.
This course will explore the arrival, establishment and contributions of free and enslaved Africans in Ibero-America, the region presently known as Latin America, and the Spanish Speaking Caribbean. It will look at how these actors and their descendants known today as Afro-Latinos, shaped and built the foundations of Latin American society and culture throughout the centuries from colonial period to present. The course will seek to understand Afro-Latinos' agency and negotiations as intellectual contributors to the ideologies that led to independence and the creation of Latin American nations. Likewise, the course will also explore the accomplishments, controversies and tensions in race dynamics and politics, gender relations, socio-economic issues, among others factors that took and continue to take place as people of African descent negotiate their identity and struggle to uphold their space in Latin America and the U.S.A. today.
Also Offered As: LALS 155
Activity: Lecture
1 Course Unit

SOCI 161 The History of the Information Age
Certain new technologies are greeted with claims that, for good or ill, they must transform our society. The two most recent: the computer and the Internet. But the series of social, economic and technological developments that underlie what is often called the Information Revolution include much more than just the computer. In this course, we explore the history of information technology and its role in contemporary society. We will explore both the technologies themselves—calculating machines, punched card tabulators, telegraph and telephone networks, differential analyzers, digital computers, and many others—and their larger social, economic and political contexts. To understand the roots of these ideas we look at the prehistory of the computer, at the idea of the post-industrial or information society, at parallels with earlier technologies and at broad historical currents in the United States and the world.
For BA Students: Humanities and Social Science S
One-term course offered either term
Also Offered As: STSC 160
Activity: Lecture
1 Course Unit

SOCI 162 Environmental Sociology
Activity: Lecture
1 Course Unit

SOCI 163 Educational Inequality
Activity: Lecture
1 Course Unit

SOCI 175 Medical Sociology
This course will give the student an introduction to the sociological study of medicine. Medical sociology is a broad field, covering topics as diverse as the institution and profession of medicine, the practice of medical care, and the social factors that contribute to sickness and well-being. Although we will not explore everything, we will attempt to cover as much of the field as possible through four thematic units: (1) the organization and development of the profession of medicine, (2) the delivery of health-care, especially doctor-patient interaction, (3) the social and cultural factors that affect how illness is defined, and (4) the social causes of illness. The class will emphasize empirical research especially but not only quantitative research.
For BA Students: Society Sector
Taught by: Schnittker
Also Offered As: HSOC 275
Activity: Lecture
1 Course Unit

SOCI 200 Criminal Justice
This course examines how the criminal justice system responds to crime in society. The course reviews the historical development of criminal justice agencies in the United States and Europe and the available scientific evidence on the effect these agencies have on controlling crime. The course places an emphasis on the functional creation of criminal justice agencies and the discretionary role decision makers in these agencies have in deciding how to enforce criminal laws and whom to punish. Evidence on how society measures crime and the role that each major criminal justice agency plays in controlling crime is examined from the perspective of crime victims, police, prosecutors, jurors, judges, prison officials, probation officers and parole board members. Using the model of social policy evaluation, the course asks students to consider how the results of criminal justice could be more effectively delivered to reduce the social and economic costs of crime.
For BA Students: Society Sector
Taught by: MacDonald
One-term course offered either term
Also Offered As: CRIM 200
Activity: Lecture
1 Course Unit

SOCI 221 Sample Survey Methods
This course provides an introduction to survey data collection. In meeting this objective, we examine the major planning tasks necessary for conducting surveys, including problem formulation, study design, questionnaire and interview design, pretesting, sampling, interviewer training and field management, code development and coding of data, and data cleaning and management. We critically explore the design of surveys and collection of data from epistemological and ethical perspectives. Students will leave the class with a solid understanding of the basic process of survey data collection and a familiarity with its strengths and weaknesses as a method of inquiry into human behavior.
Taught by: Hannum, Parrado
Course not offered every year
Activity: Seminar
1 Course Unit
SOCI 222 Field Methods of Sociological Research
This course is designed to introduce students to field methods in sociological research, with a focus on participant-observation and interviewing. During this course, students will read original research based on field methods and discuss their strengths, limitations, and ethical dilemmas. Most importantly, students will design their own research projects and become ethnographers and interviewers. Students will be guided through the fieldwork process from data collection to analysis, and will turn in multiple assignments and original research paper.
Taught by: Armenta, Bosk, Koppel, Lareau
Course not offered every year
Activity: Seminar
1 Course Unit

SOCI 233 Criminology
This introductory course examines the multi-disciplinary science of law-making, law-breaking, and law-enforcing. It reviews theories explaining where, when, by whom and against whom crimes happen. Police, courts, prisons, and other institutions are also critically examined. This course meets the general distribution requirement.
For BA Students: Society Sector
Taught by: Adler
One-term course offered either term
Also Offered As: CRIM 100
Activity: Lecture
1 Course Unit

SOCI 235 Law and Social Change
Beginning with discussion of various perspectives on social change and law, this course then examines in detail the interdependent relationship between changes in legal and societal institutions. Emphasis will be placed on (1) how and when law can be an instrument for social change, and (2) how and when social change can cause legal change. In the assessment of this relationship, emphasis will be on the laws of the United States. However, laws of other countries and international law relevant to civil liberties, economic, social and political progress will be studied. Throughout the course, discussions will include legal controversies relevant to social change such as issues of race, gender and the law. Other issues relevant to State-Building and development will be discussed. A comparative framework will be used in the analysis of this interdependent relationship between law and social change.
Taught by: Fetni
One-term course offered either term
Also Offered As: AFRC 235, SOCI 460
Activity: Lecture
1 Course Unit

SOCI 238 Media Culture & Society in Contemporary China
This course studies contemporary Chinese media, culture, and society in the context of globalization. Major topics include Internet expression and censorship, mass media commercialization, entertainment media, middle class and consumerism, environmental degradation, new forms of inequality, and civil society and popular protest. Taking a sociological approach, this course introduces methods and theories for analyzing media, institutions, inequality, and social change.
Taught by: Yang
One-term course offered either term
Also Offered As: COMM 203
Activity: Lecture
1 Course Unit

SOCI 239 Sociology of Religion
Classic theory of religion in Durkheim and Weber, as well as contemporary theories of religious movements. Topics include ritual, magic, and mystical experience; religious ethics and salvation beliefs; the dynamics of cults, sects and mainstream churches; origins, expansion and decline of religions; religions and social class; religions and politics. The spectrum of religions in the contemporary United States will be examined, as well as historical comparisons.
Taught by: Wilde
Course not offered every year
Activity: Seminar
1 Course Unit

SOCI 252 Human Rights
Sociology provides a unique way to look at human behavior and the world. We live in a world of diverse and conflicting values in which human rights and respect for human dignity have provided a platform for convergence. One important instance of such convergence has been the development of international norms prohibiting genocide, crimes against humanity, war crimes and ethnic cleansing. While there is agreement on fundamental principles as reflected in the Universal Declaration of Human Rights, differences in interpretation remain. A platform for convergence requires the engagement of a number of constituencies, in particular, state and inter-state entities, corporations, civil society and individuals, as well as the mutual reinforcement of their rights and duties. This course will critically cover the history, practice and social significance of human rights.
Taught by: Zuberi
One-term course offered either term
Also Offered As: AFRC 252
Activity: Lecture
1 Course Unit

SOCI 254 Cities, Suburbs, Regions
This course will explore the political, economic, social, and demographic forces impacting development patterns in metropolitan areas, with a particular focus on Philadelphia. We will examine the government policies, economic forces, and social attitudes that affect the way a region grows, and the impact of these forces on poverty, equity and segregation. Specific topics to be discussed include the factors that make a region competitive, the city’s changing role in the region, the impact place has on opportunity, and approaches to revitalizing and improving communities.
Taught by: Black
Course not offered every year
Also Offered As: URBS 253
Activity: Seminar
1 Course Unit
SOCI 259 Social Determinants of Health
Over the last century, we have witnessed dramatic historical change in population incidence and mortality, e.g. rising numbers of women diagnosed with breast cancer and dramatic declines in death from stomach cancer. There has also been a highly visible social patterning of health and disease, such as socio-economic disparities in AIDS, substance abuse, and asthma in the U.S. today or the association of breast cancer with affluence globally. This course will explore the way researchers, activists, politicians and others in different eras have made sense of these changes and patterns and have responded to them. The course is historical and sociological. At the same time that we examine evidence and theories about the way poverty, affluence, and other social factors influence individual and population health, we will try to understand how social and historical forces have shaped how health and disease have been understood and categorized. In examining our current obesity "epidemic," for example, we will not only consider evidence and claims made about the causal role of market forces and changes in the built environment, but ask why (besides the fact that we are heavier) obesity has become such a visible and important medical and public health issue in the U.S. today.
Taught by: Aronowitz
Course not offered every year
Also Offered As: HSOC 260
Activity: Lecture
1 Course Unit

SOCI 260 Cyberculture
Computers and the internet have become critical parts of our lives and culture. In this course, we will explore how people use these new technologies to develop new conceptions of identity, build virtual communities and affect political change. Each week we will see what we can learn by thinking about the internet in a different way, focusing successively on hackers, virtuality, community, sovereignty, interfaces, algorithms, and infrastructure. We will read books, articles, and blogs about historical and contemporary cultures of computing, from Spacewar players and phone phreaks in the 1970s to Google, Facebook, World of Warcraft, WikiLeaks, and Anonymous today. In addition, we will explore some of these online communities and projects ourselves and develop our own analyses of them.
Course not offered every year
Also Offered As: STSC 260
Activity: Seminar
1 Course Unit

SOCI 264 Poverty, Race and Health
This course is designed to introduce students to current literature on race/ethnic difference in health and mortality in the United States, covering such topics as explanations for why some race/ethnic groups fare better than others, how inner city poverty and residential segregation may contribute to racial/ethnic differences in health outcomes, and health of immigrants versus native-born populations. Current policy debated and recent policy developments related to health are also briefly discussed. The course is organized as a seminar with a combination of lectures and class discussions.
Taught by: Elo
Course not offered every year
Also Offered As: URBS 264
Activity: Seminar
1 Course Unit

SOCI 266 Latinos in United States
This course presents a broad overview of the Latino population in the United States that focuses on the economic and sociological aspects of Latino immigration and assimilation. Topics to be covered include: construction of Latino identity, the history of U.S. Latino immigration, Latino family patterns and household structure, Latino educational attainment. Latino incorporation into the U.S. labor force, earnings and economic well-being among Latino-origin groups, assimilation and the second generation. The course will stress the importance of understanding Latinos within the overall system of race and ethnic relations in the U.S., as well as in comparison with previous immigration flows, particularly from Europe. We will pay particular attention to the economic impact of Latino immigration on both the U.S. receiving and Latin American sending communities, and the efficacy and future possibilities of U.S. immigration policy. Within all of these diverse topics, we will stress the heterogeneity of the Latino population according to national origin groups (i.e. Mexican, Puerto Rican, Cuban, and other Latinos), as well as generational differences between immigrants and the native born.
Taught by: Parrado, Armenta
One-term course offered either term
Also Offered As: LALS 235
Activity: Lecture
1 Course Unit

SOCI 270 The Immigrant City
Immigration is among the most important yet controversial forces shaping cities, regions, and neighborhoods. The diversity of immigrant and receiving communities means that the dynamics and impacts of migration are varied and complex. This course examines the development of immigrant and receiving communities in the United States. It surveys public policy and community and economic development practices related to migration at the local, regional, national, and trans-national scale. Class readings, discussions, and visits to Philadelphia’s immigrant neighborhoods explore themes including labor markets, housing experiences, political mobilization, civil society, cultural preservation, and the built environment. The first half of the course surveys migration and community formation among a broad range of ethnic groups in different parts of the city and suburbs, mainly through history, sociology, and geography; the second half focuses on specific policy and community and economic development initiatives. Ultimately, the class aims to provide students with 1) a broad knowledge of immigration and its impacts on cities and regions; 2) an in-depth understanding of urban policies and institutions working on immigration in U.S. cities; and 3) familiarity with community and economic development strategies for migrant and receiving communities.
For BA Students: Society Sector
Taught by: Hanson, R. Scott
Course not offered every year
Also Offered As: URBS 270
Activity: Seminar
1 Course Unit
SOCI 275 Medical Sociology
This course will give the student an introduction to the sociological study of medicine. Medical sociology is a broad field, covering topics as diverse as the institution and profession of medicine, the practice of medical care, and the social factors that contribute to sickness and well-being. Although we will not explore everything, we will attempt to cover as much of the field as possible through four thematic units: (1) the organization and development of the profession of medicine, (2) the delivery of health-care, especially doctor-patient interaction, (3) the social and cultural factors that affect how illness is defined, and (4) the social causes of illness. The class will emphasize empirical research especially but not only quantitative research.
Taught by: Schnittker
One-term course offered either term
Also Offered As: HSOC 275
Activity: Lecture
1 Course Unit

SOCI 277 Mental Illness
This course is designed to give a general overview of how sociologists study mental illness. We will be concerned with describing the contributions of sociological research and exploring how these contributions differ from those of psychology, psychiatry, and social work. This overview will be done in three parts: we will discuss (i) what "mental illness" is, (ii) precisely how many Americans are mentally ill, (iii) how social factors (e.g. race, gender, class) and social arrangements (e.g. social networks) lead to mental illness, and (iv) how we as a society respond to and treat the mentally ill. Throughout the course, we will be concerned with uncovering the assumptions behind different definitions of mental health and exploring their political, social, and legal implications.
Taught by: Schnittker
One-term course offered either term
Also Offered As: HSOC 277
Activity: Lecture
1 Course Unit

SOCI 280 Social Issues in Contemporary China
China’s transition to a market-oriented society has effected fundamental changes in the lives of citizens. This class will consider pressing social concerns that China must struggle to address as it continues down the path of market reforms. Using topical problems to illustrate broader issues of social inequality along lines of gender, ethnicity, residence status, and poverty status, we will consider questions such as the following: How are women and men faring differently in China's new labor market and workplaces? Are rural peasants and the emerging underclass of urban laid-off workers being left behind by market transition? How are minorities faring in China's transition? How does the emerging digital divide play into the dichotomies of east-west and urban-rural in China? What is the plight of millions of "floaters" migrating into China's cities, with minimal legal rights and protections? Can China's rapidly-changing public health system handle emerging diseases such as SARS and AIDS? How has the one-child policy affected women, children, and society in China? Who are the "missing girls" of China, and what are the social implications of their disappearance? How was the welfare of children and adolescents changed with market reforms? The class will combine lectures, academic readings, case studies, films, and discussions.
Taught by: Hannum
One-term course offered either term
Activity: Lecture
1 Course Unit

SOCI 282 Knowledge and Social Structure
This course focuses on science in various institutional contexts and discusses situations ranging widely over time and place. We consider examples drawn from the seventeenth century to the present, the social settings in which science is found (e.g. the prince's court, the society of amateurs, the university, the academic laboratory, industry and in the field, outdoors), and the effects of changes in publishing and patronage. For comparative purposes, we also consider such phenomena as the symphony orchestra, the art market, motion pictures, and literature. Assigned authors range from time-honored authorities, such as Robert Merton, to science writers for The New Yorker.
For BA Students: Humanities and Social Science S
Taught by: Kuklick
One-term course offered either term
Also Offered As: STSC 288
Activity: Seminar
1 Course Unit

SOCI 299 Independent Study
Directed readings and research in areas of sociology. Permission of instructor needed.
One-term course offered either term
Activity: Independent Study
1 Course Unit

SOCI 300 Thesis Workshop
The purpose of this course is to guide senior sociology majors in writing a research proposal for a senior honors thesis. Students will learn about various research approaches, how to write a focused literature review, and kinds of data necessary to answer a wide variety of research questions, including their own. Throughout the course, students will work on designing a research question, generation researchable hypotheses, and coming up with a design for their proposed study. The final paper for this course will be a research proposal that is the basis for students’ independent research project. This course satisfies the research requirement for sociology majors and is designed primarily for seniors who are planning to write an honors thesis.
One-term course offered either term
Prerequisite: SOCI 100
Activity: Seminar
1 Course Unit

SOCI 322 Advanced Topics in Gender and Sexuality Studies
Violence against Women in Conflict: Sexuality, Terrorism, and Human Rights This course explores how women’s experiences of violence in conflict are guided by traditional patriarchal views of femininity, and further how this violence impacts their human rights. Through academic texts, documents produced by the U.N. and NGOs globally, and documentaries, we will consider women’s experiences of violence in contexts such as: how rape is used to decipher the borders and boundaries of emerging nations, as in the 1994 genocide in Rwanda; the highly complex experiences of women suicide bombers in the Israeli-Palestinian and Sri Lankan conflicts; the relationship between domestic violence in the private/home space and the violence of war in the public space; and sexual violence against women in the U.S. military.
Also Offered As: GSWS 322
Activity: Seminar
1 Course Unit

SOCI 330 Special Topics
Course not offered every year
Also Offered As: AFRC 387, ITAL 300
Activity: Lecture
1 Course Unit
SOCI 340 Special Topics AFRC Stud
Course not offered every year
Also Offered As: AFRC 387
Activity: Seminar
1 Course Unit

SOCI 380 Neighborhood Dynamics of Crime
Crime varies in time, space and populations as it reflects ecological structures and the routine social interactions that occur in daily life. Concentrations of crime can be found among locations, with antisocial activities like assaults and theft occurring at higher rates because of the demographic make-up of people (e.g. adolescents) or conflicts (e.g. competing gangs), for reasons examined by ecological criminology. Variation in socio-demographic structures (age, education ratios, and the concentration of poverty) and the physical environment (housing segregation, density of bars, street lighting) predicts variations between neighborhoods in the level of crime and disorder. Both ethnographic and quantitative research methods are used to explore the connections between the social and physical environment of areas and antisocial behavior.
Taught by: Loeffler
Course usually offered in spring term
Also Offered As: CRIM 280
Activity: Seminar
1 Course Unit

SOCI 398 Senior Research
Senior Research is for senior sociology majors only. Students are assigned Sociology advisors with assistance from Undergraduate Chair.
Taught by: Sociology Faculty
One-term course offered either term
Activity: Independent Study
1 Course Unit

SOCI 399 Independent Study
Independent study section for senior Sociology majors working on an honors thesis. Students are assigned an advisor by the undergraduate chair.
Taught by: Sociology Faculty
One-term course offered either term
Activity: Independent Study
1 Course Unit

SOCI 411 Field Observations in Criminal Courts
The course will serve as an introduction both to qualitative research and to an understanding of the routine workings of the courts in Philadelphia. After a brief discussion of the theoretical underpinnings and practical techniques of ethnography, students will undertake supervised field projects leading to the writing of 5000 words long, examined research reports about different aspects of the social organization of the courthouse and court room.
One-term course offered either term
Activity: Seminar
1 Course Unit

SOCI 420 Perspectives on Urban Poverty
This course provides an interdisciplinary introduction to 20th century urban poverty, and 20th century urban poverty knowledge. In addition to providing an historical overview of American poverty, the course is primarily concerned with the ways in which historical, cultural, political, racial, social, spatial/geographical, and economic forces have either shaped or been left out of contemporary debates on urban poverty. Of great importance, the course will evaluate competing analytic trends in the social sciences and their respective implications in terms of the question of what can be known about urban poverty in the contexts of social policy and practice, academic research, and the broader social imaginary. We will critically analyze a wide body of literature that theorizes and explains urban poverty. Course readings span the disciplines of sociology, anthropology, urban studies, history, and social welfare. Primacy will be granted to critical analysis and deconstruction of course texts, particularly with regard to the ways in which poverty knowledge creates, sustains, and constrasts meaningful channels of action in urban poverty policy and practice interventions.
Taught by: Fairbanks
One-term course offered either term
Also Offered As: URBS 420
Activity: Seminar
1 Course Unit

SOCI 430 Advanced Topics in Sociology
Upper level advance topics vary from semester to semester.
Course not offered every year
Also Offered As: AFRC 431, AFRC 630, COMM 496, SOCI 630
Activity: Seminar
1 Course Unit

SOCI 431 Modern Mexican Society
An introduction to social, political, and economic organization of modern Mexico. This course traces to evolution of Mexico's fundamental societal institutions from their birth during the Mexican Revolution of 1910, through their flowering during the 1950's and 1960's, to recent changes under neoliberal administrations. The course ends with a discussion of Mexico's transition to democracy and the election of the first opposition President in 80 years.
Course not offered every year
Also Offered As: HIST 233, LALS 431
Activity: Seminar
1 Course Unit
Over the past two decades, the public imagination has been gripped by the concept of globalization. Scholars, corporations, advertisers and government officials have latched onto this idea as a defining feature of our current era. These various constituencies use globalization not only to account for epochal shifts in our economy and society, but also to justify new types of business strategy and public policy. This course will examine three interlinked dimensions of globalization: Global economic processes (e.g. the transnational operations of multinational firms that have given rise to a new international division of labor); cultural globalization (e.g. the spread of American brands like Coca Cola, Nike and Hollywood films), and political globalization (e.g. the rise of supranational organizations like the IMF, World Bank and WTO that promote the idea of free markets). Moreover, we will study globalization in the context of cities because, given their centrality to globalization processes, it is in cities that we can best understand how globalization takes place. In cities, we can study the global economic processes that restructure urban space, giving rise to new financial districts, international art exhibits and post-modern architecture and entrepreneurial strategies that seek to elevate cities to world city status. The course will examine these processes in a comparative light, contrasting urban globalization processes in Europe and North America with those in Latin America, Asia and Africa.

Taught by: Shankar
One-term course offered either term
Activity: Seminar
1 Course Unit

The purpose of this academic-based service learning course is to examine the development of art, culture and media in cities, with an emphasis on how cultural organizations operate in the urban environment. Through classroom readings and discussions, students will explore a variety of sociological approaches to the analysis of urban culture and the creative economy, local arts and entertainment, new media technology and public policy. In addition, students will conduct several hours per week of community service in one of a variety of local nonprofit arts and other cultural institutions in Philadelphia.

Taught by: Grazian
Course not offered every year
Activity: Seminar
1 Course Unit

How do American cities grow? Studies of urban transformation have focused on anchor institutions, the growth model of big business-generated employment, and “creative class” gentrification. After decades of decline, many major cities like Philadelphia are seeing gains in population again, as well as new commercial activity and street life, spurred by the influx of new immigrant communities. Yet few scholars have asked: What role do immigrants play in the current revival of the American metropolis? In this Social Science Studio course, 16 students will work collaboratively as in a design studio to conduct research that can answer this important social-scientific question. Students will work on independent projects that engage multiple methods and fields to produce new types of knowledge. They will be introduced to multiple methods drawn from architecture, planning, anthropology and political science, including mapping, interviewing, fieldnotes, socio-economic surveys, sketching, photography and web design to develop independent projects. No prior knowledge is required but students with experience in GIS, STATA, photography, drawing or web design are encouraged to apply.

Taught by: Choudhury, Kushanava
Course not offered every year
Activity: Seminar
1 Course Unit

This course analyzes the role of metropolitan regions in the U.S. and global economies, including the sources of metropolitan productivity, the ways that metropolitan structures affect residents, and analyses of public policy in metropolitan areas. The economic, political, and social forces that have shaped World War II urban and regional development are explored, including technology, demography, and government. Special attention is paid to how metropolitan change affects residents by income and race. Topics include: gentrification, schools, suburbanization, sprawl, metropolitan fragmentation, concentration of poverty, race, and various economic revitalization initiatives.

Taught by: Madden
One-term course offered either term
Also Offered As: URBS 453
Activity: Seminar
1 Course Unit

Advanced Topics in Africana Studies: The Sociology of W E B Du Bois; GIS for Social Science Research
Course not offered every year
Also Offered As: AFRC 420, AFRC 620, SOCI 235, SOCI 235, SOCI 660
Activity: Lecture
1 Course Unit
SOI 473 Community Organizing: History and Theory
Power is the ability to create change. This course will integrate the history and theories of community organizing so that each student will be able to develop a transformational praxis. We will examine social inequality and intersectionality, and explore effective strategies in organizing for social change. This course is inter-disciplinary, involving political economy, sociology, history, social work and leadership theory. Inquiry-based and problem-posing methods will serve as the primary means of formative assessment.
Taught by: Becker
Course not offered every year
Also Offered As: URBS 473
Activity: Seminar
1 Course Unit

SOI 488 Culture, Sexuality and Global Health
What, if anything, is global in "global health"? Whatever this field might be, it is more often than not actively produced through a range of conflicting ethical commitments of multiple expert cultures, social movements and laypersons. This course explores critical themes in the historical and sociocultural study of global health. Students will engage a number of disciplinary perspectives within the social sciences including the history, sociology, and anthropology of science, and we will pay particular attention to feminist, queer, and postcolonial science studies perspectives. Throughout, we will consider how both global and local cultural transformations have shaped the emergence of this multidisciplinary field of study. To understand the complexity of global health, students will engage with a number of theoretical and ethnographic texts while questioning its stability and coherence as a self-same object given its interdisciplinary character. In doing so, we will explore the ways in which diverse sets of interests converge to constitute as well as contest the ever-shifting boundaries of global health.
Taught by: Fiereck
Course usually offered in fall term
Also Offered As: GSWS 488
Activity: Seminar
1 Course Unit

SOI 494 MLA Prosem: Global Health
Activity: Lecture
1 Course Unit

SOI 524 Advanced Topics in the Sociology of the Family
The course will review a series of theoretical issues in the sociology of the family and examine major empirical studies in which theoretical advances have been made. Special attention will be given to work that has a historical and comparative perspective. Opportunities will be provided for original research on the family.
Course not offered every year
Also Offered As: DEMG 524
Activity: Seminar
1 Course Unit

SOI 530 Advanced Selected Topics
Topics vary from semester to semester. Courses offered in the past were Social Movements and Social Change; Critical Race Theory; Conducting Family Research; Mistakes, Errors, Accidents and Disasters; Sociology of Jewish Bioethics.
One-term course offered either term
Also Offered As: AFRC 533, LALS 530
Activity: Seminar
1 Course Unit

SOI 535 Quantitative Methods in Sociology I
This course is an introduction to the practice of statistics in social and behavioral sciences. It is open to beginning graduate students and with the permission of the instructor–advanced undergraduates. Topics covered include the description of social science data, in graphical and non-graphical form; correlation and other forms of association, including cross-tabulation; bivariate regression; an introduction to probability theory; the logic of sampling; the logic of statistical inference and significance tests. There is a lecture twice weekly and a mandatory "lab."
Taught by: Allison, Smith
Course usually offered in fall term
Also Offered As: DEMG 535
Prerequisite: Basic algebra
Activity: Lecture
1 Course Unit

SOI 536 Quantitative Methods in Sociology II
As the second part of a two-semester sequence, this graduate course focuses on regression analysis as used in social science research. In particular, we discuss features and assumptions of linear regression and logistic regression models. We learn how to apply regression models to real social science data using Stata and how to interpret the results.
Taught by: Allison, Kohler, Park, Schnittker, Smith
Course usually offered in spring term
Also Offered As: DEMG 536
Prerequisite: SOI 535 or permission of instructor
Activity: Lecture
1 Course Unit

SOI 541 Gender, the Labor Force, and Markets
Drawing from sociology, economics and demography, this course examines the causes and effects of gender differences in labor force participation, earnings and occupation in the United States and in the rest of the developed and developing world. Differences by race, ethnicity and sexual preference are also considered. Theories of labor supply, marriage, human capital and discrimination are explored as explanations for the observed trends. Finally, the course reviews current labor market policies and uses the theories of labor supply, marriage, human capital and discrimination to evaluate their effects on women and men.
Taught by: Madden
Course not offered every year
Also Offered As: DEMG 541, GSWS 532
Activity: Seminar
1 Course Unit

SOI 542 Work and Gender
This seminar examines the relevance of gender to the organization and experience of paid and unpaid work. Combining materialist and social constructionist approaches, we will consider occupational segregation, the relation of work and family, gender and class solidarity, the construction of gender through work, race and class variation in work experiences, and related topics.
Taught by: Leidner
Course not offered every year
Also Offered As: GSWS 542
Activity: Seminar
1 Course Unit
SOCI 546 Feminist Theory
Feminist activists and academics have posed fundamental challenges to existing approaches to social theory. This seminar explores the development of feminist theory since the 1960s, focusing on approaches that have the most relevance for social science. The relations among feminist theorizing, research, and activism will be emphasized.
Taught by: Leidner
Course not offered every year
Also Offered As: GSWS 546
Activity: Seminar
1 Course Unit

SOCI 550 Social Inequality
This course will study social stratification primarily in contemporary societies. We will examine both the distribution of social rewards as well as process for the allocation of these rewards. Stratification theory and research on social mobility will be considered. Topics include the influence of education, race and gender, and structural and organizational factors on individual success. Acquaintance with stratification theory and quantitative methods would be helpful but not required.
Taught by: Jacobs
Course not offered every year
Activity: Seminar
1 Course Unit

SOCI 553 Field Methods in Qualitative Research
This course is designed to introduce graduate students to basic skills and concepts in ethnographic field research, including participant observation, interviewing, field documentation, and the scholarly presentation of qualitative data. Students will learn to apply these skills and concepts through an assigned set of exercises in concert with a semester-long project based on intensive fieldwork at a research site of their choosing. In addition, we will examine exemplars of published fieldwork in both classical and contemporary sociology. Students outside of the Department of Sociology need permission of the instructor to enroll.
Taught by: Bosk, Grazian, Lareau
One-term course offered either term
Activity: Seminar
1 Course Unit

SOCI 555 Pro-Seminar in Sociological Research
In the non-credit seminar students will be introduce to key areas in sociological research, and a set of professional skills necessary to navigate graduate school and a successful academic career. Students will also be introduced to faculty and resources available at Penn. This course is required for all first-year graduate students in Sociology
Taught by: Hannum, Jacob, Kao, Leidner, Smith
Course usually offered in fall term
Activity: Seminar
0 Course Units

SOCI 556 Pro-Seminar in Sociological Research II
This graduate seminar for first-year graduate students will be a two-semester course covering the major subfields of sociology -- their classical and contemporary theories, current methods and substance.
Taught by: Collins, Grazian, Hannum, Park, Schnittker, Smith, Wilde
One-term course offered either term
Activity: Seminar
1 Course Unit

SOCI 561 Class Cultures and Historical Change
Culture as lifestyle, therefore as the immediately visible aspect of social class, as well as the status groups that may cut across class. Examines micro-sociological evidence (including photos and other images; and literary and other textual sources) of how class and status are performed in everyday life. Goffmanian and subsequent theory of interaction rituals applied across long-term historical changes, and their causes. Topics include Norbert Elias's theory of civilizing process; stratification in patrimonial/ aristocratic societies; the modern shift to bureaucracy plus private households; the effects of democratization, social movements, wars, revolutions, and status leveling; informalization and antimimic counter-cultures; youth cultures and cults of mass entertainment. Concluding with what electronic communications are doing to the future of class cultures and self-presentation.
Taught by: Collins
Course not offered every year
Activity: Seminar
1 Course Unit

SOCI 562 Soci Movements & Poli Sc
Activity: Lecture
1 Course Unit

SOCI 570 VISUALIZING W. E. B. DUBOIS
This seminar will focus on a project that views history as a result of our contemporary society in witch biographical truths are constantly shifting. So the historical biographers write about the way they remembered and visualize the past, and not about the way that it happened. We will take Du Bois's biography in his own words and interrogate his narrative with the visual narratives of his life and influence produced by others. "Visualizing W.E.B Du Bois" focuses on photographic, film, and video representations intended to present some aspect of Du Bois's reality, primarily for the purposes of instruction or maintaining a historical record. Such projects include photos, materials originally shot on film stock, and digital images that can be either displayed in a book or magazine, and moving images made into a film or video for a TV show or released for screening in cinemas, or other broadcast mediums like YouTube and Vimeo.
Taught by: Zuberi
Course not offered every year
Also Offered As: AFRC 571
Activity: Seminar
1 Course Unit

SOCI 572 Health Care and Social Policy
This course is an area study or survey of social policy issues in contemporary health care. Topics include social contexts of health care and health policy; the organization and financing of health services; the health professions; health and illness over the life cycle; achieving equitable access to health services; the interface between health and social services. Health problems of national significance will be addressed including infant mortality, teenage pregnancy, AIDS, the chronically mentally ill and homeless, and health impaired elderly.
Taught by: Aiken
Course not offered every year
Activity: Lecture
1 Course Unit
SOCI 595 Media, Culture, and Society
This course will begin by surveying approaches to culture that are characteristic of general theory in sociology. We will then deal in depth with theories of recorded culture that have developed within the sociology of culture and related disciplines, including the role of the media in constructing social reality, the interpretation and reception of texts, recorded culture and the creation of symbolic boundaries, the social construction of art, the organization of cultural industries, sacred symbols and political integration, and the relationship between culture and the state.
Course not offered every year
Activity: Seminar
1 Course Unit

SOCI 596 Sociology of Education
This graduate seminar will introduce students to some of the key theoretical and empirical work in the sociology of education. We will examine how schools work to maintain or alleviate inequality, and focus on differences in educational achievement and attainment by race, ethnicity, immigrant status, class, and gender. We will review work on the educational experiences of youth from early childhood to young adulthood.
Course not offered every year
Also Offered As: ASAM 590, SOCI 496
Activity: Seminar
1 Course Unit

SOCI 597 MLA Proseminar
Activity: Seminar
1 Course Unit

SOCI 601 Contemporary Social Theory
This is a graduate-level seminar structured around the main theoretical debates of contemporary sociology, including the interplay of rationality and emotion, the relationship between structure and agency, the nature of power, and the role of chance and contingency. In considering alternative positions on these debates, we will encounter the major theorists of the past fifty years, including Parsons, Merton, Goffman, Homans, Schutz, Coleman, Bourdieu, Luhmann, Habermas, Collins, and Giddens.
Requirements include intensive primary source reading, writing, and participation. The course assumes, and does not provide, prior familiarity with the main theoretical perspectives, and thus does not substitute for the undergraduate theory course (SOCI 126)
Course not offered every year
Activity: Seminar
1 Course Unit

SOCI 602 Proseminar in Classical Sociology
This course is designed to introduce graduate students to the classical foundations of sociology by drawing on canonical readings by Marx, Engels, Durkheim, Weber, Du Bois, Addams, Simmel, Park, and Goffman, among others. We will read these texts in the context of three major sociological themes: work and social inequality, culture and social structure, and urban interaction and culture in the city. Final papers will require students to draw on classical sociological works in their analyses of contemporary empirical research in sociology.
Taught by: Grazian
One-term course offered either term
Activity: Seminar
1 Course Unit

SOCI 603 Master's Research in Sociology
This graduate course is intended to be helpful to students as they produce an MA thesis. The course is structured to provide social support and feedback as students move through the stages in the development of a project (i.e. data analysis, review of the literature, development of a thesis, and revision). Students should begin the semester with a data set in hand; additional data analysis will occur during the term. (In some cases, students may be finishing their data collection.) In addition, the course is intended to provided professional development opportunities for students by providing "insider" information about the publication process. Students will be given examples of journal review (including reviews that reject a paper), copies of papers as they move through the revision process, and guidelines for producing a publishable piece of work
The goal is for students to produce a manuscript that can be submitted for publication in the near future. This is a required course for second year graduate students in Sociology.
Taught by: Bosk, Grazian, Jacobs, Kao, Lareau, Leidner, Park, Schnittker
One-term course offered either term
Also Offered As: DEMG 707
Activity: Seminar
1 Course Unit

SOCI 604 Methodology of Social Research
This course will give students familiarity with the common research methods social scientists use to conduct research. Ethnographic, interview, survey, experimental and historical/comparative research methods will be covered. Four themes will be explored: 1) the basics of solid research design, 2) the various advantages and disadvantages of each method, 3) when the use of a method is appropriate or inappropriate for the research question, and 4) how to evaluate researchers’ claims on the basis of the evidence they present. These themes will be explored by reading examples of and conducting exercises designed to give students hands-on experience in each of the methods. Students will conduct the exercises on a topic of their choice, which together will culminate in their final paper. The course is required and restricted to second year students in sociology and demography.
Taught by: Smith, Wilde, Zuberi
One-term course offered either term
Also Offered As: DEMG 604
Activity: Lecture
1 Course Unit

SOCI 607 Introduction to Demography
A nontechnical introduction to fertility, mortality and migration and the interrelations of population with other social and economic factors.
Course not offered every year
Also Offered As: DEMG 607
Activity: Lecture
1 Course Unit

SOCI 609 Basic Methods of Demography
The course is designed to introduce students to basic concepts of demographic measurement and modeling used to study changes in population size and composition. The course covers basic measures of mortality, fertility and migration; life table construction; multiple decrement life tables; stable populations; population projections; and age patterns of vital events. Students will learn to apply demographic methods through a series of weekly problem sets.
Taught by: Elo, Guillot, Smith
One-term course offered either term
Also Offered As: DEMG 609
Activity: Lecture
1 Course Unit
SOCI 611 Structural Equation Models
Statistical modeling with multiple equations and latent variables. The first part of the course will focus on linear models that could be estimated with any of the well-known SEM programs (e.g., LISREL, EQS, or Amos). Both Mplus and SAS will be used exclusively in this part of the course. The second part will focus on Mplus models for variables that are categorical, count, or censored. Maximum likelihood methods for missing data will also be covered.
Taught by: Allison
Course not offered every year
Also Offered As: DEMG 611
Activity: Lecture
1 Course Unit

SOCI 612 Categorical Data Analysis
This course deals with techniques for analyzing multivariate data which the dependent variable is a set of categories (a dichotomy or polytomous). Topics will include linear probability models, logit (logistic) regression models, probit models, logit analysis of contingency tables, cumulative logit and probit (for ordinal data), multinomial logit, conditional logit (discrete choice), unobserved heterogeneity, log-linear models, square tables, response-based sampling, and repeated measures. Methods will be illustrated using the Stata System. There will be several assignments using Stata to analyze data provided by the instructor.
Taught by: Allison, Smith
Course not offered every year
Also Offered As: DEMG 612
Activity: Lecture
1 Course Unit

SOCI 613 Event History
An applications-oriented course on statistical methods for the analysis of longitudinal data on the occurrence of events, also known as survival analysis, failure-time analysis, hazard analysis or duration analysis. Emphasis on regression-like models in which the risk of event occurrence is a function of a set of explanatory variables. Topics include accelerated failure-time models, hazard models, censoring. Cox regression models, time-dependent covariates, competing risks, repeated events, unobserved heterogeneity, discrete-time methods.
Taught by: Allison
Course not offered every year
Also Offered As: DEMG 613
Prerequisite: SOCI 536 or equivalent
Activity: Lecture
1 Course Unit

SOCI 617 Theories of Racial and Ethnic Differentiation
This course provides an overview of prominent theories and theorists of race and ethnicity, and is concerned with: 1) Understanding the nature and persistence of race and ethnicity as meaningful social groupings in contemporary American society, and 2) Explaining the social significance of these group identities— that is, how these groupings are related to social stratification, to socio-cultural relations, and to the political and economic dynamics in our society.
Taught by: Charles
Course not offered every year
Also Offered As: AFRC 617
Activity: Seminar
1 Course Unit

SOCI 620 Doctoral Seminar in Sociological Research II
This course is intended to aid in the selection, framing, writing and revising of sociological dissertation proposals. It is also intended to provide a forum for the presentation of dissertation research in progress. The goal is to provide a forum for the acquisition of professional socialization in sociology. We will discuss the framing of research questions, the design of research strategies, and the writing of dissertation proposals. We will discuss the process of submitting manuscripts for conferences and journals, preparing a curriculum vitae, job search strategies, and preparing for effective colloquium presentations. We will also review articles currently under review at the American Sociological Review. It is expected that third year graduate students in Sociology will enroll in this class.
Taught by: Grazian, Hannum, Jacobs, Schnittker, Wilde
One-term course offered either term
Prerequisite: Third year graduate students
Activity: Seminar
1 Course Unit

SOCI 621 Mortality
The course focuses on the description and explanation of health and mortality in human populations and their variability across several dimensions such as age, time, place, social class, race, etc. The course includes general theories of health, mortality and morbidity, investigations of mortality and related processes in developing and developed countries, and discussions of future mortality trends and their implications for individual lives and the society at large.
Taught by: Elo, Kohler
Course not offered every year
Also Offered As: DEMG 621
Activity: Lecture
1 Course Unit

SOCI 622 Fertility
The biological, social and demographic factors explaining the levels, trends and differentials in human fertility. Data, measures, and methods used in the context of the more and the less developed countries, with an emphasis on the historical and current course of the fertility transition.
Taught by: Kohler, Smith
Course not offered every year
Also Offered As: DEMG 622
Activity: Seminar
1 Course Unit

SOCI 623 Workshop in Urban Ethnography
The ethnographic and sociological interpretation of urban life. Conceptual and methodological issues will be thoroughly discussed. Ongoing projects of participants will be presented in a "workshop" format, thus providing participants the opportunity of learning from and contributing ethnographic work in progress. Selected ethnographic works will be read and assessed.
Course not offered every year
Also Offered As: AFRC 623, URBS 623
Activity: Seminar
1 Course Unit
SOCI 630 Advanced Special Topics: Demography of Race
This course will examine demographic and statistical methods used to capture the impact of racial stratification in society. This course covers the skills and insights used by demographers and social statisticians in the study of racial data. A key challenge facing researchers is the interpretation of the vast amount of racial data generated by society. As these data do not directly answer important social questions, data analysis and statistics must be used to interpret them. The course will examine the logic used to communicate statistical results from racial data in various societies. We will question the scientific claims of social science methodology by extending the critical perspective to biases that may underlie research methods. We will discuss good and bad practices within the context of the historical developments of the methods. This advanced special topics course and course description is for Fall 2017 only.
Taught by: Zuberi
One-term course offered either term
Also Offered As: AFRC 431, AFRC 630, DEMG 630, SOCI 430
Activity: Seminar
1 Course Unit

SOCI 633 Population Processes I
This is one of two courses that serve as an introduction to core areas of demography and important developments in the field. Population Processes I introduces students to broad set of issues in health, mortality, and aging. Readings cover overviews of major topics as well as recent approaches to the subject. Attention is focused on description and explanation of variation in health across time, space and social groups. One consequence of mortality decline is population aging. We will cover some of its implications for individuals, families and societies.
Taught by: Elo, Guillot, Parrado, Schnittker
Course usually offered in fall term
Also Offered As: DEMG 633
Activity: Seminar
1 Course Unit

SOCI 634 Population Processes II
Population Processes II is part of a two-course sequence designed to introduce students to the core areas of demography (fertility, mortality, and migration) and recent developments in the field. PP II is divided into two parts. The first focuses on family demography and the biological, social and demographic factors explaining levels, trends, and differentials in human fertility transition with an emphasis on the historical and current course of fertility transition in developed and developing countries. The second part of the course provides a comprehensive review of theories and research on international migration. Readings examine patterns and processes of global migration during the classic age from 1800-1914 as well as during the postwar period from 1945 to the present. The course also covers a history and evaluation of immigration policies around the world, and devotes significant attention to theoretical and empirical perspectives on immigrant adaptation, including the relationship between gender and migration.
Taught by: Flippen, Kohler, Parrado, Smith
Course usually offered in spring term
Also Offered As: DEMG 634
Activity: Seminar
1 Course Unit

SOCI 640 Global Health and Health Policy
This participatory interdisciplinary seminar course examines contemporary issues in public health policy and global health. The organizing framework is social determinants of health. We consider evidence that inequalities in education, income, and occupation influence health status, and the policy dilemma that broad interventions to improve population health may increase health disparities. We critically examine whether prevention is always better than cure, and what modern medicine has to offer in terms of health. We explore the public policy process in health using the "tobacco wars" as a case example, of how politics, policy, law, commercial interests, and research intersect to affect the public's health. We examine whether global health is in a state of decline, and the extent to which failures in public health, public policy, and foreign policy have contributed to increasing threats to world health. Likewise we will examine the potential for greater integration of health into foreign policy to create global infrastructure upon which to advance health. We will examine the global health workforce and the impact of widespread global migration of health professionals on receiving and sending countries. There are no prerequisites. The course is designed for graduate students in the social and behavioral sciences, health professions, public health, business and law. Advanced undergraduate students will be admitted with permission.
Taught by: Aiken
Course not offered every year
Also Offered As: NURS 640
Activity: Lecture
1 Course Unit

SOCI 643 Social Stratification
This is an advanced level graduate seminar where we will review contemporary research on social stratification and mobility. We will examine empirical and theoretical studies not only in the US but also in other countries to address how the pattern of social stratification varies across societies and over time. The main topics to be discussed are social mobility, occupational attainment, educational inequality, gender and race, and family processes and stratification. We will also examine studies that address how national contexts mediate social stratification. Advanced undergraduate students will be admitted with permission.
Taught by: Jacobs, Park
Course not offered every year
Also Offered As: DEMG 643
Activity: Lecture
1 Course Unit

SOCI 644 Empirical Methods in Bioethics
This course provides an introduction to social science research design and methods for students interested in conducting research on issues in bioethics. The course is appropriate for students who, rather than conducting research themselves, will use research findings to make or challenge arguments in policy statements or other writings. Emphasis is placed on the logic of research design as the way to relate topic of inquiry with methods so that evidence produced is pertinent and useful. Students will design research projects and explore a variety of methods available to conduct research. Students will also integrate research ethics into the formulation and design of their inquiries.
Taught by: Bosk
Course not offered every year
Also Offered As: BIOE 604
Activity: Lecture
1 Course Unit
### SOCI 649 A Course on Elites
Most of the studies of inequality look at poverty and the impact of poverty. This course will be a study of those at the top of the social stratification system. We will take a broad vision of elites of to include the upper-middle-class as well as those in the top 1%. The course will examine the concentration of wealth in American society. It will examine elite families. It will also look at elite education. There will be a unit on the financial industry, the 2008 debacle, and the failure of the government to regulate this important industry. We will also study the influence of race by comparing the black upper-middle-class with white upper-middle-class families. Thus, we will also look at the power of elites in a number of spheres. Finally, we will also read theoretical perspectives including the work of C. Wright Mills, Marx, and Bourdieu. Thus, in addition to the focus on social stratification, this course cuts across sociology of the family, economic sociology, cultural sociology, and race and ethnic relations.

Taught by: Lareau
Activity: Seminar
1 Course Unit

### SOCI 650 Social Inequality
This course will study social inequality primarily in contemporary societies. We will examine both the distribution of social rewards as well as processes for the allocation of these rewards. Stratification theory and research on social mobility will be considered. Topics include the influence of education, race and gender, and structural and organizational factors on individual success. We will also discuss how societies’ stratification systems vary across time and place. Acquaintance with stratification theory and quantitative methods would be helpful but not required.

Taught by: Jacobs
Course not offered every year
Activity: Seminar
1 Course Unit

### SOCI 660 Advanced Topics in Africana Studies
Advanced Topics in Africana Studies: The Sociology of W E B Du Bois; GIS for Social Science Research
One-term course offered either term
Also Offered As: AFRC 420, AFRC 620, SOCI 460
Activity: Seminar
1 Course Unit

### SOCI 662 Panel Data Analysis
Also Offered As: DEMG 662
Activity: Lecture
1 Course Unit

### SOCI 664 Digital Media & Soc Theo
This seminar explores critical issues in contemporary society through the lens of digital media studies and social theory. Special attention will be given to how social theory may inform the theorizing and empirical analysis of digital culture, digital politics, and digital practices. We will read recent monographs on the meanings and uses of digital media in international development, international migration, state power and popular protest, symbolic violence, and the formation and contestation of identities, communities, and publics. These works will be examined alongside the social theories of Jeffrey Alexander, Ulrich Beck, Bourdieu, Judith Butler, Foucault, Giddens, Goffman, Habermas, Melucci, Victor Turner, and others. A term paper required

One-term course offered either term
Also Offered As: COMM 665
Activity: Seminar
1 Course Unit

### SOCI 667 Social Interaction
The dynamics of interpersonal interaction, especially in face-to-face encounters during limited short periods of time. Topics include: the theory of interaction rituals deriving from Durkheim, Goffman and their contemporary followers; conversation analysis; micro-ethnographic studies of non-verbal behavior and embodied interaction; sociology of emotions; symbolic interactionist theory and the social nature of mind, self, and inner dialogue; electronically mediated interaction and its effects on social ties; and the relationship between micro and macro sociology.

Course not offered every year
Activity: Seminar
1 Course Unit

### SOCI 670 Family Data
This two semester course will engage each graduate student in an analysis project with qualitative and quantitative components, using a linked qualitative longitudinal data set. Students will use survey data from the baseline and 12 month wave of the Fragile Families study (described at http://crcw.princeton.edu/fragilefamilies/), a national survey of unwed and married parents who have just had a child (with unmarried parents over sampled) They will also use transcripts and coded data from the TLC3 study, which involved qualitative couple and individual interviews conducted with a subset of 75 of the couples in the FF survey in 3 waves: about 3 months after the birth and then again 12 and 24 months after the birth. Most of these are low-income, unmarried, cohabiting parents. The goal of the course is for each student to use these two data sets, and the analytic techniques and literature covered in the course, to write a paper that can be submitted for publication. The spring will also include lots of tips on how to construct a publishable paper. Students should only enroll in this course if they plan to take the spring sequel course as well.

One-term course offered either term
Also Offered As: DEMG 670
Activity: Seminar
1 Course Unit

### SOCI 677 International Migration
A comprehensive review of theories and research on international migration. The course introduces the basic precepts of neoclassical economics, the new economics of labor migration, segmented labor market theory, world systems theory, social capital theory and the theory of cumulative causation. Readings examine patterns and processes of global migration during the classic age from 1800?1914 as well as during the postwar period from 1945 to the present. The course also covers a history and evaluation of immigration policies around the world, and devotes signification attention to theoretical and empirical perspectives on immigrant adaptation. Within this larger topic, we will also discuss internal migration and urbanization; the relationship between gender and migration; the spatial distribution of immigrants within the United States, immigrant communities, and ethnic enclaves; and the undocumented population in the United States.

Taught by: Flippin
Course not offered every year
Also Offered As: DEMG 677
Activity: Seminar
1 Course Unit
SOCI 680 Pro-seminar in Criminology
This course explores the basic scope, mission and methods of the science of criminology. The course proceeds to cover the current state of theory, research, and accomplishments in both knowledge and policy about criminality and criminal events. Students will read widely and report to the seminar on their readings, as well as assessing key readings and central ideas for their potential guidance of future research. The course focuses primarily on criminology of criminal events, including law-making and law-breaking. The criminology of reactions to crime is covered in the second semester pro-seminar in criminal justice, CRIM 601/SOCI 681.
One-term course offered either term
Also Offered As: CRIM 600
Activity: Seminar
1 Course Unit

SOCI 681 Pro-seminar in Criminal Justice
A wide-ranging introduction to theory and research on responses to crime under the rubric of criminal law. Theories of deterrence, procedural justice, reintegrative shaming, defiance and other interactions between legal sanctions and legal conduct will be examined in light of the most recent research. Issues of discrimination, disparity, and fairness in the operation of criminal law will be considered with evidence from around the world. Patterns, causes, and consequences of legal sanctioning patterns will be systematically documented, and major gaps in knowledge will be identified.
Taught by: MacDonald
One-term course offered either term
Also Offered As: CRIM 601
Activity: Seminar
1 Course Unit

SOCI 685 Sociology of Violence
General theory of social conflict, with an emphasis on violent conflict. Specific applications include fights, riots, combat, and gang violence; tribal and modern war; abuse of the weak; domestic conflict; sexual conflict and rape; homicide; social movements and moral crusades; conflict management and social control; state breakdowns and revolutions; ethnic conflict and genocide.
One-term course offered either term
Activity: Seminar
1 Course Unit

SOCI 690 Sociology Writing Workshop I
Taught by: Jacobs, Lareau
Also Offered As: DEMG 707, DEMG 708, SOCI 691
Activity: Seminar
1 Course Unit

SOCI 691 Sociology Writing Workshop II
Taught by: Jacobs, Lareau
Also Offered As: DEMG 707, DEMG 708, SOCI 690, SOCI 707, SOCI 708
Activity: Seminar
1 Course Unit

SOCI 702 Political Economy Social History of Africa/African Diaspora
The topic of this course will be Africa and the African Diaspora. The emphasis will be on readings, class discussions, and seminars to reflect the ongoing discussions in the field. We will provide a series of readings for background to each section.
Taught by: Zuberi
Course not offered every year
Also Offered As: AFRC 702, AFRC 710, AFST 702, LALS 702
Activity: Seminar
1 Course Unit

SOCI 707 Second-Year Research Seminar I
This course is intended to hone the skills and judgment in order to conduct independent research in sociology and demography. We will discuss the selection of intellectually strategic research questions and practical research designs. Students will get experience with proposal writing, the process of editing successive drafts of manuscripts, and the oral presentation of work in progress as well as finished research projects. The course is designed to be the context in which master's papers and second year research papers are written. This is a required course for second year graduate students in Demography. Others interested in enrolling in only one of the courses may do so with the permission of the Chair of the Graduate Group in Demography.
One-term course offered either term
Also Offered As: DEMG 707
Activity: Seminar
1 Course Unit

SOCI 731 Advanced Demographic Methods
This course considers a variety of procedures for measuring and modeling demographic processes. We will consider both deterministic (drawn from classic demographic methods, stable population theory, and the like) and stochastic (drawn from statistics) perspectives and methods, including their integration. Pre-requisites: DEMG 609 and SOCI 536 (or its equivalent).
Taught by: Smith
Course not offered every year
Also Offered As: DEMG 731
Prerequisites: DEMG 609 and SOCI 536 (or its equivalent)
Activity: Seminar
1 Course Unit

SOCI 777 Special Topics in Demography
Topics vary from semester to semester.
Course not offered every year
Also Offered As: AFRC 777, DEMG 777
Activity: Seminar
1 Course Unit

SOCI 796 Demographic, Economic, and Social Interrelations
The course investigates economic and social determinants of fertility, mortality, and migration, and it discusses the effects of population variables on economic and social conditions, including economic and social development. Topics discussed in the course include: How do economic changes affect marriage, divorce, and child bearing decisions? How do households make decisions about transfers and requests? How can economic and sociological approaches be combined in explanatory models of demography change? How does immigration to the US affect the ethnic composition of the population, the earnings of native workers, taxes on natives, and the macro-economy? What causes the aging of populations, and how will population aging affect the economies of industrial nations, and in particular, pension programs like Social Security? What accounts for the rise in women's participation in the wage labor force over the past century? How are family composition and poverty interrelated? Does rapid population growth slow economic development with low income countries? In addition to these topics, the course also covers selected methods not included in Dem/Soc 535/536 and 609.
Taught by: Madden, Kohler
Course not offered every year
Also Offered As: DEMG 796, ECON 791
Activity: Lecture
1 Course Unit
SOCI 821 Proseminar in Health Outcomes Research
This course is designed for doctoral students interested in conducting health outcomes research. The course focuses on conceptual, methodological, statistical, feasibility and data issues central to the conduct of health outcomes research. Penn faculty researchers will use their ongoing studies to illustrate how study design, sampling, measurement, and advanced statistical techniques can be employed to address the various challenges inherent in health outcomes research.
Taught by: Aiken, Lake
Course not offered every year
Also Offered As: NURS 821
Prerequisites: Prior coursework at undergraduate or masters level in statistics and quantitative methods.
Activity: Seminar
1 Course Unit

SOCI 822 Applications of Health Outcome Research
This the second of a two-course sequence designed for doctoral students interested in conducting health outcomes research. The first course (821) focuses on conceptual, methodological, statistical, feasibility and data issues central to the conduct of health outcomes research; the second course (822) focuses on applying health outcomes research through the development and implementation of a research project. In the first course Penn faculty researchers will use their ongoing studies to illustrate how sampling, study design, measurement, and advanced statistical techniques can be employed to address the various challenges inherent in health outcomes research. In the second course, students will design and implement a health outcomes research project.
Taught by: Aiken
One-term course offered either term
Also Offered As: NURS 822
Prerequisites: Prior coursework at undergraduate or masters level in statistics and quantitative methods, Nursing 821/Sociology 821 is preferred
Activity: Lecture
1 Course Unit

SOCI 860 Global Media Activism
Also Offered As: COMM 860
Activity: Seminar
1 Course Unit

SOCI 867 Media & Social Movements
Examines the meanings and roles of media and communication in social movements; analyzes media reform activism; studies both historical movements and contemporary protests around the world (Arab Spring, Indignados, Occupy, etc.); covers a broad range of theoretical perspectives, especially network and diffusion theories, political economy, narrative theory, and theories of performance. Students are required to submit a final research paper.
Taught by: Yang
Course not offered every year
Also Offered As: COMM 867
Activity: Seminar
1 Course Unit

SOCI 888 Special Topics
Also Offered As: COMM 888
Activity: Seminar
1 Course Unit

SOCI 998 Independent readings and research
For advanced students who work with individual instructors upon permission. Intended to go beyond existing graduate courses in the study of specific problems or theories or to provide work opportunities in areas not covered by existing courses.
One-term course offered either term
Activity: Independent Study
1 Course Unit

SOCI 999 Directed Readings and Research
Primarily for advanced students who work with individual instructors upon permission. Intended to go beyond existing graduate courses in the study of specific problems or theories or to provide work opportunities in areas not covered by existing courses.
One-term course offered either term
Activity: Independent Study
1 Course Unit

South Asia Studies (SAST)

SAST 001 Introduction to Modern India
This introductory course will provide an outline of major events and themes in Indian history, from the Mughal Empire in the 16th century to the re-emergence of India as a global player in the 21st century. The course will discuss the following themes: society and economy in Mughal India; global trade between India and the West in the 17th century; the rise of the English East India Company's control over Indian subcontinent in the 18th century; its emergence and transformation of India into a colonial economy; social and religious reform movements in the 19th century; the emergence of elite and popular anti-colonial nationalisms; independence and the partition of the subcontinent; the emergence of the world's largest democracy; the making of an Indian middle class; and the nuclearization of South Asia.
For BA Students: History and Tradition Sector
Taught by: Ali
One-term course offered either term
Also Offered As: HIST 089
Activity: Lecture
1 Course Unit
SAST 002 The City in South Asia
This interdisciplinary social science course examines key topics, themes, and analytic methods in the study of South Asia by focusing on significant South Asian cities. With one-fifth of the world's population, South Asia and its urban centers are playing an increasingly important role in recent global economic transformations, resulting in fundamental changes within both the subcontinent and the larger world. Drawing primarily on ethnographic studies of South Asia in the context of rapid historical change, the course also incorporates research drawn from urban studies, architecture, political science, and history, as well as fiction and film. Topics include globalization and new economic dynamics in South Asia, the formation of a new urban middle class; consumption and consumer culture; urban political formations, democratic institutions, and practices; criminality and the underworld; population growth, changes in the built environment, and demographic shifts; everyday life in South Asia and ethnic, cultural, and linguistic identities, differences, and violence in South Asia's urban environments. This is an introductory level course appropriate for students with no background in South Asia or for those seeking to better understand South Asia’s urban environments in the context of recent globalization and rapid historical changes. No prerequisites. Fulfills College sector requirement in Society and foundational approach in Cross-Cultural Analysis.
For BA Students: Society Sector
Taught by: Mitchell
One-term course offered either term
Also Offered As: ANTH 107, URBS 122
Activity: Lecture
1 Course Unit

SAST 003 History, Culture, and Religion in Early India
This course surveys the culture, religion and history of India from 2500 BCE to 1200 CE. The course examines the major cultural, religious and social factors that shaped the course of early Indian history. The following themes will be covered: the rise and fall of Harappan civilization, the "Aryan Invasion" and Vedic India, the rise of cities, states and the religions of Buddhism and Jainism, the historical context of the growth of classical Hinduism, including the Mahabharata, Ramayana and the development of the theistic temple cults of Saivism and Vaisnavism, processes of medieval agrarian expansion and cultic incorporation as well as the spread of early Indian cultural ideas in Southeast Asia. In addition to assigned secondary readings students will read select primary sources on the history of religion and culture of early India, including Vedic and Buddhist texts, Puranas and medieval temple inscriptions. Major objectives of the course will be to draw attention to India’s early cultural and religious past and to assess contemporary concerns and ideologies in influencing our understanding and representation of that past.
For BA Students: History and Tradition Sector
Taught by: Ali
One-term course offered either term
Also Offered As: HIST 086, RELS 164
Activity: Lecture
1 Course Unit

SAST 004 India’s Literature: Love, War, Wisdom and Humor
This course introduces students to the extraordinary quality of literary production during the past four millennia of South Asian civilization. We will read texts in translation from all parts of South Asia up to the sixteenth century. We will read selections from hymns, lyric poems, epics, wisdom literature, plays, political works, and religious texts.
For BA Students: Arts and Letters Sector
Taught by: Patel
One-term course offered either term
Also Offered As: COML 012
Activity: Lecture
1 Course Unit

SAST 005 Performing Arts in South Asia
This course is a survey of selected traditions of theater, music, and dance in India and surrounding regions. Topics include ritual practices, theater, classical dance, classical music, devotional music, regional genres, and contemporary popular musics. Readings and lectures are supplemented by audio and visual materials and live performances. The aim of the course is to expose students to a variety of performance practices from this part of the world and to situate the performing arts in their social and cultural contexts. The course has no prerequisites.
For BA Students: Arts and Letters Sector
Taught by: Miner
One-term course offered either term
Also Offered As: MUSC 265
Activity: Lecture
1 Course Unit

SAST 006 Hindu Mythology
Premodern India produced some of the world's greatest myths and stories: tales of gods, goddesses, heroes, princesses, kings and lovers that continue to capture the imaginations of millions of readers and hearers. In this course, we will look closely at some of these stories especially as found in Purana-s, great compendia composed in Sanskrit, including the chief stories of the central gods of Hinduism: Visnu, Siva, and the Goddess. We will also consider the relationship between these texts and the earlier myths of the Vedas and the Indian Epics, the diversity of the narrative and mythic materials within and across different texts, and the re-imagining of these stories in the modern world.
For BA Students: Arts and Letters Sector
Taught by: Patel
One-term course offered either term
Also Offered As: RELS 066
Activity: Lecture
1 Course Unit

SAST 007 Introduction to Modern South Asian Literatures
This course provides an introduction to the literatures of South Asia - chiefly India, Pakistan, and Bangladesh- between 1500 and the present. We will read translated excerpts from literary texts in several languages - Braj, Persian, Hindi, Urdu, Bengali, Marathi, Malayalam, and Tamil - and explore the relationship between these literary texts and their historical contexts. No prior knowledge of South Asia is required.
Taught by: Goulding, G
Also Offered As: COML 013
Activity: Seminar
1 Course Unit
SAST 008 India: Culture and Society
What makes India INDIA? Religion and Philosophy? Architectural splendor? Kingdoms? Caste? The position of women? This course will introduce students to India by studying a range of social and cultural institutions that have historically assumed to be definitive India. Through primary texts, novels and historical sociological analysis, we will ask how these institutions have been reproduced and transformed, and assess their significance for contemporary Indian society.
For BA Students: Humanities and Social Science S
Taught by: Sreenivasan
Course not offered every year
Also Offered As: HIST 085, RELS 068
Activity: Lecture
0 Course Units

SAST 009 Introduction to Hinduism
This course introduces students to the history, texts, philosophies and rituals of South Asia's oldest living religious traditions, represented today by the term "Hinduism." At the same time, it problematizes the idea of a monolithic "Hindu Tradition", in favor of an approach that recognizes several distinct, dynamic, yet symbiotic Hindu religious cultures. The course also places emphasis on the vitality of today's Hinduism(s), and the various historical, ritual, cultural, and social contexts that they represent and constitute. The course is organized around six modules: (1) Issues in the Academic Study of Hinduism; (2) Sanskrit (textual) tradition; (3) Philosophy; (4) Theology; (5) Ritual; and (6) Modernity and Contemporary Politics.
Taught by: Soneji
One-term course offered either term
Also Offered As: RELS 163
Activity: Lecture
1 Course Unit

SAST 012 Spices, Gunpowder, and Pagodas: A History of Southeast Asia
This undergraduate course introduces students to the history of Southeast Asia from the earliest centuries of the Common Era to c.1950. It introduces students to Southeast Asia as religion, constituent historical societies of the region, and to the major academic literature and debates pertaining to the historical development of Southeast Asian societies and the region. Key themes explored include the origins and character of early civilizations, ideas and ideology about power and prowess, material culture, the transformation of ethnic, class, and gender relations, the impact of the arrival of world religions and early European expansion, and the nature of indigenous responses to the diffusion of new beliefs and ideas and intercultural contact.
Taught by: Sevea
One-term course offered either term
Also Offered As: RELS 012
Activity: Lecture
1 Course Unit

SAST 050 Introduction to Indian Philosophy
This course will take the student through the major topics of Indian philosophy by first introducing the fundamental concepts and terms that are necessary for a deeper understanding of themes that pervade the philosophical literature of India -- arguments for and against the existence of God, for example, the ontological status of external objects, the means of valid knowledge, standards of proof, the discourse on the aims of life. The readings will emphasize classical Hindu, Buddhist, and Jain philosophical articulations (from 700 B.C.E to 16th century CE) but we will also supplement our study of these materials with contemporary or relatively recent philosophical writings in modern India.
Taught by: Patel
One-term course offered either term
Also Offered As: PHIL 050, RELS 155
Activity: Lecture
1 Course Unit

SAST 057 Planning to be Off-shore?
Freshman Seminar. In this course we will trace the economic development of India from 1947 to the present. Independent India started out as a centrally planned economy in 1949 but in 1991 decided to reduce its public sector and allow, indeed encourage, foreign investors to come in. The Planning Commission of India still exists but has lost much of its power. Many in the U.S. complain of American jobs draining off to India, call centers in India taking care of American customer complaints, American patient histories being documented in India, etc. At the same time, the U.S. government encourages highly trained Indians to be in the U.S. Students are expected to write four one-page response papers and one final paper. Twenty percent of the final grade will be based on class participation, 20 percent on the four response papers and 60 percent on the final paper.
Taught by: Gangulee
One-term course offered either term
Activity: Seminar
1 Course Unit
Sugar and Spices. Tea and Coffee. Opium and Cocaine. Hop aboard the Indian Ocean dhows, Chinese junks, Dutch schooners, and British and American clipper ships that made possible the rise of global capitalism, new colonial relationships, and the intensified forms of cultural change. How have the desires to possess and consume particular commodities shaped cultures and the course of modern history? This class introduces students to the cultural history of the modern world through an interdisciplinary analysis of connections between East and West, South and North. Following the circulation of commodities and the development of modern capitalism, the course examines the impact of global exchange on interactions and relationships between regions, nations, cultures, and peoples and the influences on cultural practices and meanings. The role of slavery and labor migrations, colonial and imperial relations, and struggles for economic and political independence are also considered. From the role of spices in the formation of European joint stock companies circa 1600 to the contemporary cocaine trade, the course's use of both original primary sources and secondary readings written by historians and anthropologists will enable particular attention to the ways that global trade has impacted social, cultural, and political formations and practices throughout the world. 
For BA Students: Humanities and Social Science S
Taught by: Mitchell
One-term course offered either term
Also Offered As: ANTH 063, HIST 087
Activity: Lecture
1 Course Unit

SAST 104 Beginning Tabla I
An introduction to the tabla, the premier drum of north Indian and Pakistani classical music traditions. Taught by: Bhatti
Course usually offered in fall term
Also Offered As: MUSC 060
Activity: Lecture
1 Course Unit

SAST 105 Beginning Tabla II
A continuation of Tabla I, also open to beginning students. Taught by: Bhatti
Course usually offered in spring term
Also Offered As: MUSC 062
Activity: Lecture
1 Course Unit

SAST 106 Beginning Sitar I
This course is an introduction to the repertoire and performance practices of the North Indian sitar. Fundamentals of sitar technique, composition, and improvisation are presented and practiced in class. Class lectures and discussions, audio and video material, and reading and listening assignments on selected topics supplement practice, to provide an overview of the social and historical context and the formal structures of North Indian music in general. There are no prerequisites for the course, but some experience with instrumental or vocal music is suggested. Each student is expected to put in two hours of individual practice per week, and complete reading, audio, and written assignments. The class gives a group performance at the end of the semester. Taught by: Miner
Two terms. student may enter either term.
Also Offered As: MUSC 061
Activity: Lecture
1 Course Unit

SAST 107 Beginning Sitar II
This is the second semester of a performance course in the North Indian sitar. Students who have not taken the first semester but play any musical instrument are permitted to join. Principles of composition and improvisation will be explored in practice and supplemented by readings and listening. The class gives a group performance at the end of the semester. Taught by: Miner
One-term course offered in spring term
Also Offered As: MUSC 063
Activity: Lecture
1 Course Unit

SAST 108 Intermediate Sitar I
This is a performance course open to students who have completed both semesters of Beginning Sitar, or to others by permission from the instructor. Students will work with right and left-hand techniques, study three ragas in depth, learn the contours of several other ragas, and work with concepts of tala, composition, and improvisation. Assigned readings and listenings will complement the performed material. A group performance will be given at the end of the semester. Taught by: Miner
One-term course offered either term
Also Offered As: ARTH 514, MUSC 161
Activity: Lecture
1 Course Unit

SAST 109 Intermediate Sitar II
This is a performance course open to students who have completed both semesters of Beginning Sitar. It is open to students by permission of the instructor. Students who play other instruments and have had at least a beginning level of training in Hindustani music may also join, with the permission of the instructor. Taught by: Miner
One-term course offered either term
Also Offered As: MUSC 162
Activity: Lecture
1 Course Unit

SAST 112 Religion and Cinema in India
This seminar examines key themes in the study of religion and Indian cinema. The aim of the seminar is to foreground discussions of performativity, visual culture, representation, and politics in the study of modern South Asian religions. Themes include mythological cinema, gender and sexuality, censorship and the state, and communalism and secularism. The films we will be deploying as case studies will be limited to those produced in Hindi, Telugu and Tamil (the three largest cinema cultures of India). No knowledge of any South Asian language is needed for this course however. Taught by: Soneji
Course not offered every year
Also Offered As: CIMS 113, RELS 118
Activity: Lecture
1 Course Unit
SAST 116 Music Cultures of North India and Pakistan
A great variety of song and instrumental genres have thrived in the Hindu and Muslim milieus of North India and Pakistan. In this course we examine a selection of urban and rural musics, such as instrumental music in Baluchistan, qawwals in Delhi, the garba of Gujarat, ballad singing of Rajasthan and the urban music of Calcutta. We will explore the sounds, poetry, historical, and social contexts of chosen genres and trace aspects of continuity and adaptation in the changing environment of contemporary South Asia. Readings are supplemented by audio-visual material and live performances.
Taught by: Miner
One-term course offered either term
Also Offered As: MUSC 266
Activity: Lecture
1 Course Unit

SAST 124 Narrative Across Cultures
The purpose of this course is to present a variety of narrative genres and to discuss and illustrate the modes whereby they can be analyzed. We will be looking at shorter types of narrative: short stories, novellas, and fables, and also some extracts from longer works such as autobiographies. While some works will come from the Anglo-American tradition, a larger number will be selected from European and non-Western cultural traditions and from earlier time-periods. The course will thus offer ample opportunity for the exploration of the translation of cultural values in a comparative perspective.
For BA Students: Arts and Letters Sector
One-term course offered either term
Also Offered As: COML 125, ENGL 103
Activity: Lecture
1 Course Unit

SAST 139 Introduction to Islam
This course is an introduction to Islam as a religion as it exists in societies of the past as well as the present. It explores the many ways in which Muslims have interpreted and put into practice the prophetic message of Muhammad through historical and social analyses of varying theological, philosophical, legal, political, mystical and literary writings, as well as through visual art and music. The aim of the course is to develop a framework for explaining the sources and symbols through which specific experiences and understandings have been signified as Islamic, both by Muslims and by other peoples with whom they have come into contact, with particular emphasis given to issues of gender, religious violence and changes in beliefs and behaviors which have special relevance for contemporary society.
Taught by: Elias
One-term course offered either term
Also Offered As: NELC 136, RELS 143
Activity: Lecture
1 Course Unit

SAST 141 Islam in South Asian Culture
Islam reached South Asia in the eighth century and Muslim rulers held sway over large parts of the Subcontinent for much of the period from the late 12th century until the colonial period. However, the majority of the population never converted to Islam, and since independence in 1947 Islam—its interpretation, realization, and influence—has been a major factor underlying many difficult political issues. This has been true not only in the largest country, India, where Muslims form 12% (unevenly distributed) of the population, but in Bangladesh and Pakistan where non-Muslims are relatively insignificant minorities. This course explores the realities and the perceptions related to Muslim identities and the Islamic heritage in the Subcontinent, and sets it in global context by comparison with other parts of the world which share various aspects of the South Asian experience. The course will conclude with an assessment of the larger significance—social, economic and political, as well as cultural—of Islam in South Asia today.
Taught by: Spooner
One-term course offered either term
Also Offered As: RELS 142
Activity: Lecture
1 Course Unit

SAST 142 Introduction to Buddhism
This course seeks to introduce students to the diversity of doctrines held and practices performed by Buddhists in Asia. By focusing on how specific beliefs and practices are tied to particular locations and particular times, we will be able to explore in detail the religious institutions, artistic, architectural, and musical traditions, textual production and legal and doctrinal developments of Buddhism over time and within its socio-historical context. Religion is never divorced from its place and its time. Furthermore, by geographically and historically grounding the study of these religions we will be able to examine how their individual ethic, cosmological and soteriological systems effect local history, economics, politics, and material culture. We will concentrate first on the person of the Buddha, his many biographies and how he has been followed and worshipped in a variety of ways from Lhasa, Tibet to Phrae, Thailand. From there we touch on the foundational teachings of the Buddha with an eye to how they have evolved and transformed over time. Finally, we focus on the practice of Buddhist ritual, magic and ethics in monasteries and among aly communities in Asia and even in the West. This section will confront the way Buddhists have thought of issues such as “Just-War” Women’s Rights and Abortion. While no one quarter course could provide a detailed presentation of the beliefs and practices of Buddhism, my hope is that we will be able to look closely at certain aspects of these religions by focusing on how they are practiced in places like Nara, Japan or Vietnam, Laos.
Taught by: McDaniel
One-term course offered either term
Also Offered As: EALC 015, RELS 173
Activity: Lecture
1 Course Unit
SAST 144 Islamic History to 1517
The transformation of the Middle East into an Islamic civilization and its historical development from the time of Mohammed to the establishment of Ottoman, Savavid, and Mughal empires in the sixteenth century. Rise of Islam, the early Islamic empire, political fragmentation and cultural continuity in Muslim societies from Spain to North India. Within this wide chronological and geographical framework we will focus on the role of Islamic thought, institutions, and identities in a limited number of particularly revealing historical contexts. Primary sources in translation complement the two course textbooks.
Also Offered As: ENGL 262
Activity: Seminar
1 Course Unit

SAST 146 Islam in the Modern World
This course key issues facing Muslims in the modern world with an emphasis on gaining an understanding of how Muslims view themselves and the world in which they live. Beginning with a discussion of the impact of colonialism, we will examine Islamic ideas and trends from the late colonial period until the present. Readings include religious, political and literary writings by important Muslim figures and focus on pressing issues in the Islamic world an beyond: the place of religion in modern national politics; the changing status of women; constructions of sexuality (including masculinity); pressing issues in bioethics; Islam, race and immigration in America; the role of violence; and the manifestations of religion in popular culture.
For BA Students: Humanities and Social Science S
Taught by: Elias
Course usually offered in spring term
Also Offered As: NELC 184, RELS 146
Activity: Lecture
1 Course Unit

SAST 147 Love, Sex & Power
This course explores the ways in which some of the biggest issues in human life are dealt with across religious traditions. Beginning with important questions of sexual identity, politics, religion and the individual in contemporary life, we will examine questions of eroticism, sex and love as they are reflected in religious literature, art and history. The concept of divine love and religious devotion will be explored in relation to acts of violence, including human sacrifice and self-sacrifice in the form of martyrdom seen in pre-modern concepts of saintly martyrdom and religious chivalry as well as the religious legitimacy of modern self-sacrifice of soldiers in war and terrorist suicides. The course focuses in particular on examples drawn from Christianity, Hinduism, Islam and Mesoamerican Religion, although discussions of contemporary issues will be conducted with a broader sweep. Important questions considered in this course include: how does the body function as the locus in which religion is enacted? What is the conflict between our agency over our bodies and socio-religious claims over the individual? Is violence an integral part of religion? What are religious understandings of the relationship between love and sex? How can a human being love gods eroticly?
Taught by: Elias, J
Also Offered As: RELS 069
Activity: Lecture
1 Course Unit

SAST 166 HISTORY OF INDIAN BUSINESS
With annual growth rates between 5-10 percent for much of the last fifteen years, it may seem that the turn of the millennium has marked a fundamental shift in the state of Indian business. Yet at the same time stories continue to abound about the dark side of India’s recent “shining” where matters such as distributional justice and the fate of social strata like the subaltern poor and agrarian are concerned. Moreover, broader intra-regional forces continue to affect the state of business in a way that constantly reminds us that traditionally lacked any absolutely clear cut geographical correlate. How then should we think of the history of Indian business? In what ways is such a history different from or the same as the economic history of the South Asian subcontinent, its borderlands, and the broader Indian Ocean world it was long connected to? Can isolating something to be thought of as business in the past illuminate the structure or challenges of what we all so intuitively think of as the financial, commercial, and industrial aspects of business in the present? In this course we will consider these and other questions by tracing the interactions between the three-fold forces of entrepreneurship, labor, and kinship/sovereignty—considered as the underlying conditions of business activity’s possibility—from ancient to modern times in South Asia. By looking at topics ranging from merchants and their bills of exchange in South Asia’s antiquity to the impacts of colonial rule to the current fervor over liberalizing independent India’s retail sector, the course will thus be both a history of the past as well as a history of the present.
Taught by: Mitchell
One-term course offered either term
Also Offered As: ANTH 166
Activity: Lecture
1 Course Unit

SAST 169 Merchants, Saints, Slaves and Sojourners: the Worlds of the Indian Ocean
Do oceans serve to divide and demarcate distinct cultures and regions? Or do they facilitate exchange, connection and cosmopolitanism? This course will explore the manner in which the Indian Ocean has played both roles throughout history, and how the nature of those divisions and connections has changed over time from the ancient to the modern world. We will reconstruct the intertwined mercantile, religious and kinship networks that spanned the Indian Ocean world, across the Middle East, East Africa, South Asia, Southeast Asia and China, illuminating the histories of Hinduism, Buddhism and Islam, while also considering the role of successive imperial political formations, from Rome to Britain. Throughout the semester we will seek to understand the Indian Ocean through the people who lived and worked in its milieu - from consuls and military commanders, to traders, brokers, sailors, prisoners and slaves. Course materials will draw on a variety of disciplines (anthropology, archaeology, material culture, religious studies) to construct the cultural, economic, and environmental history of the Indian Ocean.
Taught by: Petrie
One-term course offered either term
Also Offered As: ANTH 169, NELC 189
Activity: Seminar
1 Course Unit
SAST 170 Asian American Psychology
Using a cultural perspective, this course is intended to provide knowledge of Asian American personality, identity, and its relationship to mental well-being; analyze psycho-social research pertinent to Asian Americans; and develop critical thinking skills on Asian American issues through experiential learning/discussions.
Taught by: Kumar
Also Offered As: ASAM 170
Activity: Seminar
1 Course Unit

SAST 189 Islam in Modern South Asia
This course will examine Islam in modern South Asia, particularly in Pakistan, from multiple disciplinary perspectives. In popular discourse and media, Pakistan is usually presented as a volatile Muslim country primarily of interest as a "security problem". Most Western discussions and commentaries about Pakistan abound with stereotypical depictions of religious fundamentalism and/or the threat of the country's nuclear weapons to global security. This course will complicate and bring into question such stereotypes and alarming narratives. It will do so by examining the complexity of Pakistan's religious and political past and present. The focus of this course is on the intellectual history and traditions, as well as the lived practice of Islam in Pakistan. By drawing on a range of primary and secondary sources including film, literature, and anthropological texts, we will explore the diversity of Islam and Muslims in Pakistan. We will begin with the context of colonial India, and interrogate transformations in South Asian Islam during the 19th and early 20th century, before moving to Pakistan in the contemporary period. Among the major themes discussed in this course include modern South Asian Muslim reform movements, intra-Muslim polemics on questions of normative practice and ethics, contestations of religious authority, sectarianism, minorities, Madrases (Islamic seminaries) and Muslim traditions of education, religion and the state, Cyber Islam, and religion and the media. While focusing on modern South Asia and Pakistan, this course will also engage Islam in Afghanistan in both historical and contemporary contexts.
Also Offered As: ANTH 189, SAST 589
Activity: Seminar
1 Course Unit

SAST 199 Independent Study
Directed Study for Undergraduates
One-term course offered either term
Activity: Independent Study
0.5 Course Units

SAST 200 Introduction to Art in South Asia
This course is a survey of sculpture, painting and architecture in the Indian sub-continent from 2300 B.C., touching on the present. It attempts to explore the role of tradition in the broader history of art in India, but not to see India as 'traditional' or unchanging. The Indian sub-continent is the source for multi-cultural civilizations that have lasted and evolved for several thousand years. Its art is as rich and complex as that of Europe, and as diverse. This course attempts to introduce the full range of artistic production in India in relation to the multiple strands that have made the cultural fabric of the sub-continent so rich and long lasting.
For BA Students: Arts and Letters Sector
Taught by: Meister/Staff
One-term course offered either term
Also Offered As: ARTH 104, SAST 500
Activity: Lecture
1 Course Unit

SAST 208 Doing Research: Qualitative Methods and Research Design
This interdisciplinary course introduces students to qualitative research methods and frameworks in the social sciences and humanities. Students will learn how to frame an effective research question, situate it in relation to existing research, select the most appropriate methods for addressing the question, and develop an effective research plan. Each week students will be introduced to a new set of frameworks for analysis, see specific examples of their application drawn from anthropological, historical, and related scholarship and have opportunities to practice applying and evaluating the strengths and weaknesses of specific methodological tools. The goals of the semester will be for each student to develop their own research proposal for a specific project. Students will be introduced to a range of textual, archival and media collections and databases available at Penn, with particular attention to South Asia and other specific regions of interest to course participants. Students will also have the opportunity to identify sources of funding for summer and/or thesis research projects, and submit applications for these opportunities as part of the course. The course is ideal for students considering summer research, an undergraduate thesis, or an application to the Fulbright or other research program. It may be taken by itself as a freestanding course, or may be sequenced with SAST 209, Writing Research, the following fall semester.
Taught by: Mitchell
One-term course offered either term
Also Offered As: ANTH 201, SAST 508
Activity: Seminar
1 Course Unit

SAST 241 Devotion and Ecstasy; Bhaktas and Sufis
This course is designed to introduce students to the wide array of devotional and mystical literatures of pre-modern South Asia. We will focus on the texts, practices, and discourses of the religious and literary communities which create these forms of literature, placing them within social and historical contexts. Topics covered include the formation of Sufi silsilahs in India, Krishna bhakti and the Vaisavaya sects, Kabir, Guru Nanak and the Sikhs, Tulsidas's Ramcharitmanas, and other texts in translation.
One-term course offered either term
Also Offered As: SAST 540
Activity: Lecture
1 Course Unit

SAST 247 Gender and Sexuality in Hinduism
Issues related to gender and sexuality occupy a complex, often contradictory place in Hinduism. Sexual desire, sexual activity, and the body are simultaneously celebrated, manipulated, controlled, and restricted. This fundamental ambiguity is at the core of this course, which concerns itself with religious perspectives on the body, gender and sexual activity in Hinduism. Topics include: dharma, morality, and sexual practice; menstruation; pregnancy and childbirth; Bhakti and Tantra; same-sex relations; masculinities; hijras and the notion of the "third sex"; eroticism in the literary, visual, and performing arts; colonialism; and somatic nationalism.
Taught by: Soneji
One-term course offered either term
Also Offered As: GSWS 608, RELS 631, SAST 607
Activity: Seminar
1 Course Unit
SAST 249 Re-enchanting Modernity: A Guide to Sufism in South Asia
This undergraduate level course introduces students to Sufism in modern South Asia, with a particular focus on how Muslim 'mystics' and their 'mystical' methods interacted with modernity, colonialism, technological developments and globalization. This course is divided into three parts. In the first part of this course, students are provided with an overview of the theological and historical background of the dominant expression of Islam that came to be identified as 'Sufism' or 'Islamic mysticism', the historical development of Sufi institutions and spaces in South Asia, and the historical emergence of South Asia as a prominent global center of Sufism. The second and main part of this course introduces students to a range of anthropological and historical works that are revelatory about how Sufi in modern South Asia were and remain intimately connected to modern political and technological developments. Providing students with an overview of Sufi re-enchantments of modernity from the 19th to 21st century, this section of the course focuses upon Sufi movements and masters who perpetuated or defended customary Islam through sophisticated appropriations of technologies and print networks, and negotiations with non-Muslim rulers and societies. Moreover, students will be introduced to anthropological and historical scholarship on religious worlds in modern South Asia that were and remain steeped in 'customary Islam' and Sufi performances and interpretations of Islam. These sources reveal how 'mystical' methods of performing Islam through ecstasy and spiritual restoration, and interpretations of dreams and visions, have regularly interacted with contemporaneous technologies. The third part of this course introduces students to the globalization of South Asian Sufism in North America, Europe and Southeast Asia. Herein, students will be encouraged to engage with anthropological and literary works pertaining to itinerant South Asian Sufi masters and their devotional cults, and introduced to active South Asian Sufi centers in Philadelphia.
Taught by: Sevea
Also Offered As: RELS 249
Activity: Seminar
1 Course Unit

SAST 250 History of Hinduism
This course will explore the history of the religion(s) designated by the term 'Hinduism' from their earliest articulations down to the rise of modern reforms in the nineteenth century. The study of Hinduism is perhaps unique among the scholarly traditions on world religions in that it has to date had no serious connected account of its historical development, as scholars have preferred to take structural, sociological, phenomenological, and doctrinal approaches to the religion. The course, after a brief review of scholarly approaches to Hinduism and their interpretive legacies, will seek to develop a historical sense of the religion through attention to shifts in liturgy, ritual, theology, doctrine, sacral kingship, and soteriology. The course will include the reading of primary sources relevant to understanding these changes as well as highlight both modern and premodern traditions of their interpretation. It will also consider and assess some of the key interpretive ideas in the study of Hinduism, including, Sanskrilization, Great and Little Traditions, cult formation, regional and popular religious movements, and canon formation. There will also be sustained consideration of the question of religion and socio-political power as well as relations between Hinduism and other religions like Buddhism and Islam.
Taught by: Soneji
Also Offered As: RELS 251
Activity: Lecture
1 Course Unit

SAST 251 Muslim Sainthood Practices
This course aims at introducing various classical, popular and modern Muslim saints in South Asia. We will read the life stories of these saints and focus on their contribution to various religions in South Asia. We will read the life stories of these saints and focus on their contribution to various religions in South Asia. We will learn about the major concepts initiated and circulated by these saints and their distinctive ways of dealing with spiritual aspects. While focusing on their sainthood practices, we also study the nature of the dialogue which addresses the questions such as pluralism, localism, and a new paradigm of spirituality that continually interacts with diverse modes of everyday life in South Asia. In order to understand their impact on visual and media cultures, we also watch two documentaries and compare these visual sources with sainthood literature and practices.
Taught by: Mohammad, M.A.
Also Offered As: RELS 242, SAST 551
Activity: Seminar
1 Course Unit

SAST 252 Music of South and Southeast Asia
What role does music play in articulating religious identities and spaces? What is the importance of ritual musics as they persist and change in the modern world? How does music reflect and articulate religious ways of thinking and acting? In this course, we explore these and other questions about the interrelations between music, religion, and ritual in South and Southeast Asia. Focusing on India, Sri Lanka, Malaysia, and Indonesia, the course emphasizes musics from Hindu, Buddhist, Muslim and Christian traditions; nevertheless, it draws widely to touch upon sacred musics in Pakistan, Nepal, Burma, Thailand, Vietnam, and among some indigenous peoples in the region. Throughout, we explore ontologies of sound; sonic occurrences in religious structures, public processions, and pilgrimage sites; the construction of religion and ritual as ideas forged through colonial encounter and modern scholarship on religion; the politics of sacred sounds in today's public spaces and contemporary media, such as television and online; and the surprising fluidity between popular and sacred musical genres.
Taught by: Sykes
Also Offered As: ANTH 242, MUSC 252
Activity: Lecture
1 Course Unit
SAST 262 The Making of Medieval India
This course will provide an in-depth understanding of South Asia in what is often called its 'medieval' period—from the rise of the great temple kingdoms until the end of the Delhi Sultanate in the sixteenth century (c. 500 CE - c. 1500 CE). This millennium is arguably one of the most transformative in South Asia’s history, a period when many of its most distinctive social and cultural features evolved. The course will provide both an overview of the period as well as an introduction to major interpretations and types of sources (textual, visual, and archaeological). The focus throughout the course will be on the heterogeneous development of states, societies and cultures with special attention to long-term processes of transformation. One set of themes explored will be largely social and economic, focusing on the development of agrarian and peasant societies, aristocracies and intellectuals, as well as the role of mercantile, pastoralist, nomadic and forest-living groups. Another set of themes will explore cultural transformation, including the development, transformation and interaction of religious practices, the emergence of cosmopolitan and regional literary cultures, and the rise of distinctive urban, courtly, and rural world views. Special themes of discussion may include violence and manners, material cultures, religious conflict, devotional religion and gender relations.

Taught by: Ali
One-term course offered either term
Also Offered As: SAST 562
Activity: Lecture
1 Course Unit

SAST 269 Migration and the Middle East
This reading and discussion-intensive seminar examines the phenomenon of migration into, out of, within, and across the Middle East and North Africa. We will focus on the period from the late nineteenth century to the present, and will emphasize the cultural (rather than economic) consequences of migration. Along the way we will trace connections between the Middle East and other regions— notably the Americas, sub-Saharan Africa, South Asia, the Caucasus, and Western Europe. Readings are interdisciplinary and include works of history, anthropology, sociology, medical research, literature, political science, geography, and human rights advocacy. As students develop final projects on topics of their choice, we will spend time throughout the semester discussing tactics for research and writing.

Taught by: Sharkey
Course not offered every year
Also Offered As: ASAM 239, NELC 239
Activity: Seminar
1 Course Unit

Notes: This is a topics course and will vary from year to year.

SAST 282 Gender & Development in India
One-term course offered either term
Also Offered As: GSWS 282, INTR 290, SAST 582
Activity: Seminar
1 Course Unit

SAST 290 South Asians in the United States
This course investigates the everyday practices and customs of South Asians in America. Every immigrant group has its own history, customs, beliefs and values, making each unique while simultaneously a part of the "melting pot" or salad bowl" of American society. Yet how do people define themselves and their ethnicities living in a diasporic context? By taking into account the burgeoning South Asian American population as our model, this course will explore the basic themes surrounding the lives that immigrants are living in America, and more specifically the identity which the second generation, born and/or raised in American, is developing. South Asians in the U.S. will be divided thematically covering the topics of ethnicity, marriage, gender, religion, and pop culture. Reading and assignments will discuss a variety of issues and viewpoints that are a part of the fabric of South Asia, but will focus on the interpretation of such expressive culture in the United States.

Taught by: Khan
Course usually offered in fall term
Also Offered As: ASAM 160, SAST 590
Activity: Lecture
1 Course Unit

SAST 293 Caste & Class in South Asia
This course will explore the reality of caste and class in South Asian society, and the theories, classical and modern, that attempt to explain it. We shall survey a wide sweep of sources, from the earliest evidence for a division into caste-classes in the Rig-Veda to reports in modern media of caste-related social problems; from orthodox Hindu normative texts justifying and upholding a rigid hierarchical division of society to voices, in Sanskrit and in vernaculars, criticizing the caste system. Our goal is to gain a nuanced and many-sided insight into a deeply pervasive phenomenon that has shaped South Asian society, culture, and religion in general (Muslim, Sikh, and Christian castes) from ancient time up to the twentieth century.

Taught by: Sreenivasan
One-term course offered either term
Also Offered As: SAST 593
Activity: Seminar
1 Course Unit

SAST 300 Directed Study
This course is required for all senior honors majors, and open to senior majors. Honors majors must, in addition, prepare a research paper.
One-term course offered either term
Activity: Independent Study
1 Course Unit

SAST 312 20th Century South Asian Art
Topic varies. Spring 2015: Using resources of the Philadelphia Museum of Art's exceptional collection, this workshop will explore India's remarkable traditions of sculpture produced for singular narrative and iconic ends.

Taught by: Meister
Also Offered As: ARTH 311, ARTH 312
Activity: Seminar
1 Course Unit
SAST 324 Sanskrit Literature and Poetry
This course will focus solely on the specific genres, themes, and aesthetics of Sanskrit literature (the hymn, the epic, the lyric, prose, drama, story literature, the sutra, etc.) and a study of the history and specific topics of Sanskrit poetics and dramaturgy. All readings will be in translation.
Taught by: Patel
Also Offered As: COML 324, COML 624, SAST 624
Activity: Seminar
1 Course Unit

SAST 334 A Survey of Sanskrit, Pakrit, and Classical Tamil Literature in Translation
This course will cover most of the genres of literature in South Asia's classical languages through close readings of selections of primary texts in English translation. Special focus will be given to epics, drama, lyric poetry, satirical works, and religious literature.
Taught by: Patel
Also Offered As: COML 334, SAST 534
Activity: Seminar
1 Course Unit

SAST 400 Beginning Hindi-Urdu Online (Startalk)
This introductory, proficiency-based course covers the core content of first-year Hindi-Urdu. It is designed for students with little or no prior exposure to Hindi or Urdu. The course covers all four language skills (speaking, listening, reading, and writing), but there is a special focus on developing speaking and listening skills. Students will also develop literacy skills in one script of their choice (Hindi or Urdu script). All written materials will be provided in both scripts. All classes are interactive and students acquire the language by using it in realistic contexts. Culture is introduced through various authentic materials including Bollywood songs. This program has a special application process. Please visit our website (https://www.southasiacenter.upenn.edu/startalk) for more information on the program and how to apply.
Taught by: Pien, J.
Two terms. student must enter first term.
Activity: Lecture
1 Course Unit
Notes: This is a summer online course known also as Startalk.

SAST 403 Beginning Bengali
This course introduces students to colloquial Bengali. It gives equal emphasis to each of the four skills, reading, writing, listening, and speaking. Language will be studied in the context of socio-cultural aspects of West Bengal and Bangladesh. Besides lessons from the text, a major portion of the syllabus will be based on topics drawn from films, cultural events, festivals, food, and religion.
Taught by: Banerjee
Two terms. student must enter first term.
Activity: Lecture
1 Course Unit
Notes: Offered through Penn Language Center. This is a two-semester course.

SAST 405 Beginning Pashtu I
For BA Students: Language Course
Course usually offered in spring term
Also Offered As: PERS 112, PERS 511
Activity: Lecture
1 Course Unit
Notes: Offered through Penn Language Center

SAST 406 Beginning Pashtu Part II
For BA Students: Language Course
Course usually offered in spring term
Also Offered As: PERS 112, PERS 512
Prerequisites: Beginning Pashtu Part I or equivalent ascertained through placement test or permission of instructor.
Activity: Seminar
1 Course Unit
Notes: Offered through Penn Language Center.

SAST 407 Beginning Kannada Part I
This is a systematic introduction to the Kannada language and culture for beginners. The course aims at developing listening and comprehension and a real life interactive speaking ability in a variety of everyday topics. The Kannada script is introduced from the beginning and the language is presented in its socio-cultural context for achieving a meaningful and operational control of the language. Students acquire basic rules for structural and socio-cultural appropriateness. Students learn vocabulary related to a variety of topics during the semester. Class activities include watching videos, role-playing, language games and group work. Evaluation is based on class participation, performance in quizzes and tests and completed assignments.
For BA Students: Language Course
Taught by: Swaminathan
Course usually offered in fall term
Activity: Lecture
1 Course Unit
Notes: Offered through Penn Language Center

SAST 408 Beginning Kannada Part II
This is a systematic introduction to the Kannada language and culture for beginners. The course aims at developing listening and comprehension and a real life interactive speaking ability in a variety of everyday topics. The Kannada script is introduced from the beginning and the language is presented in its socio-cultural context for achieving a meaningful and operational control of the language. Students acquire basic rules for structural and socio-cultural appropriateness. Students learn vocabulary related to a variety of topics during the semester. Class activities include watching videos, role-playing, language games and group work. Evaluation is based on class participation, performance in quizzes and tests and completed assignments.
For BA Students: Language Course
Taught by: Swaminathan
Two terms. student must enter first term.
Prerequisites: Beginning Kannada Part II or equivalent ascertained through placement test or permission of instructor.
Activity: Seminar
1 Course Unit
Notes: Offered through Penn Language Center.

SAST 410 Beginning Marathi Part I
The first year course in Marathi begins with learning the Devnagari script which is common for other important languages like Hindi and Nepali. With proper emphasis on grammar, vocabulary, and phonetics, the syllabus will see the student becoming able to speak conversational Marathi, read Marathi data from the Internet, and compose simple short essays on selected topics.
For BA Students: Language Course
Taught by: Ranade
Course usually offered in fall term
Activity: Lecture
1 Course Unit
Notes: Offered through Penn Language Center

SAST 411 Beginning Marathi Part II
The first year course in Marathi begins with learning the Devnagari script which is common for other important languages like Hindi and Nepali. With proper emphasis on grammar, vocabulary, and phonetics, the syllabus will see the student becoming able to speak conversational Marathi, read Marathi data from the Internet, and compose simple short essays on selected topics.
For BA Students: Language Course
Taught by: Ranade
Course usually offered in fall term
Activity: Lecture
1 Course Unit
Notes: Offered through Penn Language Center
SAST 411 Beginning Marathi Part II
For BA Students: Language Course
Taught by: Ranade
Course usually offered in spring term
Activity: Lecture
1 Course Unit
Notes: Offered through Penn Language Center

SAST 412 Intermediate Marathi Part I
For BA Students: Language Course
Taught by: Ranade
Course usually offered in fall term
Prerequisite: Beginning Marathi Part II or equivalent ascertained through placement test or permission of instructor
Activity: Seminar
1 Course Unit

SAST 413 Intermediate Marathi Part II
For BA Students: Last Language Course
Taught by: Renade
Course usually offered in spring term
Prerequisites: Intermediate Marathi Part II or equivalent ascertained through placement test or permission of instructor.
Activity: Seminar
1 Course Unit

SAST 421 Intermediate Urdu
In Intermediate Urdu, the curriculum focuses on the development of reading, listening and speaking skills. Although there are short assignments for writing in Urdu, the emphasis on developing writing as a skill is not part of the course objectives. Authentic texts in the three skills include conversations, short stories, current events, articles, films and plays. There is a continuous emphasis on vocabulary development and students are expected to add about five hundred new words to their active vocabulary per semester. The rules of grammar for structural accuracy and social-cultural propriety are parts of the regular curriculum. Class activities include students' short presentations, role-plays, singing and conversations. There are weekly assignments and quizzes, a mid-term and a final examination. The final evaluation will rest on class participation, performance in quizzes and tests, and completed assignments. This is a two-semester course.
Taught by: Menai
Two terms. student must enter first term.
Activity: Lecture
1 Course Unit
Notes: Offered through Penn Language Center.

SAST 425 Intermediate Pashtu Part I
For BA Students: Language Course
Course usually offered in fall term
Also Offered As: PERS 113, PERS 513
Activity: Lecture
1 Course Unit
Notes: Offered through Penn Language Center

SAST 426 Intermediate Pashtu Part II
Two terms. student must enter first term.
Also Offered As: PERS 114, PERS 514
Prerequisites: Intermediate Pashtu Part II or equivalent ascertained through placement test or permission of instructor.
Activity: Seminar
1 Course Unit
Notes: Offered through Penn Language Center.

SAST 427 Intermediate Kannada Part II
For BA Students: Language Course
Taught by: Sundaram
Course usually offered in fall term
Activity: Lecture
1 Course Unit
Notes: Offered through Penn Language Center

SAST 428 Intermediate Kannada Part II
For BA Students: Last Language Course
Taught by: Sundaram
Course usually offered in spring term
Prerequisites: Intermediate Kannada Part II or equivalent ascertained through placement test or permission of instructor.
Activity: Seminar
1 Course Unit
Notes: Offered through Penn Language Center.

SAST 445 Advanced Pashtu Prose Literature
One-term course offered either term
Also Offered As: PERS 116, PERS 516
Activity: Lecture
1 Course Unit
Notes: Offered through Penn Language Center.

SAST 447 Advanced Kannada: Selected Topics
Taught by: Rajagopalan
One-term course offered either term
Activity: Lecture
1 Course Unit

SAST 480 Readings in Sanskrit Literature
Readings of selected texts.
One-term course offered either term
Also Offered As: COML 507
Activity: Seminar
1 Course Unit

SAST 494 Early Marathi
One-term course offered either term
Activity: Lecture
1 Course Unit
Notes: Offered through Penn Language Center

SAST 500 Introduction to Art in South Asia
This course is a survey of sculpture, painting and architecture in the Indian sub-continent from 2300 B.C., touching on the present. It attempts to explore the role of tradition in the broader history of art in India, but not to see India as 'traditional' or unchanging. The Indian sub-continent is the source for multi-cultural civilizations that have lasted and evolved for several thousand years. Its art is as rich and complex as that of Europe, as diverse. This course attempts to introduce the full range of artistic production in India in relation to the multiple strands that have made the cultural fabric of the sub-continent so rich and long lasting.
Taught by: Meister/Staff
Course not offered every year
Also Offered As: ARTH 104, SAST 200
Activity: Lecture
1 Course Unit
SAST 502 The Mullah & The Englishman - Islam in Modern South Asia
This course introduces students to Islam in modern South Asia, with a particular focus on the development of 'new' Muslim religious idioms, orientations, pedagogies and movements in 19th and 20th century South Asia. This course is divided into three parts. In the first part of this course, students are provided with an overview of: Muslim institutions and spaces in pre-colonial South Asia, the historical emergence of South Asia as a prominent global center of Islam, and the development of Urdu as an Islamic idiom. The second and main part of this course introduces students to academic literature concerning sophisticated encounters between the Muslim elite in north India and modern political and technological developments. The intimate interactions of the 'Mullah' and the 'Englishman' from the 19th to 20th century will thus be revealed to students. This part focuses upon, on the one hand, the role of Islam and pious Muslims in the colonial army, and on the other hand, Muslim initiatives to educate an Islamic 'modernism', 'traditionalism', 'fundamentalism' and 'Sufism', and appropriate print technologies for the creation of public spheres. Students will be introduced to historical scholarship revelatory of how these Muslim pedagogies and print initiatives were based upon sophisticated transcultural networks and exchange. In the third part of this course, students will be encouraged to engage with contemporary literature on South Asian Muslim political philosophy and nationalism, and the transcultural intellectual exchanges that produced key Muslim political ideologies.
Taught by: Sevea
One-term course offered either term
Also Offered As: RELS 149, RELS 549
Activity: Seminar
1 Course Unit

SAST 503 Historical Transitions In Early India
This course will focus on major historical transitions in the South Asian subcontinent until approximately AD 1200. It will focus on particularly on political, social and liturgical philosophical change. It will also introduce students to the major narratives and interpretations of the ancient and early medieval periods as they bear on these questions and will also familiarize students with the sources upon which this history has been based. It will review debates, critical perspectives and recent trends in this historiography with a view toward developing a sensitivity to the theoretical problems that attend the study of pre-modern India. Its persistent themes will be historical continuity and disjuncture in the history of religious practices and ideas, the emergence of political forms and the nature of the 'state' in precolonial India, transformations of society and economy, and the relationship between discursive production and relations of power. It will be of interest to students of history, literature, religion and archaeology.
Taught by: Ali
One-term course offered either term
Activity: Seminar
1 Course Unit

SAST 505 Topics in Indian Art
Aspects of sculpture, painting, iconography, or architecture in the Indian sub-continent. Topic varies. Fall 2016: Important as texts have been to South Asia's history, perceptions of the physical world dominate experience within South Asian cultures. Seeing and being seen, vocalizing and hearing, contribute to the construction of meaning. This pro-seminar will approach South Asia's perceptual world as expressed and tested by art, and methods to frame art as a source of knowledge.
Taught by: Meister
One-term course offered either term
Also Offered As: ARTH 511
Activity: Seminar
1 Course Unit

SAST 507 Introduction to Modern South Asian Literature
Taught by: Sreenivasan, R.
Also Offered As: SAST 007
Prerequisites: This course provides an introduction to the literatures of South Asia - chiefly India, Pakistan, and Bangladesh- between 1500 and the present. We will read translated excerpts from literary texts in several languages - Braj, Persian, Hindi, Urdu, Bengali, Marathi, Malayalam, and Tamil - and explore the relationship between these literary texts and their historical contexts. No prior knowledge of South Asia is required.
Activity: Seminar
1 Course Unit

SAST 508 Doing Research: Qualitative Methods and Research Design
This interdisciplinary course introduces students to qualitative research methods and frameworks in the social sciences and humanities. Students will learn how to frame an effective research question, situate it in relation to existing research, select the most appropriate methods for addressing the question, and develop an effective research plan. Each week students will be introduced to a new set of frameworks for analysis, see specific examples of their application drawn from anthropological, historical, and related scholarship and have opportunities to practice applying and evaluating the strengths and weaknesses of specific methodological tools. The goals of the semester will be for each student to develop their own research proposal for a specific project.
Students will be introduced to a range of textual, archival and and media collections and databases available at Penn, with particular attention to South Asia and other specific regions of interest to course participants. Students will also have the opportunity to identify sources of funding for summer and/or thesis research projects, and submit applications for these opportunities as part of the course. The course is ideal for students considering summer research, an undergraduate thesis, or an application to the Fulbright or other research program. It may be taken by itself as a freestanding course, or may be sequenced with SAST 209, Writing Research, the following fall semester.
Taught by: Mitchell
Also Offered As: SAST 208
Activity: Seminar
1 Course Unit
SAST 524 Growing up Funny: Nation and Identity in South Asian Writing
It is a curious fact that some of the most compelling fiction about and by South Asians features the coming of age of a child protagonist. This body of writing appropriates and reshapes the classic European Bildungsroman, but it also uses narrative traditions from South Asia in order to tell the story of the postcolonial nation, and to chart the contours of contemporary South Asian identity and sexuality. In this course, we will read novels, short stories and plays—some well known and others less so, some now considered 'classics' and others very recent, produced from within the Indian subcontinent as well as from the West. All of these speak of the excitement and trauma of growing up 'Indian'. Through them, we will discuss key features of the political and social upheavals of the Indian subcontinent, as well as the dynamics of the family, gender relations, sexual identities and cultural belonging. The course will include writings by Rudyard Kipling, Salman Rushdie, Bapsi Sidhwa, Amitav Ghosh, Mahasweta Devi, Hanif Kureishi, Anjana Appachana, Arundhati Roy, Meera Sanyal, Sara Suleri, Shyam Selvadurai, and Mahesh Dattani.
Taught by: Loomba
One-term course offered either term
Activity: Lecture
1 Course Unit

SAST 529 An Introduction to Religion in South Asia
This undergraduate-level course introduces students to the multi-religious complexion of South Asia as a region, with a particular focus upon key religious traditions and the resemblances and interactions between them. This course is divided into two parts. In the first part of this course, students are introduced to key religious traditions of South Asia, Hinduism, Buddhism, Jainism, Islam and Sikhism. Students will be encouraged to survey academic works pertaining to, on the one hand, the literature, doctrines, cosmologies, rituals and histories of, and prominent places of worship in, the Hindu, Buddhist, Jain, Muslim and Sikh religious traditions. On the other hand, the development of South Asia into a distinctive space and spiritual ‘homeland’ for multi-religious communities. Whilst the first part of the course focuses upon religious traditions autonomously, the subsequent section of the course is thematic and encourages students to make comparisons, and discover sophisticated relationships and dynamic interactions between religious traditions in South Asia. Students are introduced to scholarly writings that are revelatory of the materiality of religious traditions in pre-modern and modern South Asia; everyday forms of piety in South Asia; gender positions in religious traditions; encounters of religious traditions with European colonialism; and, perceptions of the ‘other’ in pre-modern religious traditions. Herein, students will find multiple sites of resemblances or differences, and cultural negotiations, engagements and contests, within religious traditions in South Asia.
Taught by: Sevea
Also Offered As: RELS 119, RELS 519
Activity: Lecture
1 Course Unit

SAST 534 A Survey of Sanskrit, Pakrit, and Classical Tamil Literature in Translation
This course will cover most of the genres of literature in South Asia’s classical languages through close readings of selections of primary texts in English translation. Special focus will be given to epics, drama, lyric poetry, satirical works, and religious literature.
Taught by: Patel
Also Offered As: SAST 334
Activity: Seminar
1 Course Unit

SAST 540 Religions of India in Practice
This course uses ethnography and documentary film to examine religious practice in India, looking at daily rituals and habits associated with religion and special moments in collective religious life, such as festivals, pilgrimage and “rites of passage.” We’ll also investigate ways that religious life intersects with secular life, the state, the nation, and media.
Taught by: Novetzke
One-term course offered either term
Also Offered As: SAST 241
Activity: Lecture
1 Course Unit

SAST 541 Religion and the Visual Image: Seeing is Believing
Seeing is Believing engages in a historical, theoretical, and cross-cultural analysis of the place of visuality in religion and of religion in visual culture. We will examine images, buildings, places, objects, performances and events. The geographical, cultural and historical scope of the material is broad, including subjects from Europe, the Islamic World, non-Muslim South Asia, the US and Latin America from the medieval period until the present. Theoretical works will be read in conjunction with representative examples to invite intellectual engagement in a socially and historically grounded way. Important issues to be covered include the relationship of visual to material culture; visual theories versus theories of vision; locating religion in human sensory experience; perception at individual and collective levels; authentics, fakes and simulacra; iconoclasm and image veneration; aesthetics, use and utility; and things.
Taught by: Elias
Course not offered every year
Also Offered As: NELC 589, RELS 541
Activity: Seminar
1 Course Unit

SAST 548 Hindu-Muslim Relations in South Asia
This seminar examines engagements between Hindu and Muslim traditions in South Asia from medieval to modern times. We explore historical case studies of Hindu-Muslim relations and the formation of religious identities, together with the ways in which these identities have been contested and constructed in modern discourses on religion and politics. Through the course of the seminar, we interrogate the analytical categories of conquest, iconoclasm, conversion, and syncretism, around which several current debates on Hindu-Muslim relations have been framed. Topics discussed include: the interactions of Sufi, Bhakti and Yogic traditions, Mughal religious cultures; the impact of colonialism on religious identities and sectarian relations; the partition of India and creation of Pakistan, and nationalist historiographies.
Also Offered As: RELS 250, SAST 248
Activity: Lecture
1 Course Unit
SAST 550 History of Hinduism
This course will explore the history of the religion(s) designated by the term 'Hinduism' from their earliest articulations down to the rise of modern reforms in the nineteenth century. The study of Hinduism is perhaps unique among the scholarly traditions on world religions in that it has to date had no serious connected account of its historical development, as scholars have preferred to take structural, sociological, phenomenological, and doctrinal approaches to the religion. The course, after a brief review of scholarly approaches to Hinduism and their interpretive legacies, will seek to develop a historical sense of the religion through attention to shifts in liturgy, ritual, theology, doctrine, sacral kingship, and soteriology. The course will include the reading of primary sources relevant to understanding these changes as well as highlight both modern and premodern traditions of their interpretation. It will also consider and assess some of the key interpretive ideas in the study of Hinduism, including, Sanskritization, Great and Little Traditions, cult formation, regional and popular religious movements, and canon formation. There will also be sustained consideration of the question of religion and socio-political power as well as relations between Hinduism and other religions like Buddhism and Islam.
Taught by: Ali
Also Offered As: RELS 551
Activity: Seminar
1 Course Unit

SAST 551 Muslim Sainthood Practices
This course aims at introducing various classical, popular and modern Muslim saints in South Asia. We will read the life stories of these saints and focus on their contribution to various religions in South Asia. We will read the life stories of these saints and focus on their contribution to various religions in South Asia. We will learn about the major concepts initiated and circulated by these saints and their distinctive ways of dealing with spiritual aspects. While focusing on the sainthood practices, we also study the nature of the dialogue which addresses the questions such as pluralism, localism, and a new paradigm of spirituality that continually interacts with diverse modes of everyday life in South Asia. In order to understand their impact on visual and media cultures, we also watch two documentaries and compare these visual sources with sainthood literature and practices.
Taught by: Mohammad, M.A.
Also Offered As: RELS 242, SAST 251
Activity: Seminar
1 Course Unit

SAST 560 Modern History of Pakistan
This course is designed as an introduction to the contemporary history of Afghanistan and Pakistan, with an emphasis on the intertwined history of both countries; their other regional neighbors; and global politics. The course focuses on global trends such as empire, nationalism, the Cold War, superpower competition, and transnational Islamism. At the same time, participants will explore how local people viewed their lives amidst these trends, and how local dynamics on this northwestern fringe of the Subcontinent changed the face of global politics. The readings supplement political and economic history with primary sources drawn from popular poetry, oral narrative, and memoir. Finally, we'll be following current events in the region, and placing them in their sociohistorical context. Therefore, there are two main goals for this course: (1) to introduce the specific history of Afghanistan and Pakistan up to present, and (2) to introduce typologies of social institutions and events, assisting class participants to develop their own frameworks for interpreting current events in the region after the end of the course.
One-term course offered either term
Also Offered As: HIST 384
Activity: Seminar
1 Course Unit

SAST 562 The Making of Medieval India
This course will provide an in-depth understanding of South Asia in what is often called its 'medieval' period—from the rise of the great temple kingdoms until the end of the Delhi Sultanate in the sixteenth century (c. 500 CE - c. 1500 CE). This millennium is arguably one of the most transformative in South Asia's history, a period when many of its most distinctive social and cultural features evolved. The course will provide both an overview of the period as well as an introduction to major interpretations and types of sources (textual, visual, and archaeological). The focus throughout the course will be on the heterogeneous development of states, societies and cultures with special attention to long-term processes of transformation. One set of themes explored will be largely social and economic, focusing on the development of agrarian and peasant societies, aristocracies and intellectuals, as well as the role of mercantile, pastoralist, nomadic and forest-living groups. Another set of themes will explore cultural transformation, including the development, transformation and interaction of religious practices, the emergence of cosmopolitan and regional literary cultures, and the rise of distinctive urban, courtly, and rural worldviews. Special themes of discussion may include violence and manners, material cultures, religious conflict, devotional religion and gender relations.
Taught by: Ali
One-term course offered either term
Also Offered As: SAST 262
Activity: Lecture
1 Course Unit
**SAST 589 Islam in Modern South Asia**
This course introduces students to Islam in modern South Asia, with a particular focus on the development of 'new' Muslim religious idioms, orientations, pedagogies and movements in 19th and 20th century South Asia. This course is divided into three parts. In the first part of this course, students are provided with an overview of: Muslim institutions and spaces in pre-colonial South Asia, the historical emergence of South Asia as a prominent global center of Islam, and the development of Urdu as an Islamic idiom. The second and main part of this course introduces students to academic literature concerning sophisticated encounters between the Muslim elite in north India and modern political and technological developments. The intimate interactions of the 'Mullah' and the 'Englishman' from the 19th to 20th century will thus be revealed to students. This part focuses upon, on the one hand, the role of Islam and pious Muslims in the colonial army, and on the other hand, Muslim initiatives to educate an Islamic 'modernism', 'traditionalism', 'fundamentalism' and 'Sufism', and appropriate print technologies for the creation of public spheres. Students will be introduced to historical scholarship revelatory of how these Muslim pedagogies and print initiatives were based upon sophisticated transcultural networks and exchange. In the third part of this course, students will be encouraged to engage with contemporary literature on South Asian Muslim political philosophy and nationalism, and the transcultural intellectual exchanges that produced key Muslim political ideologies.
Taught by: Tareen
Also Offered As: ANTH 189, SAST 189
Activity: Seminar
1 Course Unit

**SAST 604 Neoliberalism and the City**
Over fifty percent of the world's population now lives in cities. Neoliberalism—the ideology and accompanying policies and practices that champion the shifting of political decision making from the public sector to the private sector—has been widely recognized as having shown dramatic growth worldwide since the 1970s. It has also been widely regarded as a product of globalization. This course traces the history of neo-liberalism in global context with particular attention to neoliberalism's relationship to cities, and exam the role that urban growth has played in spurring neoliberal policies and practices. It asks how policy makers, voters, and private interest worldwide have responded to the growth of urban poverty and slums, challenges withing urban public education, unequal resource distribution, environmental pressures experienced within urban sanitation and waste disposal systems, and increased demands for municipal services like water, electricity, and transport infrastructures, and examined the rise of public-private partnerships, gated communities, initiatives to privatized education and municipal services, and efforts to relocate slum-dwellers and beautify cities as explicit strategies for attracting "global capital". The course also asks how the recent rise of neoliberal policies and practices differs from earlier market-driven and private sector led forms of political governance. The British and Dutch East India Companies are two famous examples of joint stock companies that assumed administrative and political roles over their colonies. How did the rise of these colonial relationships differ from current neoliberal shifts. Readings will draw heavily from ethnographic and urban studies, scholarship on South Asia, as well as Latin America, South Africa, the Middle East, Europe, and North America, exploring what each of these specific contexts has to teach us more generally about the relationship between urbanization, global capitalism, public and private sectors, and political processes and decision making.
Taught by: Mitchell
One-term course offered either term
Also Offered As: ANTH 503, ARTH 104, URBS 504
Activity: Seminar
1 Course Unit

**SAST 610 Topics in South Asian Cinema**
In this course we will focus on post colonial global modernity as they are imaged through cinema. Foregrounding the concept of affect, we will consider topics such as: the role of mass affect and mass culture; nationalism, community, sentimentalty and nostalgia; film technology and film industry development as productive of a history of the senses; affect and the (gendered and racialized) subject and body, film genres and development of post colonial modernism; style; cinephilia and production of publics; representat ions of popular religiosity; and the relationship between feeling and ideology. We will examine films that suggest particular affective states. Our study will be interdisciplinary and readings will draw on fields of cinema, area studies as well as anthropology, philosophy and history.
One-term course offered either term
Activity: Seminar
1 Course Unit
SAST 617 Readings in Modern Indian History

This course will introduce students to the major themes and debates of modern Indian historiography. Though the course will not provide a survey outline of events, it will be organized around themes that have a broad chronological sequence. It will touch on key topical themes like the transition to colonialism, the development of the colonial economy, the evolution and significance of colonial knowledge systems, the impact and shape of religious and social reform, the rise of nationalism and communalism, and peasant, labour and subaltern history. The goal of the course will be to provide students with an understanding of the significance of debates around key themes in modern Indian history and a familiarity with the different 'schools' or 'traditions' of historical interpretation, including Nationalist, Marxist, the so-called 'Chicago', and 'Cambridge' schools, as well as the Subaltern collective and post-Subaltern historiography.

Taught by: Ali
Course usually offered in spring term
Also Offered As: COML 217, HIST 670, SAST 217
Activity: Seminar
1 Course Unit

SAST 623 Literary History and Aesthetics in South Asia

This seminar surveys the multiple components of literary culture in South Asia. Students will engage critically with selected studies of literary history and aesthetics from the past two millennia. In order to introduce students to specific literary cultures (classical, regional, contemporary) and to the scholarly practices that situate literature in broader contexts of culture and society, the course will focus both on the literary theories - especially from the nineteenth and twentieth centuries - that position South Asia’s literary cultures within broader disciplinary frameworks that use literary documents to inform social, historical and cultural research projects. The aim is to open up contexts whereby students can develop their own research projects using literary sources.

Taught by: Patel
Course not offered every year
Also Offered As: COML 623
Activity: Seminar
1 Course Unit

SAST 627 South Asia Literature as Comparative Literature

This course takes up the question of reading South Asian Literature both as a collection of diverse literary cultures, as well as the basis for a methodology of reading that takes language, region, and history into account. It takes as a starting point recent work that foregrounds the importance of South Asian language literatures, and their complex interactions, to an understanding of South Asian literary history, as well as critiques of the concept of world literature that question its underlying assumptions and frequent reliance on cosmopolitan languages such as English. In what ways can we describe the many complex interactions between literary cultures in South Asia, rooted in specific historical contexts, reading practices, and cultural expectations, while maintaining attention to language and literary form? How, in turn, can we begin to think of these literatures in interaction with larger conversations in the world? With these considerations in mind, we will examine works of criticism dealing with both modern and pre-modern literatures, primarily but not exclusively focused on South Asia. Topics will include the concept of the cosmopolis in literary and cultural history, the role of translation, the transformations of literature under colonialism, and twentieth century literary movements such as realism and Dalit literature.

Readings may include works by Erich Auerbach, Frederic Jameson, Aijaz Ahmad, Gayatri Spivak, Aamir Mufti, Sheldon Pollack, David Shulman, Yigal Bronner, Shamshur Rahman Faruqi, Francesca Orsini, Subramanian Shankar, Sharan Kumar Kimbale, and Torlai Jatin Gajarawala. We will also examine selected works, in English and in translation, as case studies for discussion. This course is intended both for students who intend to specialize in the study of South Asia, as well as for those who focus on questions of comparative literature more broadly.

Taught by: Goulding
One-term course offered either term
Also Offered As: COML 627, SAST 227
Activity: Seminar
1 Course Unit

SAST 632 Hinduism and Colonial Modernity

This seminar deals with the question of modernity in South Asia, with a specific focus on the construction, dissemination, and politicization of Hinduism in nineteenth and twentieth century India. It focuses on three central heuristic lenses—namely those of European imperialism, Orientalism, and nationalism—to study modernity and its discontents. What was at stake in the encounter between colonial modernity and India’s religions in nineteenth and early twentieth centuries? How did colonial and native discourses on “reform” and “revival” shape Indian religions as we understand them today? How is modern “Hinduism” inextricably hinged to early forms of cultural transnationalism, Orientalism, and incipient forms of nationalism? This seminar approaches questions such as these and others, with an eye to understanding how nineteenth and early twentieth century discourses continue to shape contemporary understandings of Hinduism in deep and highly politicized ways.

Taught by: Soneji
One-term course offered either term
Also Offered As: RELS 632
Activity: Seminar
1 Course Unit
SAST 633 THE PERSIAN INTELLECTUAL TRADITION
What makes Persian culture distinctive within broader Islamic intellectual history, and what constitutes the historical and geographical boundary of the Persianate intellectual and cultural zone? These questions lie at the center of inquiry in this seminar in which participants will read and discuss a broad range of works from the 11th to the 20th centuries. Readings will include works on philosophy and language, Sufi epic poems, religious and cultural geographies, accounts of natural and manufactured wonders, urban and political histories, as well as other kinds of texts. All readings will be in English for the regular meeting of the seminar; students with a reading knowledge of Persian and an interest in participating in an additional meeting to read the assignments in their original language should register for the higher of the two numbers listed for this course.
Taught by: Elias
One-term course offered either term
Also Offered As: RELS 643, RELS 743
Activity: Seminar
1 Course Unit

SAST 640 Religious Bodies and Sex in South Asia
This graduate-level course introduces students to the writings of key religious scholars in modern South Asia who associated the regeneration of Hinduism, Islam, and Sikhism with the cultivation of bodies and sexual practices. Particular attention will be paid towards religious texts produced in modern India, Pakistan and Bangladesh pertaining to sexual bodies, exercises and health; celibacy; body-building; the transmission of sexual knowledge; and the political roles of the 'Hindu', 'Muslim' and 'Sikh' body. In this course, students will be encouraged to engage a range of sources including religio-sexual manuals, autobiographies, novels, speeches, pamphlets, official records, recipes and films. Moreover, students will be introduced to the academic literature on South Asian religious scholars and 'sex gurus' in South and Southeast Asia; religious sexuality in South Asia, Southeast Asia, the Middle East and Europe; and, the transcultural literary networks that led to the production of religio-sexual texts in modern South Asia.
Taught by: Sevea
One-term course offered either term
Also Offered As: RELS 670
Activity: Seminar
1 Course Unit

SAST 670 Methodology Seminar: Topics
Topics vary
Taught by: Patel
One-term course offered either term
Also Offered As: ANTH 711, HIST 702
Activity: Seminar
1 Course Unit

SAST 704 State, Society and Culture in South Asia
This interdisciplinary course introduces graduate students to both classic and more recent theoretical frameworks used in understanding and analyzing society, culture, and the state, with particular reference to South Asia. Topics include bureaucracy and the state; economic liberalization and political transformations; land, law, and eminent domain; capital, banking, and credit; kinship, community, and approaches to the concept of identity (including caste, nation, language, and religion); and the environment, politics, and urban and rural ecologies. Particular emphasis will be placed on the ways in which recent ethnographic and historical monographs have positioned their interventions in relation to broader debates and scholarship, both within South Asia scholarship and more generally. Particular attention will be devoted to the different material forms through which publics have been imagined, addressed, and brought into being within specific historical moments and contexts (including each student's own areas of research interest). Although the course will pay particular attention to the unpacking and application of these concepts, debates, and issues as they pertain to South Asia, readings will be drawn from a range of authors and would be of use to students studying similar issues in other parts of the world.
Taught by: Mitchell
Course not offered every year
Also Offered As: ANTH 706
Activity: Seminar
1 Course Unit

SAST 710 Seminar Classical Indian Studies
Two terms. student may enter either term.
Prerequisites: Two years of Sanskrit is required.
Activity: Seminar
1 Course Unit

SAST 711 Seminar in Indian Art
Research seminar. Topics change. Spring 2016: We will examine the practice and symbolism of South Asian Architecture with case studies of how to build and how to make buildings meaningful.
Taught by: Meister
One-term course offered either term
Also Offered As: ARTH 711
Activity: Seminar
1 Course Unit

SAST 760 Seminar in Modern South Asian History
Centered on major recent work and on writing by class participants, this seminar is primarily for Ph.D candidates doing research on South Asia. Each week we read the equivalent of one book and meet to discuss its contribution to South Asian historiography. Each participant will submit a major piece of writing for discussion and will assign auxiliary readings to be read with their own work for one class meeting.
One-term course offered either term
Activity: Seminar
1 Course Unit
SAST 769 Feminist Theory
Specific topic varies. Dissent is a key word in our world today–from the Arab Spring to the American Fall, we have seen expressions of political disobedience and protest around the world. It is more urgent than ever to consider what dissent might mean, what shapes it has taken historically, what connection might exist between it and literature, and what futures are possible. We will read key critical and theoretical work alongside some powerful, tender and controversial writings and films (largely but not exclusively produced in the postcolonial world), to inquire into the politics and poetics of governance and dissent. Students are invited to make connections with other historical and geographical contexts, and explore the different forms of dissent individual, collective, urban, rural, nationalist, pan-nationalist, religious, marxist, or feminist, to name but a few. We will pay special attention to different performances of dissent at a popular, mass or individual level. We will think about the social and cultural channels attention to different performances of dissent at a popular, mass or See the English Department’s website at www.english.upenn.edu for a complete description of the current offerings.
Also Offered As: ENGL 769, GSWS 769, PSCI 683
Activity: Seminar
1 Course Unit

SAST 999 Independent Study
Directed Study for Graduates
One-term course offered either term
Activity: Independent Study
1 Course Unit

Spanish Language (SPAN)

SPAN 110 Elementary Spanish I
Spanish 110 is a first-semester elementary language course designed for students who have not previously studied Spanish or who have had very little exposure to the language. This course emphasizes the development of foundational reading, writing, listening, and speaking skills while exploring the rich cultural mosaic of the Spanish-speaking world. Students will participate in pair, small-group and whole-class activities that focus on meaningful and accurate communication skills in the target language. Students who have previously studied Spanish but have not taken the SAT II exam must take the online placement examination.
For BA Students: Language Course
Course usually offered in fall term
Prerequisite: A score below 380 on the SAT II or below 285 on the online placement examination
Activity: Seminar
1 Course Unit

SPAN 112 Elementary Spanish I and II: Accelerated
Spanish 112 is an intensive course designed for students who have already satisfied the language requirement in another language and have not previously studied Spanish. By combining the curriculum of Spanish 110 and 120, Spanish 112 seeks to develop students’ reading, writing, listening and speaking abilities while exploring the rich cultural mosaic of the Spanish-speaking world. Students will participate in pair, small-group and whole-class activities that focus on meaningful and accurate communication skills in the target language.
For BA Students: Language Course
Course usually offered in fall term
Prerequisite: Permit required from the course coordinator
Activity: Seminar
2 Course Units

SPAN 115 Spanish for the Medical Professions, Elementary I
Spanish 115 is a first-semester elementary medical Spanish language course and the first in the Spanish for the Medical Professions sequence. It is designed for students with no prior coursework in Spanish. This course teaches beginning students the fundamentals of practical Spanish with an emphasis on medical situations and basic medical terminology. In this course, particular attention will be given to developing speaking and listening skills, as well as cultural awareness. It incorporates activities, vocabulary, and readings of particular interest to healthcare practitioners, while adhering to the goals and scope of Spanish 110, the first-semester Spanish language course. Students who have previously studied Spanish but have not taken the SAT II exam must take the online placement examination.
For BA Students: Language Course
Course usually offered in fall term
Prerequisites: A score below 380 on the SAT II or below 285 on the online placement examination.
Activity: Seminar
1 Course Unit
Notes: Offered through the Penn Language Center.

SPAN 120 Elementary Spanish II
The continuation of Spanish 110, Spanish 120 is a second-semester elementary language course. See the description of Spanish 110.
For BA Students: Language Course
Course usually offered in spring term
Prerequisites: Successful completion of Spanish 110 or 115 or permission of the course coordinator.
Activity: Seminar
1 Course Unit

SPAN 121 Elementary Spanish I and II: Advanced Beginners
Spanish 121 is designed for students who have some prior experience in Spanish. This course provides a quick-paced review of material normally covered in a first-semester Spanish course and then proceeds to introduce new material so students will be prepared to take Spanish 130 during the subsequent semester. As other Spanish courses, Spanish 121 emphasizes the development of foundational reading, writing, listening, and speaking skills while exploring the rich cultural mosaic of the Spanish-speaking world. Students will participate in pair, small-group and whole-class activities that focus on meaningful and accurate communication skills in the target language.
For BA Students: Language Course
One-term course offered either term
Prerequisite: A score of 380-440 on the SAT II or 285-383 on the online placement examination
Activity: Seminar
1 Course Unit

SPAN 125 Spanish for the Medical Professions, Elementary II
The continuation of Spanish 115, Spanish 125 is a second-semester elementary medical Spanish language course. See the description of Spanish 115.
For BA Students: Language Course
Course usually offered in spring term
Prerequisites: Successful completion of Spanish 110 or 115 or a score of 380-440 on the SAT II or 285-383 on the online placement examination.
Activity: Seminar
1 Course Unit
Notes: Offered through the Penn Language Center.
SPAN 130 Intermediate Spanish I
Spanish 130 is a first-semester intermediate-level language course that emphasizes the development of the four basic skills (reading, writing, listening and speaking) within a culturally based context. Class time will focus on communicative activities that combine grammatical concepts, relevant vocabulary, and cultural themes. Students will participate in pair, small-group and whole-class activities to practice linguistics skills in meaningful contexts. Major course goals include: the acquisition of intermediate-level vocabulary, the controlled use of the past tense, and the development of writing skills at a paragraph level with transitions.
For BA Students: Language Course
One-term course offered either term
Prerequisites: Successful completion of Spanish 112, 120, 121 or 125 or a score of 450-540 on the SAT II or 384-453 on the online placement examination.
Activity: Seminar
1 Course Unit

SPAN 134 Intermediate Spanish I and II: Accelerated
Spanish 134 is an intensive intermediate-level language course that covers the material presented in Spanish 130 and Spanish 140. The course emphasizes the development of the four canonical skills (reading, writing, listening and speaking) within a culturally based context. Class time will focus on communicative activities that combine grammatical concepts, relevant vocabulary, and cultural themes. Students will participate in pair, small-group and whole-class activities to practice linguistics skills in a meaningful context. Major course goals include: the acquisition of intermediate-level vocabulary, the controlled use of the past tense and major uses of the subjunctive, and the development of writing skills. During the spring semester, Spanish 134 is limited to those students who have satisfied the language requirement in another language. During the summer, the course is open to all students who meet placement requirements.
For BA Students: Last Language Course
Course usually offered in spring term
Prerequisites: Spring semester prerequisites: Permit required from the course coordinator. Summer prerequisites: Successful completion of Spanish 112, 120, 121 or 125 or a score of 450-540 on the SAT II or 384-453 on the online placement examination.
Activity: Seminar
2 Course Units

SPAN 135 Spanish for the Medical Professions, Intermediate I
Spanish 135 is a first-semester intermediate-level medical Spanish language course that emphasizes the development of the four basic skills (reading, writing, listening, and speaking), and the acquisition of medical terminology. Students will be expected to participate in classroom activities such as role-plays based on typical office and emergency procedures in order to develop meaningful and accurate communication skills in the target language. Students will also review and acquire forms and structures useful both inside and outside the medical field.
For BA Students: Language Course
Course usually offered in fall term
Prerequisites: Successful completion of Spanish 112, 120, 121 or 125 or a score of 450-540 on the SAT II or 384-453 on the online placement examination.
Activity: Seminar
1 Course Unit
Notes: Offered through the Penn Language Center.

SPAN 140 Intermediate Spanish II
Spanish 140, the continuation of Spanish 130, is a fourth-semester language course that offers students the opportunity to acquire communicative skills (reading, writing, listening and speaking) while developing their awareness and appreciation of the Spanish-speaking world. Topics studied may include the environment, the arts, social relations, and conflict and violence. This course satisfies the language requirement in Spanish.
For BA Students: Last Language Course
One-term course offered either term
Prerequisites: Successful completion of Spanish 130 or 135 or a score of 550-640 on the SAT II or 454-546 on the online placement examination.
Activity: Seminar
1 Course Unit

SPAN 145 Spanish for the Medical Professions, Intermediate II
The continuation of Spanish 135, Spanish 145 is a second-semester intermediate-level medical Spanish language course. See the description of Spanish 135. This course satisfies the language requirement in Spanish.
For BA Students: Last Language Course
One-term course offered either term
Prerequisites: Successful completion of Spanish 130 or 135 or a score of 550-640 on the SAT II or 454-546 on the online placement examination.
Activity: Seminar
1 Course Unit
Notes: Offered through the Penn Language Center.

SPAN 180 Spanish Conversation
Must be a resident of the Modern Language College House.
Two terms. student must enter first term.
Prerequisite: Residence in Modern Language House
Activity: Seminar
0.5 Course Units

SPAN 201 Study Abroad
Activity: Seminar
1 Course Unit

SPAN 202 Advanced Spanish
The purpose of this course is twofold: (a) to develop students’ communicative abilities in Spanish, that is, speaking, listening, reading and writing, and (b) to increase their awareness and understanding of Hispanic cultures and societies. Homework and classroom activities are designed to help students build their oral proficiency, expand and perfect their knowledge of vocabulary and grammatical structures, improve their reading and writing skills, and develop their critical thinking abilities. The material for this class includes short stories, newspaper articles, poems, songs, cartoons, video clips and a novel, such as Sergio Bizio’s Rabia. At the completion of this course, students will feel confident discussing and debating a variety of contemporary issues (cultural and religious practices, family relationships, gender stereotypes, political events, immigration to the USA, etc.).
For BA Students: Advanced Language Course
One-term course offered either term
Prerequisite: Successful completion of Spanish 140 or equivalent
Activity: Seminar
1 Course Unit
SPAN 208 Business Spanish I
Spanish for Business I provides advanced-level language students with technical vocabulary and communicative skills covering business concepts as they apply to the corporate dynamics of the Spanish-speaking world, with a special emphasis on Latin America. Through readings, presentations, discussions, and video materials, we shall analyze those cultural aspects that characterize the business environment in the region as well as focus on economies and markets in light of their history, politics, resources and pressing international concerns.
For BA Students: Advanced Language Course
One-term course offered either term
Prerequisite: Successful completion of Spanish 140 or equivalent
Activity: Seminar
1 Course Unit

SPAN 209 Business Spanish II
Business Spanish II, Advanced Spanish for Business, is specifically designed for advanced speakers of Spanish (e.g., native speakers, heritage speakers, students who have studied in a Spanish-speaking country for at least one semester, and those who have attained an equivalent level of linguistic competency). Students will take an in-depth look at the corporate dynamics of a number of countries in Latin America, focusing on their economies and markets, as well as on the cultural and business protocols of each region. Through the creation of an entrepreneurial project and the writing of a business plan, students will enhance their business and language skills.
For BA Students: Advanced Language Course
Course usually offered in fall term
Prerequisite: Permission from the instructor
Activity: Seminar
1 Course Unit

SPAN 212 Advanced Spanish II: Grammar and Composition
Spanish 212 is an advanced-level language course that emphasizes the acquisition of the tools necessary for successful written expression in Spanish. These tools include a solid knowledge of the major points of Spanish grammar, an ample vocabulary, control of the mechanics of the language (spelling, punctuation, etc.), and a thorough understanding of the writing process. Throughout the semester, students will use these tools to analyze authentic texts and to produce a variety of written assignments. By the end of the course, students will have developed their awareness of the norms of standard Spanish and learned to incorporate these features into their own writing. The class will be conducted in Spanish and students are expected to speak in Spanish at all times.
One-term course offered either term
Prerequisite: Spanish 202 or equivalent
Activity: Seminar
1 Course Unit

SPAN 215 Spanish for the Professions I
Spanish for the Professions is designed to provide advanced-level language students with a wide-ranging technical vocabulary and the enhancement of solid communicative skills within the cultural context of several developing Latin American countries. Focusing on topics such as politics, economy, society, health, environment, education, science and technology, the class will explore the realities and underlying challenges facing Latin America. Through essays, papers, articles, research, discussions, case studies, and videotapes, we shall take an in-depth look at the dynamics of Latin American societies. The course will focus on--but not be restricted to--Mexico, Cuba and Argentina.
For BA Students: Advanced Language Course
Course usually offered in spring term
Prerequisite: Spanish 202 or equivalent
Activity: Seminar
1 Course Unit

SPAN 219 Hispanic Texts and Contexts
The primary aim of this course is to develop students’ knowledge of the geographical, historical and cultural contexts of the Spanish-speaking world. At the same time that they are introduced to research techniques and materials available in Spanish, students strengthen their language skills through reading, oral presentations, video viewing, and regular writing assignments. The course is designed to give students a broad understanding of Hispanic culture that will prepare them for upper-level course work and study abroad.
For BA Students: Humanities and Social Science Sector
One-term course offered either term
Prerequisites: Spanish 202 or Spanish 212.
Activity: Seminar
1 Course Unit

SPAN 223 Introduction to Literary Analysis
By helping students develop skills to carefully read and analyze Spanish literary works, Spanish 223 prepares them for upper-level courses and study abroad. After reviewing the main elements and conventions of the most popular genres (narrative, poetry, theater and essay), students become familiarized with current theoretical approaches to the study of literature with the purpose of applying them to their own analytical writing. The last weeks of the semester are devoted to the reading of a well-crafted detective novel and the examination of both its formal features and its ideological underpinnings. Throughout the course students will have ample opportunities to hone their skills through the close reading and class discussion of varied and stimulating literary works produced by canonical and non-canonical Hispanic authors.
For BA Students: Arts and Letters Sector
One-term course offered either term
Prerequisites: Spanish 202 or Spanish 212.
Activity: Seminar
1 Course Unit

SPAN 250 Major Works of Spanish and Latin American Literature
Topics vary. Please see the Spanish Department’s website for the current course description: https://www.sas.upenn.edu/hispanic-portuguese-studies/pc
For BA Students: Arts and Letters Sector
One-term course offered either term
Also Offered As: COML 252, LALS 252
Activity: Seminar
1 Course Unit
SPAN 317 Spanish Phonetics and Morphology
An introduction to articulatory phonetics designed to give the student a practical knowledge of the Spanish sound system as compared with English. Also some work in acoustic phonetics. Students learn to use the phonetic alphabet. Basic work is followed by an introduction to the linguistic analysis of sound systems, with concentration on Spanish and English phonology. Some introductory work on regional and social variations of pronunciation in the Spanish-speaking world. Lastly, an introduction to morphological analysis of language, with particular attention to the structure of the Spanish verb and word formation. Lectures and discussion of readings.
Course not offered every year
Prerequisites: Spanish 219 or Spanish 223.
Activity: Seminar
1 Course Unit

SPAN 319 History of the Spanish Language
A survey treatment of the development of Latin to modern Spanish, with emphasis on relations between external history and the development of grammatical structure and vocabulary, and major sound shifts. Lectures and discussions of reading.
Course not offered every year
Prerequisites: Spanish 219 or Spanish 223.
Activity: Seminar
1 Course Unit

SPAN 330 Medieval Literature
Topics vary. Please see the Spanish Department’s website for the current course description: https://www.sas.upenn.edu/hispanic-portuguese-studies/pc
Course not offered every year
Prerequisites: Spanish 219 or Spanish 223.
Activity: Seminar
1 Course Unit

SPAN 348 Don Quijote
Topics vary. Please see the Spanish Department’s website for the current course description: https://www.sas.upenn.edu/hispanic-portuguese-studies/pc
Course not offered every year
Prerequisites: Spanish 219 or Spanish 223.
Activity: Seminar
1 Course Unit

SPAN 350 Spanish Literature of the Golden Age
Topics vary. Please see the Spanish Department’s website for the current course description: https://www.sas.upenn.edu/hispanic-portuguese-studies/pc
Course not offered every year
Also Offered As: LALS 350
Prerequisites: Spanish 219 or Spanish 223.
Activity: Seminar
1 Course Unit

SPAN 351 Spanish Poetry of the Golden Age
Topics vary. Please see the Spanish Department’s website for the current course description: https://www.sas.upenn.edu/hispanic-portuguese-studies/pc
Course not offered every year
Prerequisite: Spanish 219
Activity: Seminar
1 Course Unit

SPAN 373 Spanish Romanticism, 1770-1870
Topics vary. Please see the Spanish Department’s website for the current course description: https://www.sas.upenn.edu/hispanic-portuguese-studies/pc
Course not offered every year
Prerequisites: Spanish 219 or Spanish 223.
Activity: Seminar
1 Course Unit

SPAN 380 Contemporary Spanish Literature
Topics vary. Please see the Spanish Department’s website for the current course description: https://www.sas.upenn.edu/hispanic-portuguese-studies/pc
Course not offered every year
Also Offered As: CIMS 380, LALS 380
Prerequisites: Spanish 219 or Spanish 223.
Activity: Seminar
1 Course Unit

SPAN 384 Spanish Novel Since 1939
Topics vary. Please see the Spanish Department’s website for the current course description: https://www.sas.upenn.edu/hispanic-portuguese-studies/pc
Course not offered every year
Also Offered As: CIMS 384
Prerequisites: Spanish 219 or Spanish 223.
Activity: Seminar
1 Course Unit

SPAN 386 Studies in Spanish Culture
This course covers topics in contemporary Spanish Culture, its specific emphasis varying with the instructor. Please see the Spanish Department’s website for the course description: https://www.sas.upenn.edu/hispanic-portuguese-studies/pc
One-term course offered either term
Also Offered As: CIMS 385, GSWS 386, LALS 386
Prerequisites: Spanish 219 or Spanish 223.
Activity: Seminar
1 Course Unit

SPAN 390 Introduction to Spanish American Literature
Topics vary. Please see the Spanish Department’s website for the current course description: https://www.sas.upenn.edu/hispanic-portuguese-studies/pc
Course not offered every year
Also Offered As: CIMS 390, COML 390, GSWS 391, LALS 396
Prerequisites: Spanish 219 or Spanish 223.
Activity: Seminar
1 Course Unit

SPAN 392 Colonial Latin American Literature
Topics vary. Please see the Spanish Department’s website for the current course description: https://www.sas.upenn.edu/hispanic-portuguese-studies/pc
Course not offered every year
Also Offered As: LALS 392
Prerequisites: Spanish 219 or Spanish 223.
Activity: Seminar
1 Course Unit
SPAN 394 Spanish American Fiction  
Topics vary. Please see the Spanish Department’s website for the current course description: https://www.sas.upenn.edu/hispanic-portuguese-studies/pc  
Course not offered every year  
Also Offered As: LALS 394  
Prerequisites: Spanish 219 or Spanish 223.  
Activity: Seminar  
1 Course Unit

SPAN 395 Hispanic Theater  
Topics vary. Please see the Spanish Department’s website for the current course description: https://www.sas.upenn.edu/hispanic-portuguese-studies/pc  
Course not offered every year  
Also Offered As: LALS 395  
Prerequisites: Spanish 219 or Spanish 223.  
Activity: Seminar  
1 Course Unit

SPAN 396 Studies in Spanish American Culture  
Topics vary. Please see the Spanish Department’s website for the current course description: https://www.sas.upenn.edu/hispanic-portuguese-studies/pc  
Course not offered every year  
Also Offered As: CIMS 396, GSWS 396, LALS 397  
Prerequisites: Spanish 219 or Spanish 223.  
Activity: Seminar  
1 Course Unit

SPAN 397 History of Spanish American Culture  
Topics vary. Please see the Spanish Department’s website for the current course description: https://www.sas.upenn.edu/hispanic-portuguese-studies/pc  
Course not offered every year  
Also Offered As: CIMS 397, GSWS 397, LALS 398  
Prerequisites: Spanish 219 or Spanish 223.  
Activity: Seminar  
1 Course Unit

SPAN 400 Conference Course for Majors  
Permission required.  
Course usually offered in fall term  
Activity: Seminar  
1 Course Unit

SPAN 523 Modern Novel  
Course not offered every year  
Activity: Seminar  
1 Course Unit

SPAN 543 Environmental Humanities  
Also Offered As: COML 544, ENGL 584, ENVS 543, GRMN 543  
Activity: Seminar  
1 Course Unit

SPAN 580 Contemporary Spanish Literature  
Topics vary. Please see the Spanish Department’s website for the current course description: https://www.sas.upenn.edu/hispanic-portuguese-studies/pc  
Course not offered every year  
Activity: Seminar  
1 Course Unit

SPAN 600 History of the Spanish Language  
The development of the Ibero-Romance dialects from late Latin to medieval times.  
Course not offered every year  
Activity: Seminar  
1 Course Unit

SPAN 606 Pedagogy Across the Spanish Curriculum  
The course usually offered in fall term  
Activity: Seminar  
1 Course Unit

SPAN 624 The Spanish Picaresque Novel  
Topics vary. Please see the Spanish Department’s website for the current course description: https://www.sas.upenn.edu/hispanic-portuguese-studies/pc  
Course not offered every year  
Activity: Seminar  
1 Course Unit

SPAN 630 Studies in the Spanish Middle Ages  
Topics vary. Please see the Spanish Department’s website for the current course description: https://www.sas.upenn.edu/hispanic-portuguese-studies/pc  
Course not offered every year  
Also Offered As: ARTH 740, COML 628  
Activity: Seminar  
1 Course Unit

SPAN 631 Medieval Spanish Epic to Romance  
Analysis of the Spanish epic from its origins to its prosification in chronicles, later manifestations, and relationship to the prose romance.  
Course not offered every year  
Activity: Seminar  
1 Course Unit

SPAN 640 Studies in the Spanish Renaissance  
Topics vary. Please see the Spanish Department’s website for the current course description: https://www.sas.upenn.edu/hispanic-portuguese-studies/pc  
Course not offered every year  
Also Offered As: COML 640  
Activity: Seminar  
1 Course Unit

SPAN 648 The Novelist Cervantes  
Topics vary. Please see the Spanish Department’s website for the current course description: https://www.sas.upenn.edu/hispanic-portuguese-studies/pc  
Course not offered every year  
Activity: Seminar  
1 Course Unit

SPAN 682 Seminar on Literary Theory  
Topics vary. See the Spanish Department’s website for the current offerings. https://www.sas.upenn.edu/hispanic-portuguese-studies/pc  
Course usually offered in fall term  
Also Offered As: COML 682  
Activity: Seminar  
1 Course Unit
SPAN 684 La Novela Realista
Topics vary. Please see the Spanish Department's website for the current course description: https://www.sas.upenn.edu/hispanic-portuguese-studies/pc
Course not offered every year
Activity: Seminar
1 Course Unit

SPAN 686 Studies in Spanish Culture
Topics vary. Please see the Spanish Department's website for the current course description: https://www.sas.upenn.edu/hispanic-portuguese-studies/pc
Course not offered every year
Activity: Seminar
1 Course Unit

SPAN 687 The Spanish Avant-Garde
Topics vary. Please see the Spanish Department's website for the current course description: https://www.sas.upenn.edu/hispanic-portuguese-studies/pc
Course not offered every year
Also Offered As: COML 687
Activity: Seminar
1 Course Unit

SPAN 690 Studies in 19th- and 20th-Century Spanish American Literature
Topics vary. Please see the Spanish Department's website for the current course description: https://www.sas.upenn.edu/hispanic-portuguese-studies/pc
Course not offered every year
Activity: Seminar
1 Course Unit

SPAN 692 Colonial Literature of Spanish America
Topics vary. Please see the Spanish Department's website for the current course description: https://www.sas.upenn.edu/hispanic-portuguese-studies/pc
Course not offered every year
Also Offered As: COML 692, LALS 692
Activity: Seminar
1 Course Unit

SPAN 693 Vanguardias culturales hispanoamericanas
Topics vary. Please see the Spanish Department's website for the current course description: https://www.sas.upenn.edu/hispanic-portuguese-studies/pc
Course not offered every year
Activity: Seminar
1 Course Unit

SPAN 694 Modern Spanish American Narrative
Topics vary. Please see the Spanish Department's website for the current course description: https://www.sas.upenn.edu/hispanic-portuguese-studies/pc
Course not offered every year
Also Offered As: CIMS 694, COML 694, LALS 694
Activity: Seminar
1 Course Unit

SPAN 697 Studies in Latin American Culture
Topics vary. Please see the Spanish Department's website for the current course description: https://www.sas.upenn.edu/hispanic-portuguese-studies/pc
Course not offered every year
Also Offered As: COML 697
Activity: Seminar
1 Course Unit

SPAN 698 Workshop on Scholarly Writing
This course aims to develop awareness about what constitutes effective scholarly prose in Spanish. It proposes to hone the student's handling of writing as a vehicle for the expression of intellectual thought, but also to develop a consciousness of the rhetorical strategies that can be used to advance a critical argument effectively. Extensive writing exercises will be assigned; these will be followed by intense and multiple redactions of the work originally produced. The ultimate goal is to make students develop precision, correctness, and elegance in written Spanish. Students will also work on a class paper written previously, with a view to learning the process of transforming a short, limited expression of an argument into a publishable article.
Course not offered every year
Activity: Seminar
1 Course Unit

SPAN 999 Independent Study
One-term course offered either term
Activity: Independent Study
1 Course Unit

Statistics (STAT)

STAT 101 Introductory Business Statistics
Data summaries and descriptive statistics; introduction to a statistical computer package; Probability: distributions, expectation, variance, covariance, portfolios, central limit theorem; Statistical inference of univariate data; Statistical inference for bivariate data: inference for intrinsically linear simple regression models. This course will have a business focus, but is not inappropriate for students in the college.
One-term course offered either term
Prerequisite: MATH 104 or MATH 110 or equivalent; successful completion of STAT 101 is prerequisite to STAT 102
Activity: Lecture
1 Course Unit

STAT 102 Introductory Business Statistics
One-term course offered either term
Prerequisite: STAT 101
Activity: Lecture
1 Course Unit

STAT 111 Introductory Statistics
Introduction to concepts in probability. Basic statistical inference procedures of estimation, confidence intervals and hypothesis testing directed towards applications in science and medicine. The use of the JMP statistical package.
One-term course offered either term
Prerequisites: High school algebra.
Activity: Recitation
1 Course Unit
STAT 112 Introductory Statistics
Further development of the material in STAT 111, in particular the analysis of variance, multiple regression, non-parametric procedures and the analysis of categorical data. Data analysis via statistical packages. One-term course offered either term
Prerequisite: STAT 111
Activity: Lecture
1 Course Unit

STAT 405 Statistical Computing with R
The goal of this course is to introduce students to the R programming language and related eco-system. This course will provide a skill-set that is in demand in both the research and business environments. In addition, R is a platform that is used and required in other advanced classes taught at Wharton, so that this class will prepare students for these higher level classes and electives.
Taught by: Stine, Waterman, Zhang
One-term course offered either term
Also Offered As: STAT 705
Prerequisite: STAT 102 or STAT 112 or STAT 430
Activity: Lecture
0.5 Course Units

STAT 422 Predictive Analytics for Business
This course follows from the introductory regression classes, STAT 102, STAT 112, and STAT 431 for undergraduates and STAT 613 for MBAs. It extends the ideas from regression modeling, focusing on the core business task of predictive analytics as applied to realistic business related data sets. In particular it introduces automated model selection tools, such as stepwise regression and various current model selection criteria such as AIC and BIC. It delves into classification methodologies such as logistic regression. It also introduces classification and regression trees (CART) and the popular predictive methodology known as the random forest.
One-term course offered either term
Also Offered As: STAT 722
Prerequisite: STAT 102 or STAT 112 or STAT 431
Activity: Lecture
0.5 Course Units

STAT 424 Text Analytics
This course introduces methods for the analysis of unstructured data, focusing on statistical models for text. Techniques include those for sentiment analysis, topic models, and predictive analytics. Course includes topics from natural language processing (NLP), such as identifying parts of speech, parsing sentences (e.g., subject and predicate), and named entity recognition (people and places). Unsupervised techniques suited to feature creation provide variables suited to traditional statistical models (regression) and more recent approaches (regression trees). Examples that span the course illustrate the success of text analytics. Hierarchical generating models often associated with nonparametric Bayesian analysis supply theoretical foundations.
Taught by: Stine
One-term course offered either term
Also Offered As: STAT 724
Prerequisites: Students should be familiar with regression models at the level of STAT 102 and the R statistics language at the level of STAT 405. Familiarity with the R-Studio development environment is presumed, as well as common R packages such as stringr, dplyr and ggplot. Those with more knowledge of Statistics, such as from STAT 422, or computing skills will benefit. The predominant software used in the course is R, with bits of JMP when helpful for interactive illustration. Familiarity with basic probability models is helpful but not presumed.
Activity: Lecture
0.5 Course Units

STAT 430 Probability
Discrete and continuous sample spaces and probability; random variables, distributions, independence; expectation and generating functions; Markov chains and recurrence theory.
One-term course offered either term
Also Offered As: STAT 510
Prerequisite: MATH 114 or MATH 115 or equivalent
Activity: Lecture
1 Course Unit

STAT 431 Statistical Inference
Graphical displays; one- and two-sample confidence intervals; one- and two-sample hypothesis tests; one- and two-way ANOVA; simple and multiple linear least-squares regression; nonlinear regression; variable selection; logistic regression; categorical data analysis; goodness-of-fit tests. A methodology course. This course does not have business applications but has significant overlap with STAT 101 and 102.
One-term course offered either term
Also Offered As: STAT 511
Prerequisite: STAT 430
Activity: Lecture
1 Course Unit

STAT 432 Mathematical Statistics
An introduction to the mathematical theory of statistics. Estimation, with a focus on properties of sufficient statistics and maximum likelihood estimators. Hypothesis testing, with a focus on likelihood ratio tests and the consequent development of "t" tests and hypothesis tests in regression and ANOVA. Nonparametric procedures.
Course usually offered in spring term
Also Offered As: STAT 512
Prerequisite: STAT 430 or 510 or equivalent
Activity: Lecture
1 Course Unit
STAT 433 Stochastic Processes
An introduction to Stochastic Processes. The primary focus is on Markov Chains, Martingales and Gaussian Processes. We will discuss many interesting applications from physics to economics. Topics may include: simulations of path functions, game theory and linear programming, stochastic optimization, Brownian Motion and Black-Scholes.
Taught by: Steele, Mossel
One-term course offered either term
Also Offered As: STAT 533
Prerequisites: STAT 430, or permission of instructor
Activity: Lecture
1 Course Unit

STAT 434 Financial and Economic Time Series
This course will introduce students to the time series methods and practices which are most relevant to the analysis of financial and economic data. After an introduction to the statistical programming language R the course develops an autoregressive models, moving average models, and their generalizations. The course then develops models that are closely focused on particular features of financial series such as the challenges of time dependent volatility.
Course usually offered in fall term
Prerequisites: STAT 101 and STAT 102 or STAT 431. Familiarity with linear algebra
Activity: Lecture
1 Course Unit

STAT 435 Forecasting Methods for Management
This course provides an introduction to the wide range of techniques available for statistical forecasting. Qualitative techniques, smoothing and decomposition of time series, regression, adaptive methods, autoregressive-moving average modeling, and ARCH and GARCH formulations will be surveyed. The emphasis will be on applications, rather than technical foundations and derivations. The techniques will be studied critically, with examination of their usefulness and limitations.
Taught by: Shaman
One-term course offered either term
Also Offered As: STAT 711
Prerequisite: STAT 102 or 112 or 431
Activity: Lecture
1 Course Unit

STAT 436 Introduction to Large-Scale Data Science
The course will focus on computational approaches to large-scale data analysis. The lectures will introduce the relevant concepts, and students will be asked to work on projects, implementing the methods and experimenting with large-scale datasets. The course will cover various techniques for updating models in an online fashion, as well as subsampling and dimensionality-reduction techniques. The students will experiment with neural network architectures and learn to build predictive models for modern machine learning tasks.
Taught by: Rakhl
One-term course offered either term
Prerequisites: Linear Algebra and basic R programming
Activity: Lecture
1 Course Unit

STAT 451 Fundamentals of Actuarial Science I
This course is the usual entry point in the actuarial science program. It is required for students who plan to concentrate or minor in actuarial science. It can also be taken by others interested in the mathematics of personal finance and the use of mortality tables. For future actuaries, it provides the necessary knowledge of compound interest and its applications, and basic life contingencies definition to be used throughout their studies. Non-actuaries will be introduced to practical applications of finance mathematics, such as loan amortization and bond pricing, and premium calculation of typical life insurance contracts. Main topics include annuities, loans and bonds; basic principles of life contingencies and determination of annuity and insurance benefits and premiums.
Taught by: Lemaire
Course usually offered in fall term
Also Offered As: BEPP 451, BEPP 851, STAT 851
Prerequisites: MATH 104, STAT 430. STAT 430 can be taken concurrently with BEPP 451 or STAT 451
Activity: Lecture
1 Course Unit

STAT 452 Fundamentals of Actuarial Science II
This specialized course is usually only taken by Wharton students who plan to concentrate in actuarial science and Penn students who plan to minor in actuarial mathematics. It provides a comprehensive analysis of advanced life contingencies problems such as reserving, multiple life functions, multiple decrement theory with application to the valuation of pension plans.
Taught by: Lemaire
Course usually offered in spring term
Also Offered As: BEPP 452, BEPP 852, STAT 852
Prerequisite: BEPP 451 or STAT 451
Activity: Lecture
1 Course Unit

STAT 453 Actuarial Statistics
This course covers models for insurer's losses, and applications of Markov chains. Poisson processes, including extensions such as non-homogeneous, compound, and mixed Poisson processes are studied in detail. The compound model is then used to establish the distribution of losses. An extensive section on Markov chains provides the theory to forecast future states of the process, as well as numerous applications of Markov chains to insurance, finance, and genetics. The course is abundantly illustrated by examples from the insurance and finance literature. While most of the students taking the course are future actuaries, other students interested in applications of statistics may discover in class many fascinating applications of stochastic processes and Markov chains.
Taught by: Lemaire
Course usually offered in fall term
Also Offered As: BEPP 453, BEPP 853, STAT 853
Prerequisite: STAT 430
Activity: Lecture
1 Course Unit
STAT 454 Applied Statistical Methods for Actuaries
One half of the course is devoted to the study of time series, including ARIMA modeling and forecasting. The other half studies modifications in random variables due to deductibles, co-payments, policy limits, and elements of simulation. This course is a possible entry point into the actuarial science program. The Society of Actuaries has approved STAT 854 for VEE credit on the topic of time series.
Taught by: Lemaire
Course usually offered in spring term
Also Offered As: BEPP 454, BEPP 854, STAT 854
Prerequisites: STAT 430, STAT 431
Activity: Lecture
1 Course Unit

STAT 470 Data Analytics and Statistical Computing
This course will introduce a high-level programming language, called R, that is widely used for statistical data analysis. Using R, we will study and practice the following methodologies: data cleaning, feature extraction; web scrubbing, text analysis; data visualization; fitting statistical models; simulation of probability distributions and statistical models; statistical inference methods that use simulations (bootstrap, permutation tests).
Taught by: Buja
One-term course offered either term
Also Offered As: STAT 503, STAT 770
Prerequisites: STAT 101 and 102 or STAT 111 and 112 or STAT 431
Activity: Lecture
1 Course Unit

STAT 471 Modern Data Mining
Modern Data Mining: Statistics or Data Science has been evolving rapidly to keep up with the modern world. While classical multiple regression and logistic regression technique continue to be the major tools we go beyond to include methods built on top of linear models such as LASSO and Ridge regression. Contemporary methods such as KNN (K nearest neighbor), Random Forest, Support Vector Machines, Principal Component Analyses (PCA), the bootstrap and others are also covered. Text mining especially through PCA is another topic of the course. While learning all the techniques, we keep in mind that our goal is to tackle real problems. Not only do we go through a large collection of interesting, challenging real-life data sets but we also learn how to use the free, powerful software "R" in connection with each of the methods exposed in the class.
Taught by: Zhao
One-term course offered either term
Also Offered As: STAT 571, STAT 701
Prerequisite: STAT 102 or 112 or 431
Activity: Lecture
1 Course Unit

STAT 472 Decision Making under Uncertainty
Fundamentals of modern decision analysis with emphasis on managerial decision making under uncertainty and risk. The basic topics of decision analysis are examined. These include payoffs and losses, utility and subjective probability, the value of information, Bayesian analysis, inference and decision making. Examples are presented to illustrate the ideas and methods. Some of these involve: choices among investment alternatives; marketing a new product; health care decisions; and costs, benefits, and sample size in surveys.
Taught by: Stine
Course not offered every year
Also Offered As: STAT 712
Prerequisite: STAT 102 or 112 or 431
Activity: Lecture
1 Course Unit

STAT 473 Bioinformatics
An introduction to the use of statistical methods in the increasingly important scientific areas of genomics and bioinformatics. The topics to be covered will be decided in detail after the initial class meeting, but will be taken from the following: - background probability theory of one and many random variables and of events; background statistical inference theory, classical and Bayesian, Poisson processes and Markov chain; the analysis of one and many DNA sequences, in particular shotgun sequencing, pattern analysis and motifs; substitution matrices, general random walk theory; advanced statistical inference, the theory of BLAST, hidden Markov models, microarray analysis, evolutionary models.
Taught by: Ewens
Course usually offered in spring term
Also Offered As: STAT 953
Prerequisites: Good background in probability and statistics at the approximate level of STAT 430 and STAT 431
Activity: Lecture
1 Course Unit
Notes: The material will follow the class textbook, Ewens and Grant "Statistical Models in Bioinformatics", Springer, second edition, 2005.

STAT 474 Modern Regression for the Social, Behavioral and Biological Sciences
Function estimation and data exploration using extensions of regression analysis: smoothers, semiparametric and nonparametric regression, and supervised machine learning. Conceptual foundations are addressed as well as hands-on use for data analysis.
Taught by: Berk
Course usually offered in spring term
Also Offered As: CRIM 474, STAT 974
Prerequisite: STAT 102 or 112 or equivalent
Activity: Lecture
1 Course Unit

STAT 475 Sample Survey Design
This course will cover the design and analysis of sample surveys. Topics include simple sampling, stratified sampling, cluster sampling, graphics, regression analysis using complex surveys and methods for handling nonresponse bias.
Course not offered every year
Also Offered As: BSTA 775, STAT 920
Prerequisite: STAT 102 or 112 or 431
Activity: Lecture
1 Course Unit
STAT 476 Applied Probability Models in Marketing
This course will expose students to the theoretical and empirical “building blocks” that will allow them to construct, estimate, and interpret powerful models of customer behavior. Over the years, researchers and practitioners have used these models for a wide variety of applications, such as new product sales, forecasting, analyses of media usage, and targeted marketing programs. Other disciplines have seen equally broad utilization of these techniques. The course will be entirely lecture-based with a strong emphasis on real-time problem solving. Most sessions will feature sophisticated numerical investigations using Microsoft Excel. Much of the material is highly technical.
Taught by: Fader
Course usually offered in spring term
Also Offered As: MKTG 476, MKTG 676, MKTG 776, STAT 776
Prerequisites: A high comfort level with basic integral calculus and recent exposure to a formal course in probability and statistics such as STAT 430 is strongly recommended.
Activity: Lecture
1 Course Unit

STAT 500 Applied Regression and Analysis of Variance
An applied graduate level course in multiple regression and analysis of variance for students who have completed an undergraduate course in basic statistical methods. Emphasis is on practical methods of data analysis and their interpretation. Covers model building, general linear hypothesis, residual analysis, leverage and influence, one-way anova, two-way anova, factorial anova. Primarily for doctoral students in the managerial, behavioral, social and health sciences.
Taught by: Rosenbaum
Course usually offered in fall term
Also Offered As: BSTA 550, PSYC 611
Prerequisite: STAT 102 or 112 or equivalent
Activity: Lecture
1 Course Unit

STAT 501 Introduction to Nonparametric Methods and Log-linear Models
An applied graduate level course for students who have completed an undergraduate course in basic statistical methods. Covers two unrelated topics: loglinear and logit models for discrete data and nonparametric methods for nonnormal data. Emphasis is on practical methods of data analysis and their interpretation. Primarily for doctoral students in the managerial, behavioral, social and health sciences. May be taken before STAT 500 with permission of instructor.
Taught by: Rosenbaum
Course usually offered in spring term
Also Offered As: PSYC 612
Prerequisite: STAT 102 or 112 or equivalent
Activity: Lecture
1 Course Unit

STAT 502 Survey Methods and Design
Methods and design of field surveys in education, the social sciences, criminal justice research, and other areas. It treats methods of eliciting information through household, mail, telephone surveys, methods of assuring privacy, enhancing cooperation rates and related matters. Fundamentals of statistical sampling and sample design are covered. Much of the course is based on contemporary surveys sponsored by the National Center for Education Statistics and other federal, state, and local agencies.
Taught by: Boruch
Course usually offered in spring term
Also Offered As: EDUC 683
Prerequisite: STAT 520 or equivalent
Activity: Lecture
1 Course Unit

STAT 503 Data Analytics and Statistical Computing
This course will introduce a high-level programming language, called R, that is widely used for statistical data analysis. Using R, we will study and practice the following methodologies: data cleaning, feature extraction; web scrubbing, text analysis; data visualization; fitting statistical models; simulation of probability distributions and statistical models; statistical inference methods that use simulations (bootstrap, permutation tests).
Taught by: Buja
One-term course offered either term
Also Offered As: STAT 470, STAT 770
Prerequisites: Two courses at the statistics 400 or 500 level.
Activity: Lecture
1 Course Unit

STAT 510 Probability
Taught by: Brown
One-term course offered either term
Also Offered As: STAT 430
Prerequisite: A one year course in calculus
Activity: Lecture
1 Course Unit

STAT 511 Statistical Inference
Graphical displays; one- and two-sample confidence intervals; one- and two-sample hypothesis tests; one- and two-way ANOVA; simple and multiple linear least-squares regression; nonlinear regression; variable selection; logistic regression; categorical data analysis; goodness-of-fit tests. A methodology course.
One-term course offered either term
Also Offered As: STAT 431
Prerequisite: STAT 510 or equivalent
Activity: Lecture
1 Course Unit
STAT 512 Mathematical Statistics
An introduction to the mathematical theory of statistics. Estimation, with a focus on properties of sufficient statistics and maximum likelihood estimators. Hypothesis testing, with a focus on likelihood ratio tests and the consequent development of "t" tests and hypothesis tests in regression and ANOVA. Nonparametric procedures.
Course usually offered in spring term
Also Offered As: STAT 432
Prerequisite: STAT 430 or 510 or equivalent
Activity: Lecture
1 Course Unit

STAT 520 Applied Econometrics I
This is a course in econometrics for graduate students. The goal is to prepare students for empirical research by studying econometric methodology and its theoretical foundations. Students taking the course should be familiar with elementary statistical methodology and basic linear algebra, and should have some programming experience.
Topics include conditional expectation and linear projection, asymptotic statistical theory, ordinary least squares estimation, the bootstrap and jackknife, instrumental variables and two-stage least squares, specification tests, systems of equations, generalized least squares, and introduction to use of linear panel data models.
Taught by: Shaman
Course usually offered in fall term
Prerequisites: MATH 114 and MATH 312 or equivalents, and an undergraduate introduction to probability and statistics
Activity: Lecture
1 Course Unit

STAT 521 Applied Econometrics II
Topics include system estimation with instrumental variables, fixed effects and random effects estimation, M-estimation, nonlinear regression, quantile regression, maximum likelihood estimation, generalized method of moments estimation, minimum distance estimation, and binary and multinomial response models. Both theory and applications will be stressed.
Taught by: Shaman
Course usually offered in spring term
Prerequisites: STAT 520. This is a continuation of STAT 520
Activity: Lecture
1 Course Unit

STAT 533 Stochastic Processes
An introduction to Stochastic Processes. The primary focus is on Markov Chains, Martingales and Gaussian Processes. We will discuss many interesting applications from physics to economics. Topics may include: simulations of path functions, game theory and linear programming, stochastic optimization, Brownian Motion and Black-Scholes.
Taught by: Steele, Mossel
One-term course offered either term
Also Offered As: STAT 433
Prerequisite: STAT 510 or equivalent
Activity: Lecture
1 Course Unit

STAT 542 Bayesian Methods and Computation
Sophisticated tools for probability modeling and data analysis from the Bayesian perspective. Hierarchical models, mixture models and Monte Carlo simulation techniques.
Taught by: Jensen
Course usually offered in spring term
Prerequisite: STAT 430 or 510 or equivalent or permission of instructor
Activity: Lecture
1 Course Unit

STAT 553 Machine Learning
This course gives a broad overview of the machine learning and statistical pattern recognition. Some topics will be rather glanced over while others will be considered in-depth. Topics include supervised learning (generative/discriminative models, parametric/nonparametric, neural networks, support vector machines, boosting, bagging, random forests), online learning (prediction with expert advice), learning theory (VC dimension, generalization bounds, bias/variance trade-off), unsupervised learning (clustering, k-means, PCA, ICA). Most of the course concentrates on the supervised and online learning.
Course usually offered in spring term
Prerequisites: STAT 510 and 512 or equivalent
Activity: Lecture
1 Course Unit

STAT 571 Modern Data Mining
Modern Data Mining: Statistics or Data Science has been evolving rapidly to keep up with the modern world. While classical multiple regression and logistic regression technique continue to be the major tools we go beyond to include methods built on top of linear models such as LASSO and Ridge regression. Contemporary methods such as KNN (K nearest neighbor), Random Forest, Support Vector Machines, Principal Component Analyses (PCA), the bootstrap and others are also covered.
Text mining especially through PCA is another topic of the course. While learning all the techniques, we keep in mind that our goal is to tackle real problems. Not only do we go through a large collection of interesting, challenging real-life data sets but we also learn how to use the free, powerful software "R" in connection with each of the methods exposed in the class.
Taught by: Zhao
One-term course offered either term
Also Offered As: STAT 471, STAT 701
Prerequisite: Two courses at the statistics 400 or 500 level or permission from instructor
Activity: Lecture
1 Course Unit
STAT 613 Regression Analysis for Business
This course provides the fundamental methods of statistical analysis, the art and science if extracting information from data. The course will begin with a focus on the basic elements of exploratory data analysis, probability theory and statistical inference. With this as a foundation, it will proceed to explore the use of the key statistical methodology known as regression analysis for solving business problems, such as the prediction of future sales and the response of the market to price changes. The use of regression diagnostics and various graphical displays supplement the basic numerical summaries and provides insight into the validity of the models. Specific important topics covered include least squares estimation, residuals and outliers, tests and confidence intervals, correlation and autocorrelation, collinearity, and randomization. The presentation relies upon computer software for most of the needed calculations, and the resulting style focuses on construction of models, interpretation of results, and critical evaluation of assumptions.
Course usually offered in fall term
Prerequisites: The basic mathematical skills covered in STAT 611, Mathematics for Business Analysis
Activity: Lecture
1 Course Unit
Notes: Lecture and discussion, assigned exercises, data analysis project, quizzes, and a final exam.

STAT 621 Accelerated Regression Analysis for Business
STAT 621 is intended for students with recent, practical knowledge of the use of regression analysis in the context of business applications. This course covers the material of STAT 613, but omits the foundations to focus on regression modeling. The course reviews statistical hypothesis testing and confidence intervals for the sake of standardizing terminology and introducing software, and then moves into regression modeling. The pace presumes recent exposure to both the theory and practice of regression and will not be accommodating to students who have not seen or used these methods previously. The interpretation of regression models within the context of applications will be stressed, presuming knowledge of the underlying assumptions and derivations. The scope of regression modeling that is covered includes multiple regression analysis with categorical effects, regression diagnostic procedures, interactions, and time series structure. The presentation of the course relies on computer software that will be introduced in the initial lectures.
Taught by: George
Course usually offered in fall term
Prerequisites: Recent exposure to the theory and practice of regression modeling.
Activity: Lecture
0.5 Course Units
Notes: Lecture and discussion, assigned exercises, data analysis, quizzes, and a final exam.

STAT 701 Modern Data Mining
Modern Data Mining: Statistics or Data Science has been evolving rapidly to keep up with the modern world. While classical multiple regression and logistic regression technique continue to be the major tools we go beyond to include methods built on top of linear models such as LASSO and Ridge regression. Contemporary methods such as KNN (K nearest neighbor), Random Forest, Support Vector Machines, Principal Component Analyses (PCA), the bootstrap and others are also covered. Text mining especially through PCA is another topic of the course. While learning all the techniques, we keep in mind that our goal is to tackle real problems. Not only do we go through a large collection of interesting, challenging real-life data sets but we also learn how to use the free, powerful software "R" in connection with each of the methods exposed in the class.
Taught by: Zhao
One-term course offered either term
Also Offered As: STAT 471, STAT 571
Prerequisite: STAT 613 or equivalent
Activity: Lecture
1 Course Unit

STAT 705 Statistical Computing with R
The goal of this course is to introduce students to the R programming language and related eco-system. This course will provide a skill-set that is in demand in both the research and business environments. In addition, R is a platform that is used and required in other advanced classes taught at Wharton, so that this class will prepare students for these higher level classes and electives.
Taught by: Stine, Waterman, Zhang
One-term course offered either term
Also Offered As: STAT 405
Prerequisites: STAT 613 or STAT 621 or waiving the Statistics Core completely.
Activity: Lecture
0.5 Course Units

STAT 711 Forecasting Methods for Management
This course provides an introduction to the wide range of techniques available for statistical forecasting. Qualitative techniques, smoothing and decomposition of time series, regression, adaptive methods, autoregressive-moving average modeling, and ARCH and GARCH formulations will be surveyed. The emphasis will be on applications, rather than technical foundations and derivations. The techniques will be studied critically, with examination of their usefulness and limitations.
Taught by: Shaman
One-term course offered either term
Also Offered As: STAT 435
Prerequisite: STAT 613 or equivalent
Activity: Lecture
1 Course Unit
STAT 722 Decision Making Under Uncertainty
Fundamentals of modern decision analysis with emphasis on managerial decision making under uncertainty and risk. The basic topics of decision analysis are examined. These include payoffs and losses, utility and subjective probability, the value of information, Bayesian analysis, inference and decision making. Examples are presented to illustrate the ideas and methods. Some of these involve: choices among investment alternatives; marketing a new product; health care decisions; and costs, benefits, and sample size in surveys.
Taught by: Stine
Course not offered every year
Also Offered As: STAT 472
Prerequisite: STAT 520 or STAT 613 or equivalent
Activity: Lecture
1 Course Unit

STAT 724 Text Analytics
This course follows from the introductory regression classes, STAT 102, STAT 112, and STAT 431 for undergraduates and STAT 613 for MBAs. It extends the ideas from regression modeling, focusing on the core business task of predictive analytics as applied to realistic business related data sets. In particular it introduces automated model selection tools, such as stepwise regression and various current model selection criteria such as AIC and BIC. It delves into classification methodologies such as logistic regression. It also introduces classification and regression trees (CART) and the popular predictive methodology known as the random forest.
One-term course offered either term
Also Offered As: STAT 422
Prerequisite: STAT 613 or STAT 621 or having waived the statistics core completely
Activity: Lecture
0.5 Course Units

STAT 770 Data Analytics and Statistical Computing
This course will introduce a high-level programming language, called R, that is widely used for statistical data analysis. Using R, we will study and practice the following methodologies: data cleaning, feature extraction; web scrubbing, text analysis; data visualization; fitting statistical models; simulation of probability distributions and statistical models; statistical inference methods that use simulations (bootstrap, permutation tests).
Taught by: Buja
One-term course offered either term
Also Offered As: STAT 470, STAT 503
Prerequisites: STAT 613 or STAT 621 or waiving the Statistics Core completely.
Activity: Lecture
1 Course Unit

STAT 776 Applied Probability Models in Marketing
This course will expose students to the theoretical and empirical "building blocks" that will allow them to develop and implement powerful models of customer behavior. Over the years, researchers and practitioners have used these methods for a wide variety of applications, such as new product sales forecasting, analyses of media usage, customer valuation, and targeted marketing programs. These same techniques are also very useful for other types of business (and non-business) problems. The course will be entirely lecture-based with a strong emphasis on real-time problem solving. Most sessions will feature sophisticated numerical investigations using Microsoft Excel. Much of the material is highly technical.
Taught by: Fader
Course usually offered in spring term
Also Offered As: MKTG 476, MKTG 776, STAT 476
Prerequisites: Students must have a high comfort level with basic integral calculus, and recent exposure to a formal course in probability and statistics is strongly recommended.
Activity: Lecture
1 Course Unit
Notes: Format: Lecture, real-time problem solving

STAT 851 Fundamentals of Actuarial Science I
This course is the usual entry point in the actuarial science program. It is required for students who plan to concentrate or minor in actuarial science. It can also be taken by others interested in the mathematics of personal finance and the use of mortality tables. For future actuaries, it provides the necessary knowledge of compound interest and its applications, and basic life contingencies definition to be used throughout their studies. Non-actuaries will be introduced to practical applications of finance mathematics, such as loan amortization and bond pricing, and premium calculation of typical life insurance contracts. Main topics include annuities, loans and bonds; basic principles of life contingencies and determination of annuity and insurance benefits and premiums.
Taught by: Lemaire
Course usually offered in fall term
Also Offered As: BEPP 451, BEPP 851, STAT 451
Prerequisite: One semester of calculus
Activity: Lecture
1 Course Unit
STAT 852 Fundamentals of Actuarial Science II
This specialized course is usually only taken by Wharton students who plan to concentrate in actuarial science and Penn students who plan to minor in actuarial mathematics. It provides a comprehensive analysis of advanced life contingencies problems such as reserving, multiple life functions, multiple decrement theory with application to the valuation of pension plans.
Taught by: Lemaire
Course usually offered in spring term
Also Offered As: BEPP 452, BEPP 852, STAT 452
Prerequisite: STAT 851 or BEPP 851
Activity: Lecture
1 Course Unit

STAT 853 Actuarial Statistics
This course covers models for insurer’s losses, and applications of Markov chains. Poisson processes, including extensions such as non-homogeneous, compound, and mixed Poisson processes are studied in detail. The compound model is then used to establish the distribution of losses. An extensive section on Markov chains provides the theory to forecast future states of the process, as well as numerous applications of Markov chains to insurance, finance, and genetics. The course is abundantly illustrated by examples from the insurance and finance literature. While most of the students taking the course are future actuaries, other students interested in applications of statistics may discover in class many fascinating applications of stochastic processes and Markov chains.
Taught by: Lemaire
Course usually offered in fall term
Also Offered As: BEPP 453, BEPP 853, STAT 453
Prerequisite: Two semesters of Statistics
Activity: Lecture
1 Course Unit

STAT 854 Applied Statistical Methods for Actuaries
One half of the course is devoted to the study of time series, including ARIMA modeling and forecasting. The other half studies modifications in random variables due to deductibles, co-payments, policy limits, and elements of simulation. This course is a possible entry point into the actuarial science program. The Society of Actuaries has approved STAT 854 for VEE credit on the topic of time series.
Taught by: Lemaire
Course usually offered in spring term
Also Offered As: BEPP 454, BEPP 854, STAT 454
Prerequisite: One semester of probability
Activity: Lecture
1 Course Unit

STAT 900 Advanced Probability
The topics covered will change from year to year. Typical topics include the theory of large deviations, percolation theory, particle systems, and probabilistic learning theory.
Course not offered every year
Prerequisite: STAT 931 or equivalent
Activity: Lecture
1 Course Unit

STAT 901 Stochastic Processes II
Martingales, optimal stopping, Wald’s lemma, age-dependent branching processes, stochastic integration, Ito’s lemma.
Course not offered every year
Also Offered As: OIDD 931
Prerequisite: OIDD 930 or equivalent
Activity: Lecture
1 Course Unit

STAT 910 Forecasting and Time Series Analysis
Fourier analysis of data, stationary time series, properties of autoregressive moving average models and estimation of their parameters, spectral analysis, forecasting. Discussion of applications to problems in economics, engineering, physical science, and life science.
Taught by: Stine
Course offered spring; odd-numbered years
Also Offered As: BSTA 852
Prerequisite: STAT 520 or 961 or equivalent
Activity: Lecture
1 Course Unit

STAT 915 Nonparametric Inference
Statistical inference when the functional form of the distribution is not specified. Nonparametric function estimation, density estimation, survival analysis, contingency tables, association, and efficiency.
Course not offered every year
Prerequisite: STAT 520 or equivalent
Activity: Lecture
1 Course Unit

STAT 920 Sample Survey Methods
This course will cover the design and analysis of sample surveys. Topics include simple random sampling, stratified sampling, cluster sampling, graphics, regression analysis using complex surveys and methods for handling nonresponse bias.
Taught by: Small
Course not offered every year
Also Offered As: BSTA 775, STAT 475
Prerequisites: STAT 520, 961 or 970 or permission of instructor
Activity: Lecture
1 Course Unit

STAT 921 Observational Studies
This course will cover statistical methods for the design and analysis of observational studies. Topics will include the potential outcomes framework for causal inference; randomized experiments; matching and propensity score methods for controlling confounding in observational studies; tests of hidden bias; sensitivity analysis; and instrumental variables.
Taught by: Small
Course usually offered in fall term
Prerequisites: STAT 520, 961 or 970 or permission of instructor
Activity: Lecture
1 Course Unit

STAT 924 Advanced Experimental Design
Factorial designs, confounding, incomplete blocks, fractional factorials, random and mixed models, response surfaces.
Course not offered every year
Prerequisite: STAT 972
Activity: Lecture
1 Course Unit
STAT 925 Multivariate Analysis: Theory
This is a course that prepares PhD students in statistics for research in multivariate statistics and high dimensional statistical inference. Topics from classical multivariate statistics include the multivariate normal distribution and the Wishart distribution; estimation and hypothesis testing of mean vectors and covariance matrices; principal component analysis, canonical correlation analysis and discriminant analysis; etc. Topics from modern multivariate statistics include the Marcenko-Pastur law, the Tracy-Widom law, nonparametric estimation and hypothesis testing of high-dimensional covariance matrices, high-dimensional principal component analysis, etc.
Taught by: Ma
Course not offered every year
Prerequisites: STAT 930, 970 and 972 or permission of instructor
Activity: Lecture
1 Course Unit

STAT 926 Multivariate Analysis: Methodology
This is a course that prepares PhD students in statistics for research in multivariate statistics and data visualization. The emphasis will be on a deep conceptual understanding of multivariate methods to the point where students will propose variations and extensions to existing methods or whole new approaches to problems previously solved by classical methods. Topics include: principal component analysis, canonical correlation analysis, generalized canonical analysis; nonlinear extensions of multivariate methods based on optimal transformations of quantitative variables and optimal scaling of categorical variables; shrinkage- and sparsity-based extensions to classical methods; clustering methods of the k-means and hierarchical varieties; multidimensional scaling, graph drawing, and manifold estimation.
Taught by: Buja
Course not offered every year
Prerequisite: STAT 961 or permission of instructor
Activity: Lecture
1 Course Unit

STAT 927 Bayesian Statistical Theory and Methods
A course in Bayesian statistical theory and methods. Axiomatic developments of utility theory and subjective probability, and elements of Bayesian theory.
Taught by: Zhao
Course not offered every year
Also Offered As: BSTA 854
Prerequisite: STAT 971
Activity: Lecture
1 Course Unit

STAT 928 Statistical Learning Theory
Statistical learning theory studies the statistical aspects of machine learning and automated reasoning, through the use of (sampled) data. In particular, the focus is on characterizing the generalization ability of learning algorithms in terms of how well they perform on "new" data when trained on some given data set. The focus of the course is on: providing the fundamental tools used in this analysis; understanding the performance of widely used learning algorithms; understanding the "art" of designing good algorithms, both in terms of statistical and computational properties. Potential topics include: empirical process theory; online learning; stochastic optimization; margin based algorithms; feature selection; concentration of measure.
Taught by: Rakhlin
Course usually offered in spring term
Prerequisites: Probability and linear algebra.
Activity: Lecture
1 Course Unit

STAT 930 Probability
Taught by: Steele
Course usually offered in fall term
Also Offered As: MATH 546
Prerequisite: STAT 430 or 510 or equivalent
Activity: Lecture
1 Course Unit

STAT 931 Stochastic Processes
Taught by: Steele
Course usually offered in spring term
Also Offered As: MATH 547
Prerequisite: STAT 930
Activity: Lecture
1 Course Unit

STAT 932 Survival Models and Analysis Methods for Medical and Biological Data
Parametric models, nonparametric methods for one-and two-sample problems, proportional hazards model, inference based on ranks. Problems will be considered from clinical trials, toxicology and tumorigenicity studies, and epidemiological studies.
Taught by: Zhao
Course not offered every year
Also Offered As: BSTA 854
Prerequisite: STAT 971
Activity: Lecture
1 Course Unit
STAT 933 Analysis of Categorical Data
Likelihood equations for log-linear models, properties of maximum likelihood estimates, exact and approximate conditional inference, computing algorithms, weighted least squares methods, and conditional independence and log-linear models. Applied topics, including interpretation of log-linear and logit model parameters, smoothing of tables, goodness-of-fit, and incomplete contingency tables.
Taught by: Rosenbaum
Course not offered every year
Prerequisites: STAT 961 and 971
Activity: Lecture
1 Course Unit

STAT 940 Advanced Inference I
The topics covered will change from year to year. Typical topics include sequential analysis, nonparametric function estimation, robustness, bootstrapping and applications decision theory, likelihood methods, and mixture models.
Course not offered every year
Prerequisite: STAT 971
Activity: Lecture
1 Course Unit

STAT 941 Advanced Inference II
A continuation of STAT 940.
Course not offered every year
Prerequisite: STAT 940
Activity: Lecture
1 Course Unit

STAT 950 Quantitative Consulting Seminar
The seminar offers the opportunity for small teams of MBAs to work on "real life" quantitative consulting projects. These projects are drawn from both business and University sources. The emphasis is on providing a relevant and comprehensible solution to the client's problem. In-class brainstorming sessions, client presentations and written reports give students the opportunity to test for the existence of an intersection between their quantitative and communication skills.
Taught by: Waterman
Course usually offered in spring term
Prerequisites: No prerequisites, but please talk to the instructor to determine your fit with the course.
Activity: Seminar
1 Course Unit

STAT 953 Bioinformatics
An introduction to the use of statistical methods in the increasingly important scientific areas of genomics and bioinformatics. The topics to be covered will be decided in detail after the initial class meeting, but will be taken from the following: background probability theory of one and many random variables and events; background statistical inference theory, classical and Bayesian, Poisson processes and Markov chain; the analysis of one and many DNA sequences, in particular shotgun sequencing, pattern analysis and motifs; substitution matrices, general random walk theory, advanced statistical inference, the theory of BLAST, hidden Markov models, microarray analysis, evolutionary models.
Taught by: Ewens
Course usually offered in spring term
Also Offered As: STAT 473
Prerequisites: Good background in probability and statistics at the approximate level of STAT 430 and STAT 431
Activity: Lecture
1 Course Unit
Notes: The material will follow the class textbook, Ewens and Grant "Statistical Models in Bioinformatics", Springer, second edition, 2005.

STAT 955 Stochastic Calculus and Financial Applications
Selected topics in the theory of probability and stochastic processes.
Taught by: Steele
Course usually offered in fall term
Prerequisite: STAT 930 or equivalent
Activity: Lecture
1 Course Unit

STAT 956 Financial and Economic Time Series
This graduate course introduces students to the time series methods and practices which are most relevant to the analysis of financial and economic data. The course will address both theoretical and empirical issues. Extensive use will be made of the S-Plus Statistical Language, but no previous experience of S-Plus will be required. The course begins with a quick review of ARIMA models. Most of the course is devoted to ARCH, GARCH, threshold, switching Markov, state space, and nonlinear models.
Taught by: Steele
Course usually offered in spring term
Prerequisites: A graduate course in statistics or econometrics. Familiarity with linear algebra.
Activity: Lecture
1 Course Unit

STAT 957 Seminar in Data Analysis
Survey of methods for the analysis of large unstructured data sets: detection of outliers, Winsorizing, graphical techniques, robust estimators, multivariate problems.
Course not offered every year
Prerequisites: STAT 961, 971, 972, 925, or equivalents; permission of instructor
Activity: Seminar
1 Course Unit
STAT 961 Statistical Methodology
This is a course that prepares 1st year PhD students in statistics for a research career. This is not an applied statistics course. Topics covered include: linear models and their high-dimensional geometry, statistical inference illustrated with linear models, diagnostics for linear models, bootstrap and permutation inference, principal component analysis, smoothing and cross-validation.
Taught by: Buja
Course usually offered in fall term
Prerequisites: STAT 431 or 520 or equivalent; a solid course in linear algebra and a programming language
Activity: Lecture
1 Course Unit

STAT 962 Advanced Methods for Applied Statistics
This course is designed for Ph.D. students in statistics and will cover various advanced methods and models that are useful in applied statistics. Topics for the course will include missing data, measurement error, nonlinear and generalized linear regression models, survival analysis, experimental design, longitudinal studies, building R packages and reproducible research.
Taught by: Small
Course usually offered in spring term
Prerequisite: STAT 961
Activity: Lecture
1 Course Unit

STAT 970 Mathematical Statistics
Decision theory and statistical optimality criteria, sufficiency, point estimation and hypothesis testing methods and theory.
Taught by: Small
Course usually offered in fall term
Prerequisites: STAT 431 or 520 or equivalent; comfort with mathematical proofs (e.g., MATH 360)
Activity: Lecture
1 Course Unit

STAT 971 Introduction to Linear Statistical Models
Taught by: Brown
Course usually offered in spring term
Prerequisite: STAT 970
Activity: Lecture
1 Course Unit

STAT 972 Advanced Topics in Mathematical Statistics
A continuation of STAT 970.
Taught by: Cai
One-term course offered either term
Also Offered As: BSTA 820
Prerequisites: STAT 970 and 971
Activity: Lecture
1 Course Unit

STAT 974 Modern Regression for the Social, Behavioral and Biological Sciences
Function estimation and data exploration using extensions of regression analysis: smoothers, semiparametric and nonparametric regression, and supervised machine learning. Conceptual foundations are addressed as well as hands-on use for data analysis.
Taught by: Berk
Course usually offered in spring term
Also Offered As: CRIM 474, STAT 474
Prerequisites: Two statistics courses at the graduate school level including a solid foundation in the generalized linear model.
Activity: Lecture
1 Course Unit

STAT 991 Seminar in Advanced Application of Statistics
This seminar will be taken by doctoral candidates after the completion of most of their coursework. Topics vary from year to year and are chosen from advance probability, statistical inference, robust methods, and decision theory with principal emphasis on applications.
One-term course offered either term
Activity: Seminar
1 Course Unit

Tamil (TAML)

TAML 406 Beginning Tamil Part I
This course introduces students to colloquial Tamil and formal written Tamil. A balance between production skills, viz. writing and speaking, and comprehension skills, viz. reading and listening, will be maintained throughout the course. Reading materials will introduce students to customs and habits of the Tamil speakers in Tamil Nadu, Sri Lanka, Malaysia, and Singapore. Lessons in the class will be based on a set of Tamil learning software made available at the MMETS Server. This software will be customized to the needs of students.
For BA Students: Language Course
Taught by: Renganathan
Course usually offered in fall term
Activity: Lecture
1 Course Unit

TAML 407 Beginning Tamil Part II
This course introduces students to colloquial Tamil and formal written Tamil. A balance between production skills, viz. writing and speaking, and comprehension skills, viz. reading and listening, will be maintained throughout the course. Reading materials will introduce students to customs and habits of the Tamil speakers in Tamil Nadu, Sri Lanka, Malaysia, and Singapore. Lessons in the class will be based on a set of Tamil learning software made available at the MMETS Server. This software will be customized to the needs of students.
For BA Students: Language Course
Taught by: Renganathan
Course usually offered in spring term
Activity: Seminar
1 Course Unit
TAML 426 Intermediate Tamil Part I
This course develops the skills obtained either from the Beginning Tamil course or from students’ prior exposure to Tamil. The emphasis will be on using the language in actual environments both in spoken medium and in written medium. Multimedia materials such as audio and video facilities will be used extensively to provide students an exposure to the Tamil culture and customs. Besides improving their speech and writing, students will also be introduced gradually to Tamil literature, which has two thousand years of literary history. The learning process in this course will be facilitated by appropriate software equipped with multimedia facilities.
For BA Students: Language Course
Taught by: Renganathan
Two terms. student must enter first term.
Activity: Lecture
1 Course Unit

TAML 427 Intermediate Tamil Part II
This course develops the skills obtained either from the Beginning Tamil course or from students’ prior exposure to Tamil. The emphasis will be on using the language in actual environments both in spoken medium and in written medium. Multimedia materials such as audio and video facilities will be used extensively to provide students an exposure to the Tamil culture and customs. Besides improving their speech and writing, students will also be introduced gradually to Tamil literature, which has two thousand years of literary history. The learning process in this course will be facilitated by appropriate software equipped with multimedia facilities.
For BA Students: Last Language Course
Taught by: Renganathan
Course usually offered in spring term
Prerequisites: Intermediate Tamil Part II or equivalent ascertained through placement test or permission of instructor.
Activity: Seminar
1 Course Unit

Telecommunications & Networking (TCOM)

TCOM 601 Advanced Networking Modeling and Analysis
Course not offered every year
Prerequisite: TCOM 501
Activity: Lecture
1 Course Unit

TCOM 770 TCOM Seminar
Course not offered every year
Activity: Seminar
1 Course Unit

Telugu (TELU)

TELU 409 Beginning Telugu Part I
This course introduces students to the basic Telugu language skills, with an emphasis on practice for listening comprehension, and speaking Telugu. Combined with exposure to Andhra culture, the classroom and online work in this course will enable interested students to pursue further language study in Telugu at the intermediate level, to carry out field research in Andhra Pradesh, or to prepare them to advanced work in Telugu Studies. An introduction to Telugu like this will also be useful for students who just want to acquire basic Telugu language skills for learning a new language or being able to communicate with Telugu speaking family and friends or to enjoy Telugu music and films.
For BA Students: Language Course
Taught by: Magier
Course usually offered in fall term
Activity: Lecture
1 Course Unit

TELU 410 Beginning Telugu Part II
For BA Students: Language Course
Taught by: Magier
Course usually offered in spring term
Prerequisites: Beginning Telugu Part I or equivalent ascertained through placement test or permission of instructor.
Activity: Lecture
1 Course Unit

TELU 429 Intermediate Telugu Part I
This course is designed to expand the students’ basic language skills in Telugu in order to allow them to function adequately in a Telugu-speaking environment, to immerse themselves in the rich Andhra culture, and to accomplish a more advanced competency in an interesting foreign language. This course is also aimed at students planning to conduct scholarly research in Telugu history, literature or society, or humanities or social science fieldwork in Telugu speaking areas.
For BA Students: Language Course
Taught by: Magier
Two terms. student must enter first term.
Prerequisites: Beginning Telugu Part II or equivalent ascertained through placement test or permission of instructor.
Activity: Lecture
1 Course Unit

TELU 430 Intermediate Telugu Part II
This course is designed to expand the students’ basic language skills in Telugu in order to allow them to function adequately in a Telugu-speaking environment, to immerse themselves in the rich Andhra culture, and to accomplish a more advanced competency in an interesting foreign language. This course is also aimed at students planning to conduct scholarly research in Telugu history, literature or society, or humanities or social science fieldwork in Telugu speaking areas.
For BA Students: Last Language Course
Taught by: Sundaram
Prerequisites: Intermediate Telugu Part II or equivalent ascertained through placement test or permission of instructor.
Activity: Seminar
1 Course Unit
THAR 073 Lit and Visual Art
Also Offered As: CIMS 073, ENGL 073
Activity: Lecture
1 Course Unit

THAR 076 Theatre in Philadelphia
This course will investigate the state of the contemporary, non-profit theatre culture of Philadelphia by examining the history, artistic mission, and current production work of selected city theatre companies. This course will also explore the creative process of theatre-making as undertaken by these theatres through the reading of plays being produced by them this fall, through an analysis of the collaborative contribution of the playwright, director, actors, and designers to the creation of a production, and, finally, through attendance at those productions mounted by the theatre companies under investigation. The members of the class will write individual essays responding to these productions, do research and give group presentations on other Philadelphia theatre companies, and participate daily in a spirited dialogue about the vitality, level of artistic accomplishment, and cultural/social value of contemporary theatre in Philadelphia
Taught by: Malague and Schlatter
Course not offered every year
Activity: Seminar
1 Course Unit
Notes: Frequently offered as a Freshmen Seminar

THAR 100 Introduction to Theatre Arts
An introduction to different approaches to understanding and analyzing performance, representational theatre, and non-representational theatre, using as test cases both dramatic scripts and live performance. Different aspects of theatre art and theatrical process (acting, design, audience, musical theatre) will be taught by guest lecturers drawn from the Theatre Arts faculty and local professionals.
For BA Students: Arts and Letters Sector
Taught by: Malague
One-term course offered either term
Activity: Lecture
1 Course Unit

THAR 101 Theatre, History, Culture 1: Classical to Middle Class
This course investigates the history of theatre practice in Europe and Asia from Fifth-Century Athens to roughly the end of the Eighteenth Century. In addition to analyzing major dramatic works, this course examines the evolution of production methods - scenography, acting, costuming, theatre architecture - across cultures and key socio-historical moments. Readings will be drawn from historical research, theoretical writings, plays and contemporary social documents. A particular focus will be on the integral role that the theatre plays as a cultural institution in the ongoing civic life of major cities. The course approaches theatre as broadly interdisciplinary and examines its intersection with religious practice, political developments, national identity, geography, the visual arts and the urban landscape.
For BA Students: Arts and Letters Sector
Also Offered As: ENGL 087
Activity: Lecture
1 Course Unit

THAR 102 Theatre, History, Culture 2 : Romantics, Realists and Revolutionaries
This course investigates the history of theatre practice from the end of the Eighteenth-Century to the present, with an emphasis on the interplay of mainstream practices with the newly emerging aesthetics of acting, scenography, and theatrical theory, and the interplay of popular entertainment and audiences with the self-defined aesthetic elitism of the Avant Garde. Among the aesthetics and phenomena we will examine are romanticism and melodrama; bourgeois realism and revolutionary naturalism; emotional-realist acting; the reaction against realism; political theatre; physical theatre; theatre and media; non-dramatic theatre; and theatre that challenges long-standing categories of national identity, empire, gender, and sexuality.
For BA Students: Arts and Letters Sector
Also Offered As: COML 111, ENGL 097
Activity: Lecture
1 Course Unit

THAR 114 Playwriting Workshop
This course is designed as a hands-on workshop in the art and craft of dramatic writing. It involves the study of existing plays, the systematic exploration of such elements as storymaking, plot, structure, theme, character, dialogue, setting, etc.; and most importantly, the development of students' own plays through a series of written assignments and in-class exercises. Since a great deal of this work takes place in class -- through lectures, discussions, spontaneous writing exercises, and the reading of student work -- weekly attendance and active participation is crucial.
Course usually offered in spring term
Also Offered As: ENGL 114
Activity: Seminar
1 Course Unit

THAR 120 Introduction to Acting
Rooted in the system devised by Constantine Stanislavsky, but incorporating a wide variety of approaches, including improvisation, this course strongly stresses a commitment to actor work and responsibility to one's fellow actors. Practical work is supplemented by readings from Stanislavsky and a variety of other acting theorists that may include Uta Hagen, Robert Cohen, Stella Adler, among others. Students are required to submit short essays over the course of the semester in response to the readings and in preparation for their final scene project.
Taught by: Ferguson, Malague, Schlatter, and Staff
One-term course offered either term
Activity: Seminar
1 Course Unit
Notes: Required of all Theatre Arts Majors
THAR 121 Introduction to Directing
This class will introduce the basic principals of stage directing, beginning with the fundamentals of three-dimensional storytelling in script and character analysis. The aim of this course is to provide students with a basic knowledge of directing through an introduction to the functional tools of the craft. Classes provide lectures and practical work in dealing with topics such as the function of the director, analyzing a script, visual composition, blocking, stage business, and working with actors. This course is a prerequisite for Advanced Directing.
Taught by: Ferguson, Malague, Mazer, Schlatter
One-term course offered either term
Prerequisite: Thar 120
Activity: Seminar
1 Course Unit
Notes: Required of all Theatre Arts Majors

THAR 125 The Play: Structure, Style, Meaning
How does one read a play? Theatre, as a discipline, focuses on the traditions of live performance. In those traditions, a play text must be read not only as a piece of literature, but as a kind of "blueprint" from which productions are built. This course will introduce students to a variety of approaches to reading plays and performance pieces. Drawing on a wide range of dramatic texts from different periods and places, we will examine how plays are made, considering issues such as structure, genre, style, character, and language, as well as the use of time, space, and theatrical effects. Although the course is devoted to the reading and analysis of plays, we will also view selected live and/or filmed versions of several of the scripts we study, assessing their translation from page to stage.
Taught by: Malague
One-term course offered either term
Also Offered As: ENGL 056
Activity: Lecture
1 Course Unit

THAR 130 Introduction to Light, Set, and Costume Design
Design for theatre (and all of the performing arts) is a dynamic, collaborative process that engages both intellect and emotion in staging the dramatic moment. The personal vision of the designer must navigate the often-uncharted waters of the production process, from the earliest, personal moments of design inspiration to the opening night performance. Design flows from creativity, is structured by research and theory, and is realized in living form by collaboration in the dynamic process of theatre-making. This class will integrate history, theory and practice of stage design in the interactive setting of the Collaborative Classroom in Van Pelt Library in this special interdisciplinary, active-learning course offering open to all Penn students. Group and individual projects, field visits, practical projects and guest speakers will be featured in this newly-revised course.
Taught by: Baratta and Johnson
One-term course offered either term
Also Offered As: CIMS 131
Activity: Seminar
1 Course Unit
Notes: Required of all Theatre Arts Majors

THAR 131 Concepts of Lighting
In this course we will cover the basic concepts of the art and craft of Stage Lighting Design. As a craft we will examine mechanics and technology of lighting design including light sources, power distribution, optics, and control. As an art we will explore how lighting ties together all the visual elements of a production and helps create an appropriate atmosphere that heightens the audience's understanding and enjoyment of the play. Topics include: what light is, what it does, and how light influences our perception and understanding of what we see. Exercises will help the student learn how to see and to understand how light shapes and affects the appearance people and objects on stage and in everyday life. Projects work will emphasize design theory and practice (design methods, script analysis, and drafting skills). Lighting design has it roots in the theatre. The theatre continues to be a prime training ground for lighting designers, no matter what their field.
Taught by: Whinnery
One-term course offered either term
Activity: Seminar
1 Course Unit

THAR 132 Costume
Costume history and design provides a framework for organized study and practice in this particular facet of theatre production. It is a one-semester course, scheduled to meet once a week for a three hour session.
Course usually offered in spring term
Activity: Seminar
1 Course Unit

THAR 133 Concepts of Stage Design
In this course we will cover the basic concepts of Scenic Design for the stage. Scene Design is about the look or physical appearance of the stage for a play. It reflects the way that the stage is composed artistically in regard to props, actors, shapes and color. We will explore Scene Design and the Theatre (story telling, place and local, time and period, society and culture), Scene Design as a Visual Art (principals of design and composition, style, use of space, expression of concept) and examine how it ties together all the visual elements of a production to create an appropriate atmosphere that heightens the audience's understanding and enjoyment of the play. Topics will include: Script Analysis, Technical Production, Period Decor and Ornament; Drawing, Drafting, Model Making, and Scene Painting.
Taught by: Whinnery
Course usually offered in fall term
Activity: Seminar
1 Course Unit
THAR 170 Voice for the Actor
This introductory course is designed to help the actor find new freedom and range of expression with their voice and to connect their voice to their impulse. Our focus on relaxation, sensitivity and awareness, using Fitzmaurice Voicework techniques inspired by yoga and meditation, help the student access and develop their own authentic sound. They will learn how to support their voice in a healthy way, with a view to longevity, spontaneity and flexibility of use. In this course, these kinds of vocal exercises will be applied to short, character monologues, in order to foster sensitivity to our voices and breath and to the habits and tensions we have formed around speaking in public. For an actor, reconnecting with their authentic voice is essential for an honest, connected and compelling performance. This training is also useful for anyone who wants to speak in public with confidence, sincerity and ease.
Taught by: Doherty
Course usually offered in fall term
Prerequisites: THAR 120 or equivalent.
Activity: Seminar
1 Course Unit

THAR 171 Movement for the Actor
The study of the art of bodily expression throughout history in theory and practice, from Classical and Oriental, African and Latin forms of dance and movement theater to the contemporary dance and theater, including mime, modern dance, post modern dance, physical theater, film, and performance art.
Taught by: Fishbeck
Course usually offered in spring term
Activity: Seminar
1 Course Unit
Notes: Primarily for majors. Non-majors need permission of the instructor

THAR 214 Advanced Playwriting
This course is intended to reinforce and build upon the areas covered in Level 1 Playwriting (THAR-114) so that students can refine the skills they've acquired and take them to the next level. Topics covered will include techniques for approaching the first draft, in-depth characterization, dramatic structure, conflict, shaping the action, language/dialogue (incl. subtext, rhythm, imagery, exposition etc.), how to analyze your own work as a playwright, dealing with feedback, the drafting process, techniques for rewriting, collaboration (with directors, actors etc) and the 'business of the art' - working with theatres, agents, dramaturgs etc. Students will undertake to write their own one-act plays over the course. The classes will be a mixture of lecture, discussion, study of dramatic texts, writing exercises and in-class analysis of students' work.
Taught by: Bryan Delaney
Prerequisite: Thar 114 - Playwriting Workshop or Permit of the instructor
Activity: Lecture
1 Course Unit

THAR 220 Advanced Acting
This course continues the work begun in the Introduction to Acting class. The specific focus of the course will be on helping students to connect more deeply and truthfully with each other on stage, freeing up the body of the actor to fulfill the physical demands of characterization, and analyzing the dramatic text to clarify objectives and focus action through unit breakdown. Attention will also be given to helping students work through specific problems and personal, creative obstacles. The basis of the course will be scene work taken from the twentieth-century repertoire (realist and non-realist plays), a classical monologue, and exercises taken from a variety of performance traditions. The course also includes readings from modern theorists and practitioners.
Taught by: Ferguson, Malague, Schlatter
Course not offered every year
Prerequisites: THAR 120 or by special permission of the instructor.
Activity: Seminar
1 Course Unit

THAR 221 Advanced Directing
The primary goal of this course is to develop students' practical skills and methods as stage directors. The course continues the work of Introduction to Directing, focusing on effective text analysis, communicating with actors, and use of theatrical space and movement to tell the story of the play. The course is structured as a workshop, with students presenting and discussing each other's scene work in class. Students are responsible for three large projects, and each project is presented and discussed twice, first in its workshop and then in its final stage of development. The final project involves minimally staging a one-act play for an audience. Course work is supplemented by readings on the work of major modern directors, and by viewing and writing critiques of selected theatre performances.
Taught by: Schlatter
Course not offered every year
Prerequisite: THAR 121
Activity: Seminar
1 Course Unit

THAR 236 Topics in Renaissance Drama: Acting Shakespeare
This is a hands-on studio course designed to empower actors (and directors, designers and dramaturgs) to use the structure of Shakespeare's language and the conventions of Shakespeare's stage to build performance, using the skills and method of the contemporary actor. After the class works collectively on sonnets and speeches, all of the speech- and scene-work will be drawn from a single Shakespeare play (to be determined), with two reciprocal goals: to use the script to build the performance, and to use what we discover through performance to build an interpretation of the script. NOTE: the normal prerequisite for this course is THAR 120 or THAR 121 or their equivalents; but exceptions will be made by permission of the instructor.
Taught by: Mazzer
Course not offered every year
Also Offered As: ENGL 236
Prerequisite: THAR 120 or 121 or their equivalent
Activity: Seminar
1 Course Unit
Notes: This course is not open to freshmen. Instructor permission is required.
THAR 240 Advanced Topics in Theatre History
The purpose of this course is to introduce students to the basic materials and methods of theatre history and historiography, as applied to a particular topic, organized around a specific period, national group, or aesthetic issue. This course is concerned with methodological questions: how the history of theatre can be documented; how primary documents, secondary accounts, and historical and critical analyses can be synthesized; how the various components of the theatrical event—acting, scenography, playhouse architecture, audience composition, the financial and structural organization of the theatre industry, etc.—relate to one another; and how the theatre is socially and culturally constructed as an art form in relation to the politics and culture of a society in a particular time and place.
Taught by: Mazer
One-term course offered either term
Also Offered As: ENGL 226, ENGL 276
Activity: Seminar
1 Course Unit
Notes: This class is the next level up from Thar 140 - Topics in Theatre History.

THAR 241 Actors and Acting: Page, Stage and Screen
We are all dazzled by the performances of certain actors, famous and not; nearly everyone has a favorite actor, or a favorite film or stage performance. This course will pursue the question: How do actors do what they do? We will explore acting theory and practice, examining major treatises on the acting process, the work of specific actors, and their relationship to iconic texts. Examples might include: Method acting traditions and the performances of actors such as Marlon Brando and Geraldine Page in the plays (and films) of Tennessee Williams; and Shakespearean acting as performed by legends like Laurence Olivier and John Gielgud. We will compare British and American acting traditions, and will consider the different acting styles associated with particular historical periods and theatrical genres. Readings will include actor interviews, reviews, biographies, and selected scripts; viewing will include representative moments of brilliant acting on film, as well as live performances on the London stage. We will also plan to converse with actors we see, through class visits or attendance at talk-backs.
Course usually offered summer term only
Also Offered As: ENGL 276
Activity: Seminar
1 Course Unit

THAR 250 Theatre Workshop
This course will examine a specific aspect of theatrical practice, taught by a visiting professional theatre artist. The course, with different topics, may be repeated for credit. Recent topics have included performance art, Jacques LeCoq technique, Suzuki, and Viewpoints.
Taught by: Various Theatre Professionals
Course not offered every year
Also Offered As: ENGL 276
Activity: Seminar
1 Course Unit
Notes: Cross-listings are contingent upon topics offered. For the current topics contact the Theatre Arts office.

THAR 270 Acting American Drama: Players and Playwrights
This course will investigate the interrelationship between American drama and American acting techniques. Connections to be considered include: The Group Theatre and Clifford Odets; The Actors Studio and Tennessee Williams; The Meisner Technique and David Mamet. We will also view the work of individual actors in filmed and live versions of the plays we study, examining the many ways in which actors collaborate with playwrights by creating roles and reinterpreting them. Readings will include the acting texts of American master teachers such as Lee Strasberg, Stella Adler, Sanford Meisner, and Uta Hagen, as well as a number of American plays. This course will include acting exercises and scene work.
Taught by: Malague
Course not offered every year
Also Offered As: ENGL 256
Activity: Seminar
1 Course Unit

THAR 271 American Musical Theatre
The American musical is an unapologetically popular art form, but many of the works that come from this tradition have advanced and contributed to the canon of theatre as a whole. In this course we will focus on both music and texts to explore ways in which the musical builds on existing theatrical traditions, as well as alters and reshapes them. Finally, it is precisely because the musical is a popular theatrical form that we can discuss changing public tastes, and the financial pressures inherent in mounting a production. Beginning with early roots in operetta, we will survey the works of prominent writers in the American musical theatre, including Kern, Berlin, Gershwijn, Porter, Rodgers, Hart, Hammerstein, Bernstein, Sondheim and others. Class lecture/discussions will be illustrated with recorded examples.
Taught by: Fox
Course not offered every year
Also Offered As: CIMS 271, ENGL 274
Activity: Seminar
1 Course Unit

THAR 272 Twentieth Century American Theatre and Drama
This course examines the development of the modern American theatre from the turn of the century to the present day. Progressing decade by decade the course investigates the work of playwrights such as Eugene O’Neil, Arthur Miller, Tennessee Williams, Edward Albee, David Mamet, August Wilson and Tony Kushner, theatre companies such as the Provincetown Players and the Group Theatre, directors, actors, and designers. Some focus will also be given to major theatrical movements such as the Federal Theatre Project, Off-Broadway, regional theatre, experimental theatre of the Sixties, and feminist theatre.
Taught by: Schlatter
Course not offered every year
Activity: Lecture
1 Course Unit
THAR 273 Dark Comedy
From Plautus to Ionesco, dark comedies explore concepts and ideas seemingly at odds with comic traditions and structures they employ. This class uses the study of theory, history, plays and theatrical technique to explore the significance and effect of tragicomedies. Students will acquire an understanding of the genre’s unique characteristics through textual and practical work and through viewing pertinent films. In addition to reading and discussing plays and criticism, students will be required to perform a scene from a tragicomic play, experimenting with and creating tragicomic effect through performance. This course will be roughly organized into three sections: historic precedents (Plautus, Shakespeare, Moliere), 19th century transitional dramas (Chekhov, Ibsen) and 20th century tragicomedies, in which the bulk of the course readings will be done (Beckett, Ionesco, Pinter, Stoppard, Henley, etc.).
Taught by: Ferguson
Course not offered every year
Also Offered As: ENGL 292
Activity: Seminar
1 Course Unit

THAR 274 Dramaturgy
This course will examine the functions and methods of the dramaturg—the person in the theatrical process who advises the artistic collaborators on (among other things) new play development, the structure of the script, the playwright’s biography and other writings, the play’s first production and its subsequent production history, and the historical and regional details of the period depicted in the plays action. We will study the history of the dramaturg in the American theatre and discuss contemporary issues relating to the dramaturg’s contribution to the theatrical production (including the legal debates about the dramaturg’s contribution to the creation of RENT). And, in creative teams, the class will create dramaturgical portfolios for a season of imaginary (and, potentially, a few actual) theatrical productions.
Taught by: Mazer
Course not offered every year
Also Offered As: ENGL 256
Activity: Seminar
1 Course Unit

THAR 275 Advanced Topics in Theatre
This course will combine an intensive practical and intellectual investigation of some area of the making of theatre: performance techniques, theatrical styles, a particular period of theatre history. Please visit the Theatre Arts Program website for accurate information on all available Spring 2017 THAR275 special topics courses: https://theatre.sas.upenn.edu/news/spring-2017-special-course-offerings
Please visit the Theatre Arts Program website for accurate information on all available Spring 2017 THAR275 special topics courses: https://theatre.sas.upenn.edu/news/spring-2017-special-course-offerings
Taught by: Fox, Ferguson, Malague, Mazer, Schlatter
Course not offered every year
Also Offered As: CIMS 225, ENGL 276, ENGL 356, HIST 247, URBS 274
Activity: Seminar
1 Course Unit
Notes: This course, which may with different topics, be repeated for credit, will examine a specific aspect of theatrical practice. Recent topics have included performance art, Jacques Lecoq technique, improvisation, and puppetry.

THAR 276 Theatre Criticism
This course is both a practical writing course, and an examination of the role of the various kinds of theatre criticism and their relation to contemporary theatrical art and the theatre industry. Students (and faculty) will write (and rewrite) one theatre review a week, based on a theatre event everyone will see. Additional readings will be drawn from theatre critics and reviewers through history (Hazlitt, Shaw, Beerbohm, Agate, Clurman, Brustein, Rich, Wardle, Nightingale, Billington, and others).
Taught by: Mazer
Course not offered every year
Activity: Seminar
1 Course Unit

THAR 277 20th Century Acting Theory and Practice
This course examines the making of theatre from the actor’s perspective, focusing on major twentieth century forms and the acting techniques constructed to produce them. Through an investigation of theories of such practitioners as Stanislavsky, Brecht, and Grotowski, the class will consider contrasting models for their actor’s work, and such issues as the actor’s relationship to the audience, director, playwright, and text. The course will include practical performance exercises and an exploration of representative play scripts.
Taught by: Malague
Course not offered every year
Activity: Seminar
1 Course Unit

THAR 278 Variety Arts
This course examines a series of “variety arts” movements – theatre in which striking visual and auditory elements are even more important than the traditional story and script. Topics generally include: Grand Guignol, the French “theatre of fear and terror”, where shocking images are used to stimulate and frighten the audience; tableaux vivant, in which actors create stage pictures based on famous paintings and other visual icons; concert song and ballad, where performers interpret character and story through vocal means; American musical theatre, in which music and dance become the highest form of expression; German cabarets, where artists use a combination of song and text to create politically and culturally controversial theatre; contemporary performance art, a genre that mixes comedy, the visual arts, dance, music and text; and more. The course also explores how these visual and auditory elements might be used by actors, directors, and designers to enhance and enrich our more traditional, text-based theatre.
Taught by: Fox
Course not offered every year
Activity: Seminar
1 Course Unit
THAR 279 Women in Theatre and Performance
Theatre began as a form that excluded women entirely. The plays of ancient Greece and Elizabethan England were written and performed only by men, beginning a long tradition of theatre that represented women only from male perspectives. Has that tradition been so dominant for so long that women’s voices on stage are still a novelty? This course focuses on a wide range of plays and performances by and about women; the work we read (and view) will evidence artistic attempts to represent women’s lives, experiences and perspectives on the stage. Among the issues encountered and examined in these works are the roles of love, sexuality, friendship, career, community, marriage, motherhood, family, and feminism in women’s lives - as well as the economic and political position(s) of women in society. The course will also offer contextual background on feminist theatre history, theory, and literature, as well as the diverse (and divergent) creative efforts of female artists to use use live performance as a means of creating social and political change.
Taught by: Malague
Course not offered every year
Also Offered As: ENGL 356, GSWS 279
Activity: Seminar
1 Course Unit
Notes: This is a topics class which include: Dangerous Women and Provocative Performance.

THAR 320 Scene Study
Scene Study is an advanced acting class that combines intensive script analysis with performance of scenes; material to be explored will be chosen specifically for the members enrolled in class. Open to students who have successfully completed Introduction to Acting, this course continues with greater emphasis on the actor’s work with the text. We will study several plays together as a group, conducting Stanislavskian table work. We will then workshop and perform scenes from these plays in subsequent class sessions. In consultation with the instructor, students will identify individual goals, building on discoveries made in other Theatre Arts courses and/or prior stage work, exploring roles and plays that present actors with new challenges and expand their range. Depending on the number of students enrolled in the class, we are likely to perform at least three scenes and a monologue. Plays will be read alongside key theoretical texts, and class work will be complemented by attendance at selected live productions on campus and in Philadelphia.
Taught by: Malague
Course usually offered in fall term
Prerequisite: THAR 220
Activity: Seminar
1 Course Unit

THAR 350 Rehearsal and Performance
Theatre Rehearsal and Performance provides students with deep intellectual and artistic immersion in the theatrical process through intensive research, rehearsal, and performance of a full-length stage piece. Students may enroll in this course as actors (by audition only) or as assistant directors, stage managers, dramaturgs, or designers (by permission of the instructor). Each semester, the play will be featured in the Theatre Arts Program production season; the class meeting times will vary, but will typically consist of 16-20 hours per week in the evening hours.
Taught by: Ferguson, Fox, Malague, Mazer and Schlatter
One-term course offered either term
Also Offered As: ENGL 256
Activity: Studio
1 Course Unit

THAR 375 Feminist Theatre
Taught by: Malague
Course not offered every year
Also Offered As: ENGL 270, ENGL 371
Activity: Seminar
1 Course Unit

THAR 385 Presenting the Arts Grad
Graduate Level - This class meets in conjuntion with Thar 285. This graduate level class will also include additional assignments above the 285 requirements as discussed with the instructor for that semester. A study of the creation and presentation of art (e.g., theater, film, sculpture), the cultural context of creativity and the management of individual and institutional performance and exhibition. A combination of lectures by instructors and practitioners, case studies and consulting projects with local institutions will illustrate the relationship between creativity and presentation. Students will be required to write papers, proposals, and complete a term project.
Activity: Lecture
1 Course Unit

THAR 485 Japanese Theatre
Japan has an enormously rich and varied theatrical tradition. In this course, we will examine Japanese theatre in historical and comparative contexts.
Taught by: Kano
One-term course offered either term
Also Offered As: COML 385, EALC 255, FOLK 485
Activity: Seminar
1 Course Unit

THAR 579 Provocative Performance
Taught by: Malague
Also Offered As: ENGL 456, GSWS 579
Activity: Seminar
1 Course Unit

THAR 999 Graduate Level Independent Study
Course offered summer, fall and spring terms
Activity: Lecture
1 Course Unit

Turkish Language (TURK)

TURK 021 Elementary Turkish I
This is a course for beginners who have no previous knowledge of Turkish. Using a communicative approach, Elementary Turkish introduces basic vocabulary and grammar rules and focuses on building language competencies in listening, reading, speaking and writing. By the end of the course, students will be able to participate in simple conversations, to know daily expressions, and will understand simple dialogues in day-to-day context and will be able to count and tell time. Will be able to speak about events that happened in the past and express plans for the future. Students will also develop writing strategies that will allow them to write simple letters and fill in commonly-used forms.
For BA Students: Language Course
Taught by: Hatiboglu
Course usually offered in fall term
Also Offered As: TURK 621
Activity: Lecture
1 Course Unit
TURK 022 Elementary Turkish II
This course is a continuation of TURK 021 and is designed to strengthen and extend students' listening, speaking, reading and writing competence and to deepen an understanding of Turkish people in Turkey. By the end of this course, students will be able to handle a variety of day to day needs in Turkish-speaking settings and engage in simple conversations. Students can expect to be able to order food and drinks, purchase things, and to be able to be familiar with current social topics. Students will be able to talk about all tenses, present, future, past, past continuous, make comparisons, describe people and things in detail, make travel plans, make reservations in hotels and holiday resorts, write complaint letters. By the end of the course, students will be able to talk about their studies and their plans for the future. Also, students will develop reading strategies that should allow them to understand the general meaning of articles, and short literary texts. Students will learn practical life in Turkey and will explore Turkish culture on the internet.
For BA Students: Language Course
Taught by: Hatiboglu
Course usually offered in spring term
Also Offered As: TURK 622
Prerequisites: TURK 021, Elementary Turkish I, or equivalent.
Activity: Lecture
1 Course Unit

TURK 023 Intermediate Turkish I
A continuation of elementary Turkish, with emphasis on grammar and reading. This course is for students who have previous knowledge of Turkish or students who have completed Elementary Turkish I and II. This course is designed to improve students' writing and speaking competence, to increase vocabulary, to deepen grammar usage and to help develop effective reading and listening strategies in Turkish, and in order give them cultural knowledge, students are exposed to authentic materials.
For BA Students: Language Course
Taught by: Hatiboglu
Course usually offered in fall term
Also Offered As: TURK 623
Prerequisites: TURK 022 or equivalent.
Activity: Lecture
1 Course Unit

TURK 024 Intermediate Turkish II
Expands students writing and speaking competence in Turkish, increases vocabulary, and helps students' practice effective reading and listening strategies. Our in-class discussions are based on role-plays and weekly readings and news reports from TV and newspapers. We create discussion groups and let them communicate through, threaded discussions, chat rooms and skype. The review of grammar will not be the primary focus of the course. Students will, expand and deepen their knowledge of grammar through specific grammar exercises. They will have opportunity to practice and read about the cultural and historical issues and get prepared for an advanced level Turkish.
For BA Students: Last Language Course
Taught by: Hatiboglu
Course usually offered in spring term
Also Offered As: TURK 624
Activity: Lecture
1 Course Unit

TURK 025 Advanced Modern Turkish I
The study of modern Turkish at the advanced level; emphasis on grammar and reading, focusing on Business Turkish. Interviews with professionals from different business groups will take place, such as, education, medicine, business law and political science.
For BA Students: Advanced Language Course
Taught by: Hatiboglu
Course usually offered in fall term
Also Offered As: TURK 625
Prerequisites: TURK 024, Intermediate Turkish II
Activity: Lecture
1 Course Unit

TURK 026 Advanced Modern Turkish II
This course is designed to improve students writing and speaking levels through role plays, case studies, essays, interviews, reading articles from newspapers, analyzing books of contemporary Turkish authors such as Orhan Pamuk, Elif Safak, Ayse Kulin, Yasar Kemal and introduce students to Turkish poets such as Nazim Hikmet, Orhan Veli, Ozdemir Asaf, Murathan Mungan, Can Yucel. During each lesson, students will be asked to interview each other on given news articles about different subjects including economy, politics, sports, art, music and daily news. These conversations will take place on student’s level of Turkish knowledge.
Taught by: Hatiboglu
Course usually offered in spring term
Also Offered As: TURK 626
Prerequisites: TURK 025, Advanced Modern Turkish I, or equivalent
Activity: Lecture
1 Course Unit

TURK 027 Advanced Spoken Turkish and Cinema I
In this course, we will look at differing degrees of interaction between literature and the films it inspires. Discussions of each novel will be followed by screening the related film, allowing us to explore themes such as the different forms of banditry (old school vs. organized), honor killings, the use of books in films, the problems of artistic representation. This course will give students the opportunity to improve significantly written and spoken discourse strategies and raise language competence to an academic register. Students work across Turkish Language, literary genres and media as they interpret and analyze cultural, political and historical moments in Turkish movies. Students will attempt to understand how political shifts over the past 20 years have impacted the current situation and cultural conception, religious and cultural norms and traditions. Contemporary Turkish authors' books will be analyzed and discussed in this course. We'll have sessions in Penn Museum related to exhibitions from Turkey and the region.
For BA Students: Advanced Language Course
Taught by: Hatiboglu
Course usually offered in fall term
Also Offered As: TURK 627
Activity: Lecture
1 Course Unit

TURK 028 Advanced Spoken Turkish and Cinema II
For BA Students: Advanced Language Course
Course usually offered in spring term
Also Offered As: TURK 628
Activity: Lecture
1 Course Unit
TURK 031 ELEMENTARY UZBEK I
Designed to cover beginning college levels of language instruction, Uzbek: An Elementary Textbook provides learners and instructors with a wide selection of materials and task-oriented activities to facilitate the development of language learning. It offers a thematically organized and integrative approach to the Uzbek language and its culture, including a functional approach to grammar, an emphasis on integrated skills development, and the use of authentic materials such as videos filmed in various regions of Uzbekistan. Uzbek: An Elementary Textbook contains one CD-ROM that includes audio and video materials to accompany the text and integrated, interactive exercises and games, all in Flash format and all of which are keyed to the textbook. It includes an extensive Cyrillic reader, an extensive glossary, and four-color illustrations and photographs throughout.
Course usually offered in fall term
Also Offered As: TURK 631
Activity: Lecture
1 Course Unit

TURK 032 ELEMENTARY UZBEK II
Continuation of TURK 031, Elementary Uzbek I. Designed to cover beginning college levels of language instruction, Uzbek: An Elementary Textbook provides learners and instructors with a wide selection of materials and task-oriented activities to facilitate the development of language learning. It offers a thematically organized and integrative approach to the Uzbek language and its culture, including a functional approach to grammar, an emphasis on integrated skills development, and the use of authentic materials such as videos filmed in various regions of Uzbekistan. Uzbek: An Elementary Textbook contains one CD-ROM that includes audio and video materials to accompany the text and integrated, interactive exercises and games, all in Flash format and all of which are keyed to the textbook. It includes a supplementary Cyrillic reader, an extensive glossary, and four-color illustrations and photographs throughout.
Course usually offered in spring term
Also Offered As: TURK 632
Activity: Lecture
1 Course Unit

TURK 033 Intermediate Uzbek I
Course usually offered in fall term
Also Offered As: TURK 633
Activity: Lecture
1 Course Unit

TURK 034 Intermediate Uzbek II
Course usually offered in spring term
Also Offered As: TURK 634
Activity: Lecture
1 Course Unit

TURK 121 Advanced Turkish Culture & Media I
This course is for students who are from all different levels of Turkish knowledge. They are expected to write and talk about Turkish movies, culture, politics according to their own level and pace. They will talk to Turkish visitors and interview them. Turkish movies will be the part of the course and once a month, students will watch a Turkish movie and analyze it. Discussions will take place and students will write essays about the movie. This course is designed with a technology-rich, project-based approach. The materials will go beyond instruction in grammar and vocabulary to support the acquisition of socio-cultural pragmatics, and intercultural learning.
For BA Students: Advanced Language Course
Taught by: Hatiboglu
Course usually offered in fall term
Also Offered As: TURK 521
Activity: Seminar
1 Course Unit

TURK 122 Advanced Turkish Culture & Media II
Similar to TURK 212, Advanced Turkish Culture & Media I, in this course students also will have exposure to social Turkish clubs and to establish their own. They will arrange their Turkish tea parties and learn about Turkish cuisine. Expose Turkish daily news and interview Turkish business people in Turkish. Team spirit or ethics with those of the United States. Students will present and prepare a drama. Mainly students will create and decide their activities and discussions and the instructor will just monitor them most of time. They will continue watching Turkish movies and expose to Turkish culture through these films. After each movie discussions and essay writings will be expected.
For BA Students: Advanced Language Course
Taught by: Hatiboglu
Course usually offered in spring term
Also Offered As: TURK 522
Activity: Seminar
1 Course Unit

TURK 229 Ottoman Turkish I
This course is an introduction to Ottoman Turkish with basic characteristics. Ottoman Turkish through readings in printed selections will be exercised with different techniques. Students will learn Persian and Arabic effects on Ottoman Turkish. They will be able to read simple texts at the end of this course. General information on Ottoman Turkish will be given to students during this course. This course will be offered one semester during the school year. Not open to auditors
Taught by: Hatiboglu
Course not offered every year
Also Offered As: TURK 629
Prerequisites: Two semesters of Turkish and two semesters of Arabic or Persian OR four semesters of Turkish or equivalent
Activity: Seminar
1 Course Unit

TURK 329 Adv Rdgs Ottoman Texts
Course not offered every year
Also Offered As: TURK 729
Activity: Seminar
1 Course Unit
TURK 521 Advanced Turkish Culture & Media I
This course is TURK 121 for graduate students.
For BA Students: Advanced Language Course
Taught by: Hatiboglu
Course usually offered in fall term
Also Offered As: TURK 121
Activity: Seminar
1 Course Unit

TURK 522 Advanced Turkish Culture & Media II
This course is TURK 122 for graduate students.
For BA Students: Advanced Language Course
Taught by: Hatiboglu
Course usually offered in spring term
Also Offered As: TURK 122
Activity: Seminar
1 Course Unit

TURK 621 Elementary Turkish I
This course is TURK021 for graduate students. Introduction to the spoken and written language of contemporary Turkey.
For BA Students: Language Course
Taught by: Hatiboglu
Course usually offered in fall term
Also Offered As: TURK 021
Activity: Lecture
1 Course Unit

TURK 622 Elementary Turkish II
This course is TURK 022 for graduate students.
For BA Students: Language Course
Taught by: Hatiboglu
Course usually offered in spring term
Also Offered As: TURK 022
Prerequisites: TURK 621, Elementary Turkish II or equivalent.
Activity: Lecture
1 Course Unit

TURK 623 Intermediate Turkish I
A continuation of TURK 622, with emphasis on grammar and reading.
This course is TURK 022 for graduate students.
For BA Students: Language Course
Taught by: Hatiboglu
Course usually offered in fall term
Also Offered As: TURK 023
Prerequisites: TURK 622, Elementary Turkish II, or equivalent.
Activity: Lecture
1 Course Unit

TURK 624 Intermediate Turkish II
This course is TURK 024 for graduate students.
For BA Students: Last Language Course
Taught by: Hatiboglu
Course usually offered in spring term
Also Offered As: TURK 024
Prerequisites: TURK 623, Intermediate Turkish I or equivalent.
Activity: Lecture
1 Course Unit

TURK 625 Advanced Modern Turkish I
The study of modern Turkish at the advanced level; emphasis on grammar and reading, focusing on business Turkish. Interviews with professionals from different business groups will take place, such as, education, medicine, business, law, and political science. This course is TURK 025 for graduate students.
For BA Students: Advanced Language Course
Taught by: Hatiboglu
Course usually offered in fall term
Also Offered As: TURK 025
Prerequisites: TURK 024, Intermediate Turkish II or equivalent
Activity: Lecture
1 Course Unit

TURK 626 Advanced Modern Turkish II
This course is TURK 026, Advanced Modern Turkish II for graduate students.
Taught by: Hatiboglu
Course usually offered in spring term
Also Offered As: TURK 026
Prerequisites: TURK 625, Advanced Modern Turkish I, or equivalent.
Activity: Lecture
1 Course Unit

TURK 627 Advanced Spoken Turkish and Cinema I
In this course, we will look at differing degrees of interaction between literature and the films it inspires. Discussions of each novel will be followed by screening the related film, allowing us to explore themes such as the different forms of banditry (old school vs. organized), honor killings, the use of books in films, the problems of artistic representation. This course will give students the opportunity to improve significantly written and spoken discourse strategies and raise language competence to an academic register. Students work across Turkish Language, literary genres and media as they interpret and analyze cultural, political and historical moments in Turkish movies. Students will attempt to understand how political shifts over the past 20 years have impacted the current situation and cultural conception, religious and cultural norms and traditions. Contemporary Turkish authors’ books will be analyzed and discussed in this course. We’ll have sessions in Penn Museum related to exhibitions from Turkey and the region.
For BA Students: Advanced Language Course
Taught by: Hatiboglu
Course usually offered in spring term
Also Offered As: TURK 027
Activity: Lecture
1 Course Unit

TURK 628 Adv Spkn Turk/Cinema II
For BA Students: Advanced Language Course
Course usually offered in spring term
Also Offered As: TURK 028
Activity: Lecture
1 Course Unit
TURK 629 Ottoman Turkish I
This course is an introduction to Ottoman Turkish with basic characteristics. Ottoman Turkish through readings in printed selections will be exercised with different techniques. Students will learn Persian and Arabic effects on Ottoman Turkish. They will be able to read simple texts at the end of this course. General information on Ottoman Turkish will be given to students during this course. This course will be offered one semester during the school year.
Taught by: Hatiboglu
Course not offered every year
Also Offered As: TURK 229
Prerequisites: Two semesters of Turkish and two semesters of Arabic or Persian OR four semesters of Turkish or equivalent
Activity: Seminar
1 Course Unit

TURK 631 ELEMENTARY UZBEK I
Designed to cover beginning college levels of language instruction. Uzbek: An Elementary Textbook provides learners and instructors with a wide selection of materials and task-oriented activities to facilitate the development of language learning. It offers a thematically organized and integrative approach to the Uzbek language and its culture, including a functional approach to grammar, an emphasis on integrated skills development, and the use of authentic materials such as videos filmed in various regions of Uzbekistan.Uzbek: An Elementary Textbook contains one CD-ROM that includes authentic audio and video materials to accompany the text and integrated, interactive exercises and games, all in Flash format and all of which are keyed to the textbook. It includes a supplementary Cyrillic reader, an extensive glossary, and four-color illustrations and photographs throughout.
Course usually offered in fall term
Also Offered As: TURK 031
Activity: Lecture
1 Course Unit

TURK 632 ELEMENTARY UZBEK II
Continuation of TURK 631, Elementary Uzbek I. Designed to cover beginning college levels of language instruction, Uzbek: An Elementary Textbook provides learners and instructors with a wide selection of materials and task-oriented activities to facilitate the development of language learning. It offers a thematically organized and integrative approach to the Uzbek language and its culture, including a functional approach to grammar, an emphasis on integrated skills development, and the use of authentic materials such as videos filmed in various regions of Uzbekistan.Uzbek: An Elementary Textbook contains one CD-ROM that includes authentic audio and video materials to accompany the text and integrated, interactive exercises and games, all in Flash format and all of which are keyed to the textbook. It includes a supplementary Cyrillic reader, an extensive glossary, and four-color illustrations and photographs throughout.
Taught by: Saff
Course usually offered in spring term
Also Offered As: TURK 032
Activity: Lecture
1 Course Unit

TURK 633 Intermediate Uzbek I
Also Offered As: TURK 033
Activity: Lecture
1 Course Unit

TURK 634 Intermediate Uzbek II
Course usually offered in spring term
Also Offered As: TURK 034
Activity: Lecture
1 Course Unit

TURK 729 Adv Rdgs Ottoman Texts
Also Offered As: TURK 329
Activity: Seminar
1 Course Unit

Urban Studies (URBS)

URBS 010 Homelessness & Urban Inequality
This freshman seminar examines the homelessness problem from a variety of scientific and policy perspectives. Contemporary homelessness differs significantly from related conditions of destitute poverty during other eras of our nation's history. Advocates, researchers and policymakers have all played key roles in defining the current problem, measuring its prevalence, and designing interventions to reduce it. The first section of this course examines the definitional and measurement issues, and how they affect our understanding of the scale and composition of the problem. Explanations for homelessness have also been varied, and the second part of the course focuses on examining the merits of some of those explanations, and in particular, the role of the affordable housing crisis. The third section of the course focuses on the dynamics of homelessness, combining evidence from ethnographic studies of how people become homeless and experience homelessness, with quantitative research on the patterns of entry and exit from the condition. The final section of the course turns to the approaches taken by policymakers and advocates to address the problem, and considers the efficacy and quandaries associated with various policy strategies. The course concludes by contemplating the future of homelessness research and public policy.
Taught by: Culhane
Course usually offered in fall term
Also Offered As: AFRC 041, SOCI 041
Activity: Seminar
1 Course Unit

URBS 011 Crime and Punishment
How have definitions of crime and forms of punishment changed over time? What have been the uses and legacy of extra-legal violence? How have the forms of crime and punishment reflected the structure of American society? Using both historical and contemporary texts, this freshman seminar will explore these and other questions and in the process analyze the development of juvenile justice, the organization of corrections, the application of the death penalty, and the rise of the drug economy.
Taught by: Schneider
Course not offered every year
Activity: Seminar
1 Course Unit
Notes: Previously URBS 110
URBS 018 Freshman seminar
The primary goal of the freshman seminar program is to provide every freshman the opportunity for a direct personal encounter with a faculty member in a small sitting devoted to a significant intellectual endeavor. Specific topics be posted at the beginning of each academic year. Please see the College Freshman seminar website for information on course offerings: http://www.college.upenn.edu/requirements-courses.
Course usually offered in fall term
Also Offered As: MUSC 018
Activity: Seminar
1 Course Unit

URBS 046 Urban Sound Studies
Sound is all around us and shapes almost every aspect of our everyday days, and yet, in comparison to our rich descriptions of visual culture, we often lack the explanatory power to analyze and assess the overwhelming influence of the sonic. This introduction to sound studies course will combine a rigorous conceptual and a creative, hands-on approach. We will explore how sound and auditory cultures have been theorized, how soundscapes shape built environments and transform social relations, and how technologies have affected our relationships to sound. The course will focus on urban spaces. Cutting across disciplinary, historical and geographical boundaries, we will cover themes including sound-reproduction and modern technologies, sonic consumption, noise regulation, protest, the politics of listening under Trumpism. We will encounter a wide variety of materials from literary texts to mobile apps and video games, not to mention a vast range of sounds drawn from fieldwork around the world from Las Vegas to Shanghai, Paris to Johannesburg. Alongside written work, you will make fieldwork recordings on the streets of Philadelphia and develop creative projects using media of your choice to reflect upon urban sound.
Taught by: Waltham Smith
Course usually offered in fall term
Also Offered As: MUSC 046
Activity: Lecture
1 Course Unit

URBS 050 Womanism and Identity Politics in the Realm of Hip-Hop
This course centers on the intersections of womanism, woman of color identity development, and agency within hip-hop culture. We will touch on several topics that uncover the condition of minoritized women in hip-hop media, including creating/owning space, lyrical assault, defining womanhood, sexuality, and fetishes. In exploring music, literature, advertisements, film, and television, we will discuss the ways women of color construct understandings of self, while navigating and reimagining reality within hip-hop contexts.
Taught by: Patterson
Also Offered As: GSWS 040
Activity: Seminar
1 Course Unit

URBS 104 Transformation of Urban America
The course traces the economic, social, and political history of American cities after World War II. It focuses on how the economic problems of the industrial city were compounded by the racial conflicts of the 1950s and 1960s and the fiscal crises of the 1970s. The last part of the course examines the forces that have led to the revitalization of cities in recent years.
For BA Students: History and Tradition Sector
Taught by: Vitiello
Course usually offered in spring term
Also Offered As: HIST 153
Activity: Lecture
1 Course Unit

URBS 106 Freshman Seminar
Topic varies. Fall 2017: This course will examine the fascination with ecology in artistic thinking from late Modernism to the present, with a particular attention to the developing interest in social and environmental systems in the late 1960s and early 1970s. From Robert Smithson's Spiral Jetty to Rachel Carson's Silent Spring, artists, scholars and activists of this generation were deeply invested in the interconnectedness of life in all its forms. This new sensitivity to the affinities that bind individuals, and our vulnerability to social, political and economic environments, enabled new aesthetic approaches that have continued relevance today. As part of the course, we will meet with a range of artists, curators and institutions in Philadelphia who are continuing these investigations, including the Colored Girls Museum in Germantown and the Health Ecologies Lab here at Penn. No familiarity with contemporary art is required.
Also Offered As: ARTH 100, CIMS 016, ENGL 016
Activity: Seminar
1 Course Unit
Notes: For Freshmen Only
URBS 112 Urban Sociology
This course is a comprehensive introduction to the sociological study of urban areas. This includes more general topics as the rise of cities and theories urbanism, as well as more specific areas of inquiry, including American urbanism, segregation, urban poverty, suburbanization and sprawl, neighborhoods and crime, and immigrant ghettos. The course will also devote significant attention to globalization and the process of urbanization in less developed counties.
Taught by: Mitchell
Course not offered every year
Also Offered As: ANTH 107, SAST 002
Activity: Lecture
1 Course Unit

URBS 121 Origin and Culture of Cities
The UN estimates that 2.9 of the world's 6.1 billion people live in cities and that this percentage is rapidly increasing in many parts of the world. This course examines urban life and urban problems by providing anthropological perspectives on this distinctive form of human association and land use. First we will examine the "origin" of cities, focusing on several of the places where cities first developed, including Mesopotamia and the Valley of Mexico. We will then investigate the internal structure of non-industrial cities by looking at case studies from around the world and from connections between the cities of the past and the city in which we live and work today.
For BA Students: History and Tradition Sector
Taught by: Zettler
Course usually offered in fall term
Also Offered As: ANTH 121, NELC 103
Activity: Lecture
1 Course Unit

URBS 122 The City in South Asia
This interdisciplinary social science course examines key topics, themes, and analytic methods in the study of South Asia by focusing on significant South Asian cities. With one-fifth of the world's population, South Asia and its urban centers are playing an increasingly important role in recent global economic transformations, resulting in fundamental changes within both the subcontinent and the larger world. Drawing primarily on ethnographic studies of South Asia in the context of rapid historical change, the course also incorporates research drawn from urban studies, architecture, political science, and history, as well as fiction and film. Topics include globalization and new economic dynamics in South Asia; the formation of a new urban middle class; consumption and consumer culture; urban political formations, democratic institutions, and practices; criminality & the underworld, population growth, changes in the built environment, and demographic shifts; everyday life in South Asia and ethnic, and ethnic, cultural, and linguistic identities, differences, and violence in South Asia's urban environments. This is an introductory level course appropriate for students with no background in South Asia or for those seeking to better understand South Asia's urban environments in the context of recent globalization and rapid historical changes.
No prerequisites. Fulfills College sector requirement in Society and foundational approach in Cross-Cultural Analysis.
For BA Students: History and Tradition Sector
Taught by: Mitchell
One-term course offered either term
Also Offered As: ANTH 107, SAST 002
Activity: Lecture
1 Course Unit

URBS 136 Urban Politics in the United States
This course focuses on political responses to urbanization in the United States. Topics include local government, national urban politics, and the changing nature of cities.
For BA Students: Society Sector
Taught by: Reed
Course usually offered in spring term
Also Offered As: AFRC 136, PSCI 136
Activity: Lecture
1 Course Unit

URBS 139 Ancient Civilizations of the World
The archaeology of the complex societies of the Old and New Worlds from the end of the paleolithic up to and including the earliest civilizations.
For BA Students: History and Tradition Sector
Taught by: Zettler
Course not offered every year
Also Offered As: ANTH 139, NELC 182
Activity: Lecture
1 Course Unit

URBS 160 Race and Ethnic Relations
The course will focus on race and ethnicity in the United States. We begin with a brief history of racial categorization and immigration to the U.S. The course continues by examining a number of topics including racial and ethnic identity, interracial and interethnic friendships and marriage, racial attitudes, mass media images, residential segregation, educational stratification, and labor market outcomes. The course will include discussions of African Americans, Whites, Hispanics, Asian Americans and multiracials.
For BA Students: History and Tradition Sector
Taught by: Charles, Kao, Zuberi
One-term course offered either term
Also Offered As: AFRC 006, ASAM 006, SOCI 006
Activity: Lecture
1 Course Unit
Notes: Previously URBS 214

This seminar will examine the experiences of recent African immigrants and refugees in Philadelphia in an historical framework. We will employ a variety of sources-newspapers, census data, legal briefs, literature and film, and diaspora internet sites-to explore the lives, aspirations, and perceptions of Philadelphia's African residents. There will be opportunities for dialogue with high school students, teachers, and parents; with representatives of African community and business organizations; and with local government and service agencies. Students will be required to do a final project which involves volunteering with an African immigrant non-profit or business and/or conducting focused research on specific African communities in Philadelphia.
Taught by: Cassanelli
Course not offered every year
Also Offered As: AFRC 167, AFST 167, HIST 167
Activity: Seminar
1 Course Unit
URBS 178 Faculty-Student Collaborative Action Seminar in Urban University-Community Relations
One of the goals of this seminar is to help students develop their capacity to solve strategic, real-world problems by working collaboratively in the classroom, on campus, and in the West Philadelphia community. Research teams help contribute to the improvement of education on campus and in the community, as well as the improvement of university-community relations. Among other responsibilities, students focus their community service on college and career readiness at West Philadelphia High School and Sayre High School. Students are typically engaged in academically based community service learning at the schools for two hours each week.
Taught by: Harkavy
One-term course offered either term
Also Offered As: AFRC 078, HIST 173
Activity: Seminar
1 Course Unit
Notes: previously URBS 078; Benjamin Franklin Seminar

URBS 181 Comparative Cultures of Sustainability
Sustainability is more than science, engineering, policy, and design. Surveying the world, we see that the politics and practice of sustainability play out in different ways depending on cultural factors. Some cultures are more prone to pursue ecological goals than others. Why? Do the environmental history and experience of a nation affect policy? Do nature and the environment play a crucial role in the cultural memory of a nation? Can cultural components be effectively leveraged in order to win approval for a politics of sustainability? And what can we, as residents of a country where climate change and global warming are flashpoints in an enduring culture war, learn from other cultures? This course is designed to equip undergraduate students with the historical and cultural tools necessary to understand the cultural aspects of sustainability in two countries noted for their ecological leadership and cultural innovation, Germany and the Netherlands. This hybrid course combines online instruction with a short-term study abroad experience in Berlin and Rotterdam. During the pre-tip online portion of the course, students will become acquainted with the cultural histories of German and Dutch attitudes toward sustainability and the environment through a combination of recorded lectures by the instructor, reading assignments, viewing assignments (documentary and feature films), threaded discussions, and short written assignments. The goal of the pre-tip instruction are to help students develop tools for analyzing and interpreting cultural difference, construct working models of German and Dutch concepts of sustainability, and formulate hypotheses about the relation between culture and policy in Germany and the Netherlands.
Taught by: Richter
Course usually offered summer term only
Also Offered As: ENVS 181, GRMN 181
Prerequisites: There are no prerequisites or language requirements.
Activity: Lecture
1 Course Unit
Notes: Summer abroad course.

URBS 200 Urban Research Methods
This course will examine different ways of undertaking urban research. The goal will be to link substantive research questions to appropriate data and research methods. Computer-based quantitative methods, demographic techniques, mapping / GIS and qualitative approaches will be covered in this course. There will be a set of assignments including one in which students have an opportunity to undertake their own field research in a Philadelphia neighborhood involving multiple methods of scientific inquiry. All instructional materials will be based on data related to contemporary public policy issues.
Taught by: Stern, Mark or Goldstein, Ira
One-term course offered either term
Activity: Seminar
1 Course Unit
Notes: Fulfills Quantitative Data Analysis Requirement

URBS 202 Urban Education
This seminar focuses on two main questions: 1) How have US schools and urban ones in particular continued to reproduce inequalities rather than ameliorating them? 2) In the informational age, how do the systems affecting education need to change to create more successful and equitable outcomes? The course is designed to bridge the divide between theory and practice. Each class session looks at issues of equity in relation to an area of practice (e.g. lesson design, curriculum planning, fostering positive student identities, classroom management, school funding, policy planning...), while bringing theoretical frames to bear from the fields of education, sociology, anthropology and psychology. Among the theoretical frames students will learn will be the tools of systems thinking (Bertalanffy, 1968). While most of us have internalized the key lesson of the industrial revolution—that to understand something we must break it into its parts; systems thinking, in contrast, is about understanding the parts in relation to whole. The power of systems thinking is that each point of connection also serves as a point of intervention. By showing the importance of decisions of those within classrooms and those outside of them, this course is well-suited to students of education, but also any who seek a role in creating a more just society.
Taught by: Paul Skilton Sylvester
One-term course offered either term
Also Offered As: EDUC 202
Activity: Seminar
1 Course Unit

URBS 203 Introduction to City Planning: Planning Urban Spaces
This course will provide a general introduction to the concepts and practice of city planning. Topics to be discussed include: the process and nature of planning - theories, methods and roles as manifested in practice; history and trends in city planning; functional planning practice; planning within constraints—a field project; planning in the international arena; present crisis in planning.
Taught by: Gorostiza
Course usually offered summer term only
Activity: Seminar
1 Course Unit
URBS 204 Urban Law
This course will focus on selected aspects of urban law that are particularly relevant to areas of high population density. After an introduction to the American judicial system, it will examine the legal issues that arise in the management of land development and use, with special attention to constitutional questions involving equal protection, due process, and the “taking” clause, and routine run-of-the-mill zoning challenges. This course meets the Cultural Diversity requirement.
Taught by: Keene
Course usually offered in fall term
Activity: Lecture
1 Course Unit

URBS 205 People and Design
The built environment of a city is more than a mere backdrop; the design can actually affect people's experiences. Environmental design primarily focuses on the relationship between people and the built environment. It also looks at how the built environment interacts with the natural one (and the potential for greater sustainability). This course will allow students to gain a deeper understanding of how people create, perceive, and use the designed environment. We'll approach these concepts by analyzing design at a variety of scales, from products to interior design to architecture. Finally, using that knowledge, we'll conclude by analyzing urban spaces of the city.
Taught by: Berman
Course usually offered in spring term
Activity: Seminar
1 Course Unit

URBS 206 Public Environment of Cities: An Introduction to the Urban Landscape
This course will explore the role of public spaces - streets, boulevards, parks and squares - in cities and their social uses. With the University of Pennsylvania campus and the City of Philadelphia serving as our laboratory, we will critically examine the evolution of the movement of corridors, open space and buildings of the urban landscape and their changing uses. Case studies of social spaces on campus and public open spaces in Center City will help inform our understanding of how public environment serves, well or poorly, the varying needs of diverse users. While graphic skills are not required, graphic means as well as writing will be employed to communicate critical thought, ideas, and conclusions.
Taught by: Nairn
Course usually offered in spring term
Also Offered As: URBS 506
Activity: Seminar
1 Course Unit

URBS 207 Asian American Communities
Who is Asian American and how and where do we recognize Asian America? This interdisciplinary course explores the multiple factors that define Asian American identity and community. In order to provide a sketch of the multifaceted experience of this growing minority group, we will discuss a wide variety of texts from scholarly, artistic, and popular (film, cinematic) sources that mark key moments in the cultural history of Asia America. The course will address major themes of community life including migration history, Asian American as model minority, race, class, and transnational scope of Asian America. In combination with the readings, this class will foster and promote independent research based on site visits to various Asian American communities in Philadelphia and will host community leaders as guest lecturers.
Taught by: Khan
One-term course offered either term
Also Offered As: ASAM 205
Activity: Seminar
1 Course Unit

URBS 210 The City
Urbs/Hist 210 will focus on Baltimore and use The Wire as one of its core texts. The course will explore the history and development of the city and its institutions, with a thematic focus on issues such as industrialization and deindustrialization; urban renewal and the role of universities; public education and youth; policing and the criminal justice system; drugs and underground markets; public housing and suburbanization; and Baltimore's so-called renaissance amidst persistent poverty. The seminar will include field trips both in Philadelphia and a concluding all-day trip to Baltimore.
For BA Students: Humanities and Social Science S
Taught by: Nairn
Course usually offered in spring term
Also Offered As: HIST 210
Activity: Seminar
1 Course Unit
Notes: Also fulfills General Requirement in Society for Class of 2009 and prior

URBS 213 Urban Ethnography: Capturing the Cultures of Cities
With its multi-ethnic neighborhoods and rich cultural life, Philadelphia is an ideal site for learning how to carry out urban ethnography. In the course, students will understand the ethnographic approach and learn skills to conduct their own ethnography as they explore urban life and culture in the nation's sixth largest city. The course is structured as a seminar in which students will read ethnographic studies of Philadelphia and other urban settings. With our focus on the urban landscape, we will gain an appreciation for the macro processes, such as globalization, that shape the city. Ethnography attends to such processes as well as how humans experience them. The class will explore various themes, including the ethnic city, the gendered city, the contested city, the sacred city, the global city, and the aesthetic and expressive city. In addition to reading assignments, we will look at images, videos, and online material. Students will design and execute their own ethnographic fieldwork project on an urban topic that interests them. Through step-by-step instruction throughout the semester, students will learn qualitative research techniques such as field notes, participant-observation, interviewing, and how to interpret their own data, so that they will be able to complete their semester project.
Taught by: Saverino
Course not offered every year
Also Offered As: FOLK 513, URBS 513
Activity: Seminar
1 Course Unit
URBS 216 Social Entrepreneurship
Amidst perceptions that public sector and philanthropic support for local communities is increasingly scarce, many community development practitioners are turning to social enterprise as a means to improve social and economic conditions in their neighborhoods. This course will examine and evaluate a number of recognized social enterprises tackling housing, workforce development, and job creation challenges, including several planned field visits. Building on their understanding of these fields, students will then divide into groups and develop business plans for their own social enterprises.
Taught by: Mandujano
Course not offered every year
Activity: Seminar
1 Course Unit

URBS 218 Introduction to African American Politics
This course provides an introduction to the political experience of African Americans. While the course will explore historical themes, it will be contemporary in its temporal focus. Topics will include African American political thought, leadership and political economy, voting and participation, urban politics, race and electoral politics. Additional topics will also include crime, the judiciary, and punishment; and issues of gender, class, age, and sexual identity at the intersections of black politics.
Taught by: Harris
Also Offered As: AFRC 217
Activity: Seminar
1 Course Unit

URBS 219 The Heart of Social Change
The Heart of Social Change: Experiments in Urban Development, Activism, and Social Entrepreneurship will seek to challenge those who desire to work for social change to consider how they may not only employ their heads and their hands, but also their hearts as they work to improve the aspects of contemporary society that mean the most to them. This seminar-based class will examine past and contemporary examples of heart-based activism, urban development and social entrepreneurship yet it will also be a space where students will be asked to experiment with ways that they too may be change agents.
Taught by: Charles Howard
Course not offered every year
Activity: Seminar
1 Course Unit

URBS 233 World History: East Asia or Latin America
Topics Vary
Also Offered As: ARTH 369, HIST 233
Activity: Seminar
1 Course Unit

URBS 234 Topics in Transnational
One-term course offered either term
Also Offered As: HIST 234
Activity: Seminar
1 Course Unit

URBS 236 Iraq: Ancient Cities and Empires
This course surveys the cultural traditions of ancient Mesopotamia, the land between the Tigris and Euphrates Rivers, a region commonly dubbed “cradle of civilization” or “heartland of cities,” from an archaeological perspective. It will investigate the emergence of sedentism and agriculture; early villages and increasingly complex Neolithic and Chalcolithic cultures; the evolution of urban, literate societies in the late 4th millennium; the city-states and incipient supra-regional polities of the third and second millennium; the gradual emergence of the Assyrian and Babylonian “world empires,” well-known from historical books of the Bible, in the first millennium; and the cultural mix of Mesopotamia under the successive domination of Greeks, Persians and Arabs. The course seeks to foster an appreciation of the rich cultural heritage of ancient Mesopotamia, an understanding of cultural continuities in the Middle East and a sense of the ancient Near Eastern underpinnings of western civilization. No Prerequisite.
Taught by: Al Kuntar
Course not offered every year
Also Offered As: ANTH 236, NELC 241
Activity: Lecture
1 Course Unit

URBS 237 Berlin: History, Politics, Culture
What do you know about Berlin’s history, architecture, culture, and political life? The present course will offer a survey of the history of Prussia, beginning with the seventeenth century, and the unification of the small towns of Berlin and koellin to establish a new capital for this country. It will tell the story of Berlin’s rising political prominence in the eighteenth century, its transformation into an industrial city in the late nineteenth century, its rise to metropolis in the early twentieth century, its history during the Third Reich, and the post-war cold war period. The course will conclude its historical survey with a consideration of Berlin’s position as a capital in reunified Germany. The historical survey will be supplemented by a study of Berlin’s urban structure, its significant architecture from the eighteenth century (i.e. Schinkel) to the nineteenth (new worker’s housing, garden suburbs) and twentieth centuries (Bauhaus, Speer designs, postwar rebuilding, GDR housing projects, post-unification building boom). In addition, we will read literary texts about the city, and consider the visual art and music created in and about Berlin. Indeed, Berlin will be a specific example to explore German history and cultural life of the last 300 years. The course will be interdisciplinary with the fields of German Studies, history, history of art, and urban studies. It is also designed as a preparation for undergraduate students who are considering spending a junior semester with the Penn Abroad Program in Berlin.
For BA Students: Humanities and Social Science S
Taught by: Weissberg
Course not offered every year
Also Offered As: GRMN 237
Activity: Lecture
1 Course Unit
Notes: All readings and lectures in English

URBS 242 Food Habits in Phil Comm
One-term course offered either term
Also Offered As: ANTH 252
Activity: Seminar
1 Course Unit
URBS 244 Metropolis: Culture of the City
An exploration of modern discourses on and of the city. Topics include: the city as site of avant-garde experimentation; technology and culture; the city as embodiment of social order and disorder; traffic and speed; ways of seeing the city; the crowd; city figures such as the detective, the criminal, the flaneur, the dandy; film as the new medium of the city. Special emphasis on Berlin. Readings by, among others, Dickens, Poe, Baudelaire, Rilke, Doeblin, Marx, Engels, Benjamin, Kracauer. Films include Fritz Lang's Metropolis and Tom Tykwer's Run Lola Run.
For BA Students: Arts and Letters Sector
Taught by: Black
Course not offered every year
Also Offered As: SOCI 254
Activity: Seminar
Notes: All lectures and readings in English

URBS 250 Urban Public Policy: Philadelphia -- A Case Study
An introduction to a broad range of substantive policy areas affecting the city, and an exploration into the complexities of policy formulation and implementation in a large and pluralistic metropolitan setting. The course subtitle, "Philadelphia -- A Case Study," describes our approach. Donna Cooper currently leads the region's foremost child advocacy organization focused on poverty, child welfare and education issues, she formerly served as the Deputy Mayor for Policy for the City of Philadelphia, and Secretary of Policy of the Commonwealth of Pennsylvania.
Taught by: Donna Cooper
Course usually offered in spring term
Activity: Seminar
1 Course Unit

URBS 252 Urban Journalism
This course will examine the state of urban journalism today with special emphasis on how large newspapers are redefining themselves, and the news, in an era of dwindling readership and growing financial pressures. The course will look at online journalism, ethics, and alternative sources of news, and will explore the techniques journalists use in reporting the news. Students will report and write four pieces of their own about Philadelphia and its environs. The course is taught by Dan Rubin, Enterprise Editor of The Philadelphia Inquirer, The Daily News and philly.com.
Taught by: Rubin
Course usually offered in spring term
Activity: Seminar
1 Course Unit

URBS 253 Cities, Suburbs, Regions
This course will examine the political, economic, social, and demographic forces impacting development patterns in metropolitan areas, with a particular focus on Philadelphia. We will examine the government policies, economic forces, and social attitudes that affect the way a region grows, and the impact of these forces on poverty, equity and segregation. Specific topics to be discussed include the factors that make a region competitive, the city's changing role in the region, the impact place has on opportunity, and approaches to revitalizing and improving communities.
Taught by: Black
Course offered spring; even-numbered years
Also Offered As: SOCI 254
Activity: Seminar
1 Course Unit

URBS 264 Poverty, Race and Health
This course is designed to introduce students to current literature on race/ethnic difference in health and mortality in the United States, covering such topics as explanations for why some race/ethnic groups fare better than others, how inner city poverty and residential segregation may contribute to racial/ethnic differences in health outcomes, and health of immigrants versus native-born populations. Current policy debated and recent policy developments related to health are also briefly discussed. The course is organized as a seminar with a combination of lectures and class discussions.
Taught by: Jaeger
Course not offered every year
Also Offered As: SOCI 264
Activity: Seminar
1 Course Unit

URBS 270 The Immigrant City
Immigration is among the most important yet controversial forces shaping cities, regions, and neighborhoods. The diversity of immigrant and receiving communities means that the dynamics and impacts of migration are varied and complex. This course examines the development of immigrant and receiving communities in the urban and suburban United States. It surveys public policy and community and economic development practices related to migration at the local, regional, national, and trans-national scale. Class readings, discussions, and visits to Philadelphia's immigrant neighborhoods explore themes including labor markets, housing experiences, political mobilization, civil society, cultural preservation, and the built environment.
For BA Students: Society Sector
Taught by: Vitiello, Domenic
Course usually offered in spring term
Also Offered As: CPLN 676, SOCI 270
Activity: Seminar
1 Course Unit

URBS 273 Advanced Non-Fiction Writing
Writing with a view to publication in the freelance sections of newspapers such as THE PHILADELPHIA INQUIRER and THE NEW YORK TIMES, in magazines such as THE ATLANTIC and THE NEW YORKER, and in the literary quarters and the journals of opinion. Among the areas likely to be considered are writing as a public act, issues of taste and of privacy, questions of ethics and of policy, methods of research and of checking, excerpting, marketing, and the realistic understanding of assignments and of the publishing world. Student papers will be the basis of weekly editorial sessions, with concentration on the language: how to render material literate, how to recognize and dispose of padding and self-indulgence, how to tighten structure and amplify substance. See the English Department's website at www.english.upenn.edu for a description of the current offerings.
Course not offered every year
Also Offered As: AFRC 145, ENGL 145
Activity: Seminar
1 Course Unit
Notes: This course is not open to freshmen. May be repeated for credit with a different instructor.
URBS 274 Advanced Topics in Theatre
This course will combine an intensive practical and intellectual investigation of some area of the making of theatre: performance techniques, theatrical styles, a particular period of theatre history. For the current topics contact the Theatre Arts office or visit the website. One section of 274 every other Spring will consist of a small number of Theatre Arts majors selected by the faculty to become members of "the Edinburgh Project." This ensemble will mount a production that will be performed at the Edinburgh Festival Fringe in August. Many of the readings and exercises in this course will be geared to prepare for production; rehearsals for the project will continue after the exam period at the end of the semester.
Taught by: Fox, Ferguson, Malague, Mazer, Schlatter
Course not offered every year
Also Offered As: THAR 275
Activity: Seminar
1 Course Unit
Notes: This course, with different topics, may be repeated for credit. Please look at the program website for the current semester's topic(s).

URBS 280 Neighborhood Dynamics of Crime
Crime varies in time, space and populations as it reflects ecological structures and the routine social interactions that occur in daily life. Concentrations of crime can be found among locations, with antisocial activities like assaults and theft occurring at higher rates because of the demographic make-up of people (e.g. adolescents) or conflicts (e.g. competing gangs), for reasons examined by ecological criminology. Variation in socio-demographic structures (age, education ratios, and the concentration of poverty) and the physical environment (housing segregation, density of bars, street lighting) predicts variations between neighborhoods in the level of crime and disorder. Both ethnographic and quantitative research methods are used to explore the connections between the social and physical environment of areas and antisocial behavior.
Taught by: Loeffler
Course usually offered in spring term
Also Offered As: CRIM 280, SOCI 380
Activity: Seminar
1 Course Unit

URBS 290 Metropolitan Nature
In order to understand the complex and often skewed relationship between the built and natural systems, we must think in processes and examine different scales simultaneously. The course explores urban sustainability and resilience. At its core, sustainability is a radical concept that integrates the economy, equity (social justice), and the environment. Co-opted by marketing slogans, stripped of meaning and context, it has become vague and pliable. Sustainability and resilience demand a holistic systems view of the world. The course focuses on communities such as New Orleans and Eastwick where urban development has focused on economic concerns at the expense of the environment and equity resulting in unintended, and sometimes, catastrophic consequences. Students will have the opportunity to interact with community residents who have organized to develop strategies to address these ongoing issues.
Taught by: Nairn
Course usually offered in fall term
Activity: Seminar
1 Course Unit

URBS 294 Cities of the Future: Urbanization in the Global South
This course examines the futures of urbanization in most of the world. With cities in "developing" countries set to absorb 95% of urban population growth in the next generation, the course explores the plans, spaces and social experiences of this dramatic urban century. How do proliferating urban populations sustain themselves in the cities of Latin America, Africa and Asia? What kinds of social and political claims do these populations make more just and sustainable cities? The course investigates the ongoing experiences in urban planning, infrastructure development and environmental governance in cities of the Global South. In so doing, it imagines new forms of citizenship, development and sustainability that are currently unfolding in these cities of the future.
Taught by: Anand
Course not offered every year
Also Offered As: ANTH 294
Activity: Seminar
1 Course Unit

URBS 312 Health in Urban Communities
This course will introduce students to anthropological approaches to health and to theories of participatory action research. This combined theoretical perspective will then be put into practice using West Philadelphia community schools as a case study. Students will become involved in design and implementation of health-related projects at an urban elementary or middle school. As one of the course requirements, students will be expected to produce a detailed research proposal for future implementation.
Taught by: Johnston
Course usually offered in fall term
Also Offered As: ANTH 312, HSOC 321
Activity: Seminar
1 Course Unit

URBS 320 Who Gets Elected and Why? The Science of Politics
What does it take to get elected to office? What are the key elements of a successful political campaign? What are the crucial issues guiding campaigns and elections in the U.S. at the beginning of the 21st century? This class will address the process and results of electoral politics at the local, state, and federal levels. Course participants will study the stages and strategies of running for public office and will discuss the various influences on getting elected, including: Campaign finance and fundraising, demographics, polling, the media, staffing, economics, and party organization. Each week we will be joined by guest speakers who are nationally recognized professionals, with expertise in different areas of the campaign and election process. Students will also analyze campaign case studies and the career of the instructor himself. Edward G. Rendell is the former Mayor of Philadelphia, former Chair of the Democratic National Committee, and former Governor of Pennsylvania.
Taught by: Rendell
Course usually offered in fall term
Also Offered As: GAFL 509, PSCI 320
Activity: Lecture
1 Course Unit
URBS 321 Urban Ethnography: Documenting The City of Brotherly Love
How do qualitative social scientists study urban communities? What kinds of powerful tales can be told about urban lifestyles and social issues/conflicts in places like Philadelphia? This course will allow students to study various ethnographic treatments of urban communities in the United States, using films, articles, TV serials, and books as guides for the framing of their own independent research on the streets of Philadelphia. Students will also form production teams of two or three people, and these production teams will be responsible for (i) identifying and researching an important urban issue in contemporary Philadelphia and (ii) turning that research into a 15-30 minute radio documentary that will be broadcast on a local Philadelphia radio station, WURD 900AM. Mixing radio/audio journalism with ethnographic methods, will enhance their skills at archival and social research, participant-observation, interviewing techniques, sound editing, and production. This course is intended to be a rigorous and exciting opportunity for students to tell empirically grounded stories using the voices of their subjects and the sounds of the city. Potential texts include: Sidewalk (a book and documentary film by Mitchell and Mitchell Duneier), Righteous Dopefiend (a book and museum exhibit by Philippe Bourgois), and excerpts from other ethnographic work by Ana Ramos-Zayas, Elijah Anderson, Todd Wolfson, David Grazian, Setha Low, Leith Mullings, John Gwaltney, Dana-ain Davis, Carol Stack, Melissa Checker, Katherine S. Newman, and others. By Permission Only.

Taught by: Jackson
Also Offered As: ANTH 320, COMM 320
Prerequisite: COMM 220 or permission of instructor
Activity: Seminar
1 Course Unit

URBS 322 The Big Picture: Mural Arts in Philadelphia
The history and practice of the contemporary mural movement couples step-by-step analysis of the process of designing with painting a mural. In addition, students will learn to see mural art as a tool for social change. This course combines theory with practice. Students will design and paint a large outdoor mural in West Philadelphia in collaboration with Philadelphia high school students and community groups. The instructor, Jane Golden, is the founder and Director of the Philadelphia Mural Arts Program.

Taught by: Golden/Walinsky
One-term course offered either term
Also Offered As: FNAR 222, FNAR 622
Activity: Seminar
1 Course Unit
Notes: Previously URBS 222. The Undergraduate Fine Arts Department will now include a $75 fee for this course.

URBS 323 Tutoring School: Theory and Practice
This course represents an opportunity for students to participate in academically-based community service involving tutoring in a West Phila. public school. This course will serve a need for those students who are already tutoring through the West Phila. Tutoring Project or other campus tutoring. It will also be available to individuals who are interested in tutoring for the first time.

Taught by: Parker, Cheryl
Course usually offered in fall term
Also Offered As: EDUC 323
Activity: Seminar
1 Course Unit

URBS 326 Tutoring in Urban Public Elementary Schools: A Child Development Perspective
The course provides an opportunity for undergraduate students to participate in academically based community service learning. Student will be studying early childhood development and learning while providing direct, one-to-one tutoring services to young students in Philadelphia public elementary schools. The course will cover foundational dimensions of the cognitive and social development of preschool and elementary school students from a multicultural perspective. The course will place a special emphasis on the multiple contexts that influence children's development and learning and how aspects of classroom environment (i.e., curriculum and classroom management strategies) can impact children's achievement. Also, students will consider a range of larger issues impacting urban education embedded in American society. The course structure has three major components: (1) lecture related directly to readings on early childhood development and key observation and listening skills necessary for effective tutoring, (2) weekly contact with a preschool or elementary school student as a volunteer tutor and active consideration of how to enhance the student learning, and (3) discussion and reflection of personal and societal issues related to being a volunteer tutor in a large urban public school.

Taught by: Fantuzzo
Course usually offered in spring term
Also Offered As: EDUC 326
Activity: Seminar
1 Course Unit

URBS 330 GIS Applications in Social Science
This course will introduce students to the principles behind Geographic Information Science and applications of (GIS) in the social sciences. Examples of GIS applications in social services, public health, criminology, real estate, environmental justice, education, history, and urban studies will be used to illustrate how GIS integrates, displays, and facilitates analysis of spatial data through maps and descriptive statistics. Students will learn to create data sets through primary and secondary data collection, map their own data, and create maps to answer research questions. The course will consist of a combination of lecture and lab.

Taught by: tba
Course usually offered in fall term
Also Offered As: URBS 530
Activity: Seminar
1 Course Unit
Notes: Fulfills the Qualitative Data Analysis Requirement
URBS 332 Digital City: Approaches to Urban Memory & Cartography
Cities have existed through time with layered histories. Such histories are intelligible to dwellers of urban space in the present who seek them out and others who by default interact with the effects of memory through art and culture. Through the expansion of digital mapping tools, location-enabled devices, online sharing sites, and social media memes, those layers of urban memory are newly accessible and thus enhance experiences and explorations in a city. How do websites and apps devoted to mapping cities across space and time help us access and redefine the cultures of cities? What approaches, programs, and philosophies do the newfangled mapmakers and their co-creators use, and how do they differ from analog approaches to research and placemaking? What are the possibilities and responsibilities of such digital cartographies and locales? Where and for whom do the digital divides still exist? In "Digital City: Approaches to Urban Memory and Cartography," we will seek solutions to these prompts by conducting case studies of digital map projects from transnational and local perspectives, including a particular focus on Philadelphia-based sites. Students will gain skills in cultural analysis and the digital humanities, and will produce a final research project that will result in a website, mobile app, or critical assignment of their own direction mapping a city’s past onto its present or future spaces.
Taught by: Farber
Course not offered every year
Activity: Seminar
1 Course Unit

URBS 352 Food Habits in Philadelphia Communities: Exploring Eating and Changing Food Habits in Philadelphia Middle Schools
In this course, Penn undergraduates will explore and examine food habits, the intersection of culture, family, history, and the various meanings of food and eating, by working with a middle-school class in the Philadelphia public schools. The goal of the course will be to learn about the food habits of a diverse local community, to explore that community's history of food and eating, and to consider ways and means for understanding and changing food habits. Middle school students will learn about the food environment and about why culture matters when we talk about food. Topics include traditional and modern foodways, ethnic cuisine in America, food preferences, and ‘American cuisine’. The course integrates classroom work about food culture and anthropological practice with frequent trips to middle school where undergraduates will collaborate with students, their teachers, and a teacher partner from the Agatson Urban Nutrition Initiative (UNI). Students will be required to attend one of two time blocks each week to fulfill the service learning requirement-times TBA. Undergraduates will be responsible for weekly writing assignments responding to learning experience in the course, for preparing materials to use middle school children, being participant-learners with the middle school children, and for a final research project. The material for the course will address the ideas underlying university-community engagement, the relationships that exist between food/eating and culture, and research methods.
Taught by: Kauer
One-term course offered either term
Also Offered As: ANTH 252
Activity: Seminar
1 Course Unit

URBS 359 Nutritional Anthropology
This course will explore the significance as it relates to food behaviors and nutritional status in contemporary human populations. The topics covered will be examined from a biocultural perspective and include 1) definition and functions of nutrients and how different cultures perceive nutrients, 2) basic principles of human growth and development, 3) methods to assess dietary intake, 4) food taboos, 5) feeding practices of infants and children, 6) food marketing, 7) causes and consequences of under- and over-nutrition, and 8) food insecurity and hunger.
Course not offered every year
Also Offered As: ANTH 359
Activity: Seminar
1 Course Unit

URBS 367 Philadelphia, 1700-2000
Using Philadelphia as a lens, this course will examine the transformation of American cities from the colonial period to the present. Through readings, lectures, and tours, we will consider urbanization and suburbanization, race, class, and ethnicity, economic development, poverty and inequality, housing and neighborhood change, urban institutions, and politics and public policy.
Taught by: Sugrue
Course not offered every year
Also Offered As: HIST 367
Activity: Lecture
1 Course Unit

URBS 390 Urban Agriculture
Urban Agriculture is a growing global trend. This course examines urban agriculture as an issue of sustainability, social justice, public health, and vacant land. It explores the potential of urban agriculture in both the Global North and South to provide a safe and secure source of food to city residents. Major topics include sustainable agricultural practices, operational and spatial requirements, distribution systems, and access to fresh food. Using Philadelphia as a laboratory, the course explores its robust agricultural scene of community gardens, guerilla gardens, and entrepreneurial farms, as well as its distribution system including programs such as City harvest, the emerging Common Market, and established farmers’ markets. The course will integrate lectures about sustainable agricultural practices with field trips to and hands-on work at community gardens and farms.
Taught by: Nairn
Course usually offered summer term only
Activity: Seminar
1 Course Unit

URBS 400 Senior Seminar
Urban Studies senior research project
Taught by: Grossman/McClone/Simon
Course usually offered in fall term
Prerequisite: URBS 200; URBS 300
Activity: Seminar
1 Course Unit
URBS 401 Urban Studies Honors
Students in the fall Urban Studies Senior Seminar (URBS400) whose papers are exceptional and show promise for publication will be invited to participate in the spring honors seminar. If they choose to participate, honors seminar participants will revise and refine their research/papers with the goal of their work for publication in an academic journal relevant to the topic. The seminar meets periodically during the semester, structured around a set of assignments geared to facilitate the process of revision. Students will be assigned to read each other’s work and meetings take the form of a workshop with students reporting on progress and providing feedback to improve and develop each other's papers. In addition to completing the revised paper for a grade, participants in the honors seminar are required to present their work to a wider Urban Studies audience in a special session at the end of the semester and to provide documentation that they have submitted their papers for publication. Students who successfully complete the honors seminar will graduate with distinction in the major, noted on their transcripts and in the graduation materials.
Taught by: Simon
Course usually offered in spring term
Prerequisite: URBS 400
Activity: Seminar
1 Course Unit

URBS 404 Philanthropy & The City
This course will focus on how urban communities are shaped by the nonprofit sector and the billions of philanthropic dollars that fuel their work. By bridging theory and practice, the class explores what dynamics are at play to deliver vital services or programs in healthcare, education, the arts, community development, and other issues. The course will also focus on these important questions: (1) Whose responsibility is the public good? How is that responsibility shared by the public, private, and nonprofit sectors? and (2) Given that responsibility for the public good, which individuals and groups make the decisions about how to serve the public good? How are these decisions made, and who benefits from these decisions? Students will consider these questions in an interdisciplinary context that will bring a historical and philosophical perspective to the examination of the values and institutions that characterize the contemporary philanthropy and the nonprofit sector.
Taught by: Bauer/Goldman
Course usually offered in fall term
Also Offered As: NPLD 797
Activity: Seminar
1 Course Unit

URBS 405 Religion, Social Justice & Urban Development
Urban development has been influenced by religious conceptions of social and economic justice. Progressive traditions within Judaism, Christianity, Islam, Buddhism, Hinduism, Jainism, Baha’i, Humanism and other religions and systems of moral thought have yielded powerful critiques of oppression and hierarchy as well as alternative economic frameworks for ownership, governance, production, labor, and community. Historical and contemporary case studies from the Americas, Europe, Africa, Asia, and the Middle East will be considered, as we examine the ways in which religious responses to poverty, inequality, and ecological destruction have generated new forms of resistance and development.
Taught by: Lamas
Course usually offered in spring term
Also Offered As: AFRC 405, RELS 439
Activity: Seminar
1 Course Unit

URBS 412 Building Non-Profits: The Business of a Mission-Driven Organization
This course will cover the basic elements of building and growing a non-profit organization, including the development of the mission and the board; needs assessment, program design, development, and management; financial management, contract compliance and understanding an audit; fundraising, public, foundation, corporate, and individual; communication and marketing; organizational administration (including staff and volunteer selection, management and development); public policy, research and advocacy. Students will make site visits and engage role play, in addition to research and writing.
Taught by: Goldman, Greg
Course usually offered summer term only
Activity: Lecture
1 Course Unit

URBS 417 Cities and Sustainability
A good idea is not enough - developing innovative and sustainable projects in cities requires understanding "how to get things done." Developing projects to promote sustainability in major US cities requires sensitivity to the political and operational context within which cities implement innovative initiatives. Cities and Sustainability uses Philadelphia as a case study to explore the issues confronting modern American metropolises as they look to manage their resources and promote environmentally friendly policies. URBS 417 will introduce students to leading Philadelphia practitioners of sustainability and municipal projects. Students will be given the tools to politically, economically and critically analyze various sustainable policy initiatives across the United States.
Taught by: Ben-Amos
Course usually offered in spring term
Activity: Seminar
1 Course Unit

URBS 419 Transportation & American Society
Transportation affects every aspect of American society; from how we get to work or school, to how we shop and play. Transportation policy at all levels of American government has serious implications for social justice and economic development. Moreover, some of today's most intense political battles center on transportation policy across America and within its cities, be it funding High Speed Rail in California or placing bike lanes in the heart of Manhattan. Transportation and American Society will expose students to the role transportation has played the development of America and its cities as well as its impact on politics and society.
Taught by: Ben-Amos
Course usually offered in fall term
Activity: Lecture
1 Course Unit
URBS 420 Perspectives on Urban Poverty
This course provides an interdisciplinary introduction to 20th century urban poverty, and 20th century urban poverty knowledge. In addition to providing a historical overview of American poverty, the course is primarily concerned with the ways in which historical, cultural, political, racial, social, spatial/geographical, and economic forces have either shaped or been left out of contemporary debates on urban poverty. Of great importance, the course will evaluate competing analytic trends in the social sciences and their respective implications in terms of the question of what can be known about urban poverty in the contexts of social policy and practice, academic research, and the broader social imaginary. We will critically analyze a wide body of literature that theorizes and explains urban poverty. Course readings span the disciplines of sociology, anthropology, urban studies, history, and social welfare. Primacy will be granted to critical analysis and deconstruction of course texts, particularly with regard to the ways in which poverty knowledge creates, sustains, and constrains meaningful channels of action in urban poverty policy and practice interventions.
Taught by: Fairbanks
Course usually offered in fall term
Also Offered As: HIST 440, SOCI 420
Activity: Seminar
1 Course Unit

URBS 428 Research Seminar in 21st Century Urbanism
A seminar run in conjunction with the Institute for Urban Research at Penn, students will learn about the range of cutting-edge topics in urbanism that Penn faculty are working on and work closely with a faculty member on current research. Students will learn about new topics and methods in interdisciplinary urban research, and get first hand experience collecting urban data under the close supervision of an experienced researcher. Students and faculty jointly will present their findings for discussion. This course is a good introduction for how to frame and conduct an urban research project.
Taught by: Ehlenz
Course usually offered in spring term
Also Offered As: CPLN 528
Activity: Seminar
1 Course Unit

URBS 423 Fantastic Cities: Urban Landscapes Seen Through Memory, Imagination and Dreams
This seminar introduces the notion of the city, or polis, as a powerful current in our cultural imagination. In contemporary discourse, cities have an edge of glamour: they elicit both fear and desire. Historically, however, cities have been understood as microcosmic models of the organization of human society; a walled city was a place of safety and order, not a site of danger or chaos. This course explores different moments in the cultural fantasies surrounding cities, paying special attention to topics such as the role of the imagination in experiencing cities, historical urban strata, subways and other subterranean spaces below the modern city, urban peripheries, and the modern aesthetic of transparency. The course focuses on representations of some actual cities – Rome, Berlin, New York, London, Lagos – as well as a series of utopian and dystopian imagined cities.
Taught by: Svendsen
Course usually offered summer term only
Activity: Seminar
1 Course Unit

URBS 421 Mapping Philadelphia
Philadelphia is a city that was mapped before it was built. Founder William Penn’s original concept for the gridded city continues to inform the historical evolution of Philadelphia, even as city planners, architects, artists, and social justice activists work to transform the layers of our built environment. This class will study the city through a variety of archival maps, historical mapping practices, and emergent digital approaches to representing space and time. We will explore public history projects that seek approaches to place-making and place-keeping at neighborhood intersections, share dialogue with social practice artists who produce site-specific works, and visualize civic data through platforms such as OpenDataPhilly. Each student will pursue a final research project resulting in a close study of a particular street or intersection in the city.
Taught by: Paul Farber
Course not offered every year
Activity: Seminar
1 Course Unit

URBS 435 The Political Economy of Urban Development
This course provides an introduction to the economic and political theories that have come to shape, for better or for worse, the spatial characteristics of late 20th century urbanism. It is intended to offer a range of analytical approaches to understanding the urban structures and processes that strategies of community-based organizers and urban policy planners seek to influence. The course focuses on postwar U.S. cities (Chicago and other Midwestern/ Northeast rust belt cities in particular), though a number of readings explore these issues in broader contexts. As a way to further understand postwar US urbanism, we will expand our focus briefly to the geopolitical/international scale during the weeks on neoliberalism and microfinance. Urban political economy refers to different theoretical traditions within the social sciences that explain urban development in terms of the relationship between markets, states, and community actors (or, civil society).
Part I of the course covers four different theories of modern political economy. Neoclassical, Keynesian, Marxian, and Neoliberal. Our purpose is to provide a framework for political economic analysis and an historical foundation for understanding postwar transformation. Part II of the course grounds the foundational material of Part I by tracing the economic and political forces that have shaped post-war urban development trends in Northeastern and Midwestern cities (especially Chicago, Detroit, Philadelphia and NY). Particular attention will be given to issues such as race, suburbanization, deindustrialization, welfare state retrenchment, gentrification, and public housing transformation. Part III examines a range of contemporary (post 1970) approaches to urban development, focusing on processes of neoliberalization, neo-clientalism, urban informality, sub prime mortgage lending, and microfinance.
Taught by: Fairbanks
Course not offered every year
Activity: Lecture
1 Course Unit

URBS 440 Introduction to City Planning: Past, Present and Future
Orientation to the profession, tracing the evolution of city and regional planning from its late nineteenth century roots to its twentieth century expression. Field trips included.
Taught by: Vitiello or Ammon
Course usually offered in fall term
Also Offered As: CPLN 500
Activity: Lecture
1 Course Unit
URBS 448 Neighborhood Displacement & Community Power
This course uses the history of black displacement to examine community power and advocacy. It examines the methods of advocacy (e.g., case, class, and legislative) and political action through which community activists can influence social policy development and community and institutional change. The course also analyzes selected strategies and tactics of change and seeks to develop alternative roles in the group advocacy, lobbying, public education and public relations, electoral politics, coalition building, and legal and ethical dilemmas in political action. Case studies of neighborhood displacement serve as central means of examining course topics.
Taught by: Palmer
Course usually offered in spring term
Also Offered As: AFRC 448
Activity: Seminar
1 Course Unit

URBS 450 Urban Redevelopment
This course will consider urban redevelopment from the early 20th century to the present day, looking at ways the economic, political, and social underpinnings of redevelopment practice have changed over that time. From the City Beautiful movement to Transit Oriented Development, the course will look at why and how the public, private, and non-profit sectors have intervened in urban neighborhoods, and will contemplate consequences - positive and negative - of those interventions. Students will be introduced to some of the technical aspects of redevelopment, including architecture/design, planning, and financing. The class will be in seminar format, mixing lecture, discussion, and guest speakers. The course requirements include a mid-term paper, an in-class charrette, and a final development project.
Taught by: Rachlin, Andrew
Course usually offered in spring term
Activity: Seminar
1 Course Unit

URBS 451 The Politics of Housing and Urban Development
This course offers an exploration of how legislative action, government policymaking, and citizen advocacy influence plans for the investment of public capital in distressed urban neighborhoods. Course topics this semester will include an evaluation of the results of City of Philadelphia development policies under the administration of former Mayor Michael A. Nutter, as well as consideration of plans being undertaken by the administration of Mayor James F. Kenney, who took office in January. The course will also include an assessment of a large-scale property acquisition and development strategy being implemented by the Philadelphia Housing Authority in North Philadelphia and a review of recent and current reinvestment proposals for Camden’s waterfront and downtown-area neighborhoods.
Taught by: Kromer
Course usually offered in fall term
Also Offered As: CPLN 625, GAFL 569
Activity: Lecture
1 Course Unit

URBS 452 Community Economic Development
Community economic development concerns the revitalization of impoverished communities. As with all things economic, poor and working people may be the subjects or the objects of development. We will utilize case studies from Philadelphia and around the world in an exploration of various models of economic justice and sustainable development.
Taught by: Lamas
Course usually offered in fall term
Activity: Seminar
1 Course Unit

URBS 453 Metropolitan Growth and Poverty
This course analyzes the role of metropolitan regions in the U.S. and global economies, including the sources of metropolitan productivity, the ways that metropolitan structures affect residents, and analyses of public policy in metropolitan areas. The economic, political, and social forces that have shaped World War II urban and regional development are explored, including technology, demography, and government. Special attention is paid to how metropolitan change affects residents by income and race. Topics include: gentrification, schools, suburbanization, sprawl, metropolitan fragmentation, concentration of poverty, race, and various economic revitalization initiatives.
Taught by: Madden
Course not offered every year
Also Offered As: SOCI 453
Activity: Seminar
1 Course Unit

URBS 454 City Limits: The Impact of Urban Policy
This course assesses the changing role of public policy in American cities. In the past, government often believed that it could direct urban development. New realities - the rise of an informal labor market, global capital and labor flows, the flight of businesses and the middle class to the suburbs - have demonstrated that government must see itself as one - but only one - 'player' in a more complete, transactional process of policy making that crosses political boundaries and involves business, organized interest groups, and citizens. This seminar uses a case-study method to study how public policy can make a difference in the revitalization of distressed American cities. The seminar is designed for advanced undergraduates and graduate students. Seminar readings and projects will be organized around three themes: 1) history and vision, 2) data and analysis, and 3) policy and implementation. Students will be divided into project teams assigned to work on current development issues that will be reviewed by both public and private-sector experts. Extensive use will be made of real estate, economic development, and social indicator data to understand the complex forces at work in both large and small cities. Students will learn to access, analyze, and map information; to frame and interpret these data within a regional perspective; and to construct profiles of cities and neighborhoods. Students will study recent urban redevelopment initiatives in the Philadelphia region, including Philadelphia’s Neighborhood Transformations Initiative and New Jersey’s Camden Revitalization plans.
Taught by: Goldstein, Stern
Course usually offered in spring term
Also Offered As: SWRK 712, URBS 554
Prerequisite: Student must have taken an introduction to research methods course
Activity: Seminar
1 Course Unit
URBS 457 Globalization & The City
Over the past two decades, the public imagination has been gripped by the concept of globalization. Scholars, corporations, advertisers and government officials have latched onto this idea as a defining feature of our current era. These various constituencies use globalization not only to account for epochal shifts in our economy and society, but also to justify new types of business strategy and public policy. This course will examine three interlinked dimensions of globalization: Global economic processes (e.g. the transnational operations of multinational firms that have given rise to a new international division of labor); cultural globalization (e.g. the spread of American brands like Coca Cola, Nike and Hollywood films), and political globalization (e.g. the rise of supranational organizations like the IMF, World Bank and WTO that promote the idea of free markets). Moreover, we will study globalization in the context of cities because, given their centrality to globalization processes, it is in cities that we can best understand how globalization takes place. In cities, we can study the global economic processes that restructure urban space, giving rise to new financial districts, international art exhibits and post-modern architecture and entrepreneurial strategies that seek to elevate cities to world city status. The course will examine these processes in a comparative light, contrasting urban globalization processes in Europe and North America with those in Latin America, Asia and Africa.
Taught by: Shankar
Course not offered every year
Also Offered As: SOCI 435
Activity: Seminar
1 Course Unit

URBS 473 History & Theory of Community Organizing
Power is the ability to create change. This course will integrate the history and theories of community organizing so that each student will be able to develop a transformational praxis. We will examine social inequality and intersectionality, and explore effective strategies in organizing for social change. This course is inter-disciplinary, involving political economy, sociology, history, social work and leadership theory. Inquiry-based and problem-posing methods will serve as the primary means of formative assessment.
Taught by: Becker
Course not offered every year
Also Offered As: SOCI 473
Activity: Seminar
1 Course Unit

URBS 475 Public Performance Art in the Global Age
Variously termed relational aesthetics, socially engaged art, or new genre public art, the exploding global expansion and wildly proliferating forms of what this course will term public performance art is one of the most exciting and consequential artistic, cultural, and political movements of the start of the 21st Century. This course will chart the history of this phenomenon from its radical origins in Futurism, Constructivism, and Dada cabaret, through Happenings, the inter-disciplinary collaborations of Merce Cunningham, Robert Rauschenberg, and Jasper Johns, site-specific and installation art, to current practitioners around the world, such as Ai Weiwei, Thomas Hirschhorn, Marina Abramovic, and Christo and Jeanne-Claude, among others. The course will outline the theoretical and philosophical foundations of this work and the political controversies it has ignited. Special focus will be on the engagement of this work with public space and contemporary urban life. Course requirements include wide reading and class discussion, and oral presentations on artists, collectives, and movements that have significantly shaped the current landscape. The course includes a laboratory component in which students will have the opportunity to construct a performance art or installation piece in campus public space. This public art piece will serve as site research for a final paper. All students welcome. No previous experience or special expertise in the field required. Just genuine interest or curiosity.
Taught by: Public Performance Art in the Global Age
Course not offered every year
Also Offered As: THAR 475
Activity: Lecture
1 Course Unit
Notes: Master of Liberal Arts open to undergraduates.

URBS 476 Urban Housing & Community Development Policy in America
This course examines how public policy influences housing markets and how markets influence public policy. The course reviews the development of housing policy since World War II and how shifts in policy have influenced people's ability to find suitable shelter. Topics include: poverty and affordability, residential segregation / civil rights in housing, the financial crisis of 2008, mortgage foreclosure, affordable housing, and homelessness. The course focuses on the changing roles of different levels of government in housing policy and how the financial sector, the construction industry, and non-governmental organizations influence Americans housing options.
Taught by: Stern, Goldstein
Course not offered every year
Activity: Seminar
1 Course Unit
URBS 478 Elements of a Sustainable Development Policy
This course has several objectives. The central focus will be on developing a comprehensive understanding of the principles of sustainable development, a broad, deep, and in fact, revolutionary new way of shaping the operations of society. It was first defined in the 1987 Report of the United Nations’ World Commission in Environment and Development (the Brundtland Report) as: "... development that meets the needs to the present without compromising the ability of future generations to meet their own needs." The course will combine lectures on general concepts and ways of viewing sustainable development with individuals and team presentations on a wide variety of sustainable development programs. Students will examine the efforts of universities, companies, local governments, state governments, and national governments to being to moderate man's impact of the natural environment and to make societies more economically viable and just - and therefore, more sustainable - in the long run. Students will learn how sustainable development strategies involve the full range of human activities, such as energy production and use, creation of urban communities, transportation, food systems, building construction and operation, waste disposal, control of environmental pollution, water use and treatment, and social inclusion, migration, and global poverty.
Taught by: Keene
Also Offered As: CPLN 678
Activity: Seminar
1 Course Unit

URBS 480 Liberation and Ownership
Who is going to own what we all have a part of creating? The history of the Americas, and of all peoples everywhere, is an evolving answer to the question of ownership. Ownership is about: the ties that bind and those that separate; production, participation, and control; the creation of community and the imposition of hierarchies—racial, sexual, and others; dreams of possessing and the burdens of debt and ecological despoliation; dependency and the slave yearning to breathe free. Of all the issues relevant to democracy, oppression, injustice, and inequality, ownership is arguably the most important and least understood. Utilizing a variety of disciplinary perspectives—with a particular emphasis on radical and critical theories of liberation, and by focusing on particular global sites and processes of capitalism, students will assess and refine their views regarding ownership and liberation in light of their own social, political, religious, aesthetic, and ethical commitments.
Taught by: Lamas
Course usually offered in fall term
Also Offered As: AFRC 480
Activity: Seminar
1 Course Unit

URBS 501 Community Partnerships in Visual Arts & Education
This course will connect students with artists from the 40th Street Artist-in-Residence (AIR) program, which provides free studio space and in exchange asks residents to share their talents with the local community. This course is designated as an Academic-based Service Learning (ABCS) class, meaning that students will be evaluated partly on their work in the community outreach situation. Course registration is open to advanced undergraduates.
Taught by: Epstein
Also Offered As: EDUC 501
Activity: Seminar
1 Course Unit

URBS 506 Public Environment of Cities: An Introduction to the Urban Landscape
This course will explore the role of public spaces - streets, boulevards, parks and squares - in cities and their social uses. With the University of Pennsylvania campus and the City of Philadelphia serving as our laboratory, we will critically examine the evolution of the movement of corridors, open space and buildings of the urban landscape and their changing uses. Case studies of social spaces on campus and public open spaces in Center City will help inform our understanding of how public environment serves, well or poorly, the varying needs of diverse users. While graphic skills are not required, graphic means as well as writing will be employed to communicate critical thought, ideas, and conclusions.
Taught by: Nairn
Course not offered every year
Also Offered As: URBS 206
Activity: Seminar
1 Course Unit

URBS 513 Urban Ethnography
Using Philadelphia as the site of students' praxis, this course explores the symbolic meanings and social production of urban life and culture in the nation's fifth largest city. This course is structured as a seminar with ethnographic background readings from Philadelphia and other urban settings to introduce students to the study of the city as a site of everyday practice, as well as training in conducting an ethnographic fieldwork project. The urban landscape provides an intensification of macro processes such as globalization. Such processes and how humans experience them are more easily studied and understood in an urban setting. The class will explore social relational and cultural themes such as the ethnic city, the gendered city, the contested city, the sacred city, the global city, and the aesthetic and expressive city. A diverse range of reading assignments, images, and videos will augment our understandings of urban life. Students will design and execute their own ethnographic fieldwork projects on an urban topic that interests them. Through step-by-step instruction throughout the semester, students will learn qualitative research techniques such as field notes, participant-observation, interviewing, and how to interpret their own data, so that they will be able to complete their semester project.
Taught by: Saverino
Course not offered every year
Also Offered As: FOLK 513, URBS 213
Activity: Seminar
1 Course Unit
URBS 516 Public Interest Workshop
This is a Public Interest Ethnography workshop (originally created by Peggy Reeves Sanday - Department of Anthropology) that incorporates an interdisciplinary approach to exploring social issues. Open to graduate and advanced undergraduate students, the workshop is a response to Amy Gutmann's call for interdisciplinary cooperation across the University and to the Department of Anthropology's commitment to developing public interest research and practice as a disciplinary theme. Rooted in the rubric of public interest social science, the course focuses on: 1) merging problem solving with theory and analysis in the interest of change motivated by a commitment to social justice, racial harmony, equality, and human rights; and 2) engaging in public debate on human issues to make the research results accessible to a broad audience. The workshop brings in guest speakers and will incorporate original ethnographic research to merge theory with action. Students are encouraged to apply the framing model to a public interest research and action topic of their choice. This is an academically-based-community-service (ABCS) course that partners directly with Penn's Netter Center Community Partnerships.
Taught by: Suess
Course usually offered in fall term
Also Offered As: AFST 516, ANTH 516, GSWS 516
Activity: Seminar
1 Course Unit

URBS 519 Cities in Global Econ
Also Offered As: PSCI 519
Activity: Seminar
1 Course Unit

URBS 524 Metro Labor Markets
This course examines contemporary labor markets through two thematic lenses. One is the growing discussion of knowledge industries and "knowledge workers" and their importance to regional innovative capacity and competitive advantage in a global economy. The other is the persistent challenge of unemployment, underemployment and working poverty within metropolitan regions. In exploring these themes, readings for the class synthesize perspectives on work, labor markets and economic growth from economics, sociology, history and political science. Class lecture and discussion, supplemented by the occasional guest practitioner, will focus on translating academic research into knowledge that can be used in local economic and community development practice.
Taught by: Wolf-Powers
Course usually offered in spring term
Also Offered As: CPLN 624
Activity: Seminar
1 Course Unit

URBS 530 GIS Applications in Social Science
This course will introduce students to the principles behind Geographic Information Science and applications of (GIS) in the social sciences. Examples of GIS applications in social services, public health, criminology, real estate, environmental justice, education, history, and urban studies will be used to illustrate how GIS integrates, displays, and facilitates analysis of spatial data through maps and descriptive statistics. Students will learn to create data sets through primary and secondary data collection, map their own data, and create maps to answer research questions. The course will consist of a combination of lecture and lab.
Taught by: Hillier
Course usually offered in fall term
Also Offered As: URBS 330
Activity: Seminar
1 Course Unit

URBS 547 Anthropology and Education
An introduction to the intent, approach, and contribution of anthropology to the study of socialization and schooling in cross-cultural perspective. Education is examined in traditional, colonial, and complex industrial societies.
Taught by: Hall or Posecznick
One-term course offered either term
Also Offered As: ANTH 547, EDUC 547
Activity: Lecture
1 Course Unit

URBS 554 City Limits: The Impact of Urban Policy
This course assesses the changing role of public policy in American cities. In the past, government often believed that it could direct urban development. New realities - the rise of an informal labor market, global capital and labor flows, the flight of businesses and the middle class to the suburbs - have demonstrated that government must see itself as one - but only one - 'player' in a more complete, transactional process of policy making that crosses political boundaries and involves business, organized interest groups, and citizens. This seminar uses a case study method to study how public policy can make a difference in the revitalization of distressed American cities. The seminar is designed for advanced undergraduates and graduate students. Seminar readings and projects will be organized around three themes: 1) history and vision, 2) data and analysis, and 3) policy and implementation. Students will be divided into project teams assigned to work on current development issues that will be reviewed by both public and private-sector experts. Extensive use will be made of real estate, economic development, and social indicator data to understand the complex forces at work in both large and small cities. Students will learn to access, analyze, and map information; to frame and interpret these data within a regional perspective; and to construct profiles of cities and neighborhoods. Students will study recent urban redevelopment initiatives in the Philadelphia region - including Philadelphia's Neighborhood Transformations Initiative and New Jersey's Camden Revitalization plans.
Taught by: Goldstein, Stern
Course usually offered in spring term
Also Offered As: URBS 454
Prerequisite: Student must have taken a research methods course
Activity: Seminar
1 Course Unit
**URBS 608 Proseminar in Urban Studies**

Open to PhD students, this scholar-oriented seminar explores how academic researchers from different disciplines define researchable questions, craft research designs, and contribute to knowledge through an examination of important and/or recently published books and monographs with an urban focus. Required of all doctoral students enrolled in the Urban Studies Graduate Certificate Program. Enrollment is limited to 15 students. Other doctoral students may enroll on a space available basis. Course requirements include completion of a major research paper on a topic selected in consultation with the instructor.

Taught by: Stern
Course usually offered in spring term
Also Offered As: CPLN 800, HIST 608, SOCI 608
Activity: Seminar
1 Course Unit

**URBS 614 Weimar Landscapes**

This new course is designed for students of literature, landscape architecture and urban planning, and cultural history in general. It will explore the ideas of, and attitudes towards, landscape in selected works by Wolfgang Goethe, and consider his own considerable practical involvement in reshaping the town and gardens of Weimar. The course will provide the larger context of German literature, aesthetics and landscape taste, and politics of the later 18th and early 19th centuries. We will consider the development of new gardens and parks in a "new" style (e.g. Worlitz); they were regarded to be less formal and more "natural" than their French predecessors. We will study the English models for this movement, and offer particular attention to the major German theorist, C.C.L. Hirschfeld, who would soon become famous outside Germany as well.

Taught by: Weissberg/Hunt
Course not offered every year
Also Offered As: ARTH 782, COML 615, ENGL 584, GRMN 614, LARP 770
Activity: Seminar
1 Course Unit

**URBS 619 Critical Perspectives in Contemporary Urban Education**

The focus of this course is the conditions for teaching and learning in urban public schools, current theories of pedagogy in urban education, and perspectives on urban reform efforts.

Taught by: Schultz
One-term course offered either term
Activity: Lecture
1 Course Unit

**URBS 623 Workshop in Urban Ethnography**

The ethnographic and sociological interpretation of urban life. Conceptual and methodological issues will be thoroughly discussed. Ongoing projects of participants will be presented in a "workshop" format, thus providing participants the opportunity of learning from and contributing to ethnographic work in progress. Selected ethnographic works will be read and assessed.

Course not offered every year
Also Offered As: AFRC 623, SOCI 623
Activity: Seminar
1 Course Unit

**URBS 624 Race Relations in American Cities**

The ethnographic study of race relations in the United States. The social life and culture of urban race relations in the United States will be emphasized, stressing conceptual and methodological issues. Selected ethnographic literature will be read and discussed. Students will be expected to carry out an ethnographic site study.

Course not offered every year
Also Offered As: SOCI 624
Activity: Seminar
1 Course Unit

**URBS 670 Ethnicity: The Immigrant City**

Immigration is among the most important yet controversial forces shaping cities, regions, and neighborhoods. The diversity of immigrant and receiving communities means that the dynamics and impacts of migration are varied and complex. This course examines the development of immigrant and receiving communities in the United States. It surveys public policy and community and economic development practices related to migration at the local, regional, national, and trans-national scale. Class readings, discussions, and visits to Philadelphia's immigrant neighborhoods explore themes including labor markets, housing experiences, political mobilization, civil society, cultural preservation, and the built environment. The first half of the course surveys migration and community formation among a broad range of ethnic groups in different parts of the city and suburbs, mainly through history, sociology, and geography; the second half focuses on specific policy and community and economic development initiatives. The major class project will be a study of gentrification in Philadelphia's Chinatown with the community organization Asian Americans United, part of a multi-city Chinatown study in collaboration with the Asian American Legal Defense and Education Fund and colleagues in Boston and New York.

Course usually offered in spring term
Activity: Seminar
1 Course Unit

**URBS 672 Introduction to Ethnographic and Qualitative Research in Education**

A first course in ethnographic participant observational research, its substantive orientation, literature, and methods. Emphasis is on the interpretive study of social organization and culture in educational settings, formal and informal. Methods of data collection and analysis, critical review of examples of ethnographic research reports, and research design and proposal preparation are among the topics and activities included in this course.

Taught by: Hall, Wortham
One-term course offered either term
Also Offered As: FOLK 672
Activity: Lecture
1 Course Unit
URBS 706 Culture/Power/Subjectivities
This doctoral level course will introduce students to a conceptual language and theoretical tools for analyzing and explaining the complex intersection of racialized, ethnic, gendered, sexual, and classed differences and asymmetrical social relations. The students will examine critically the interrelationships between culture, power, and subjectivity through a close reading of classical and contemporary social theory. Emphasis will be given to assessing the power of various theories for conceptualizing and explaining mechanisms of social stratification as well as the basis of social order and processes of social change.
Taught by: Hall
One-term course offered either term
Also Offered As: ANTH 704, EDUC 706, FOLK 706
Prerequisite: EDUC 547
Activity: Lecture
1 Course Unit

URBS 714 Policy Analysis & Program Evaluation for Planning
Exploration of the intended and unintended consequences of public policy pertaining to land use, transportation, housing, education, growth management and economic development.
Taught by: Wong
Course usually offered in fall term
Also Offered As: CPLN 714
Activity: Lecture
1 Course Unit

Urdhu (URDU)

URDU 401 Beginning Urdu-Hindi, Part I
This introductory course core proficiency in Hindi-Urdu up to the intermediate level. It is designed for students with little or no prior exposure to Hindi or Urdu. The course covers all four language skills (speaking, lisitening, reading, and writing) and all three models of communication (interpersonal, presentational, interpretive). Students will develop literacy skills in the primary script of their choice (Hindi or Urdu script). All written materials will be provided in both scripts. All meetings are interactive and students acquire the language by using it in realistic contexts. Culture is embedded in the activities and is also introduced through various authentic materials.
For BA Students: Language Course
Taught by: Pien
Two terms. student must enter first term.
Also Offered As: HIND 400, NELC 401
Activity: Lecture
1 Course Unit

URDU 402 Beginning Hindi-Urdu Part II
This introductory course core proficiency in Hindi-Urdu up to the intermediate level. It is designed for students with little or no prior exposure to Hindi or Urdu. The course covers all four language skills (speaking, lisitening, reading, and writing) and all three models of communication (interpersonal, presentational, interpretive). Students will develop literacy skills in the primary script of their choice (Hindi or Urdu script). All written materials will be provided in both scripts. All meetings are interactive and students acquire the language by using it in realistic contexts. Culture is embedded in the activities and is also introduced through various authentic materials.
For BA Students: Language Course
Taught by: Pien
Also Offered As: HIND 401, NELC 402
Activity: Lecture
1 Course Unit

URDU 421 Intermediate Urdu Part I
This course allows students to continue improving their Urdu proficiency while also gaining a broad foundational understanding of Urdu society and culture throughout South Asia. The course provides students the tools needed to handle a variety of authentic written and spoken Urdu sources including film, music, media reports, folk tales, and simple literature. Students will also continue to increase their speaking and writing proficiency to be able to discuss a broad range of concrete, real-world topics. The course is designed for students with one year previous Urdu or Hindi study or the equivalent proficiency. Students with speaking ability in Urdu or Hindi but without reading/writing skills are encouraged to contact the instructor for placement.
For BA Students: Language Course
Taught by: Menai
Two terms. student must enter first term.
Also Offered As: NELC 421
Activity: Lecture
1 Course Unit

URDU 422 Intermediate Urdu Part II
This continuing second-year course allows students to continue improving their Urdu proficiency while also gaining a broad foundational understanding of Urdu society and culture throughout South Asia. The course provides students the tools needed to handle a variety of authentic written and spoken Urdu sources including film, music, media reports, folk tales, and simple literature. Students will also continue to increase their speaking and writing proficiency to be able to discuss a broad range of concrete, real-world topics. The course is designed for students with one year previous Urdu or Hindi study or the equivalent proficiency.
For BA Students: Last Language Course
Taught by: Menai
Also Offered As: NELC 422
Activity: Seminar
1 Course Unit

URDU 431 Advanced Urdu: Language and Literature
This course is designed to give in-depth exposure to some of the finest works of classical and modern Urdu prose and poetry along with the historical and socio-political trends they represent. Figures covered range from Ghalib (b.1797) to Faiz, Fehmida Riaz, and post 9/11 Urdu prose and poetry. The course is open to both undergraduates and graduate students, subject to having intermediate level proficiency. The course is repeatable, and hte content changes every semester. Multi-media content such as music, videos, blogs etc. will be actively incorporated. Every effort will be made to accommodate individual interests. Students are encouraged to contact the instructor with any questions, or if they are unsure about eligibility.
For BA Students: Advanced Language Course
Taught by: Menai
Course usually offered in fall term
Also Offered As: NELC 431
Activity: Lecture
1 Course Unit

URDU 431 Advanced Urdu: Language and Literature
Notes: Intermediate reading, writing and speaking skills in Urdu are recommended but please contact the instructor if you are unsure of your eligibility and want to discuss further. Topic changes each semester

URDU 462 Urdu Topics Course
Taught by: Menai
Activity: Lecture
1 Course Unit
**Viper (VIPR)**

VIPR 120 Vagelos Integrated Program in Energy Research (VIPER) Seminar, Part I
This is the first part of the two-semester seminar designed to introduce students to the VIPER program and help them prepare for energy-related research. Research articles on various energy-related topics will be discussed, and students will be guided toward their research topic selection. Library research, presentation of data, basic research methods, research ethics, data analysis, advisor identification, and funding options will also be discussed. Sample energy topics discussed will include:
- Applications of nanostructured materials in solar cells
- Solid oxide fuel cells
- Global climate modeling: radiant heat transfer
- Nanocrystal-based technologies for energy storage
- Photo-bioreactor systems for mass production of micro-algae
- Advanced rare earths separations chemistry
- Modeling of oxides for solar energy applications
- Electronic transport in carbon nanomaterials.
Taught by: John M. Vohs, Andrew M. Rappe and Kristen L. Hughes
Course usually offered in spring term
Prerequisite: Admission to VIPER program.
Activity: Seminar
0.5 Course Units

VIPR 121 Vagelos Integrated Program in Energy Research (VIPER) Seminar, Part II
This is the second part of the two-semester seminar designed to introduce students to the VIPER program and help them prepare for energy-related research. In this semester we will continue to discuss research articles on various energy-related topics, best practices for library research, presentation of data, basic research methods, research ethics, data analysis, and funding options. A large focus of the course will also be on presenting (in both written and oral form) the work from the students' summer research internships.
Taught by: Andrew M. Rappe, John M. Vohs and Kristen L. Hughes
Course usually offered in fall term
Prerequisite: VIPR120
Activity: Seminar
0.5 Course Units

**Visual Studies (VLST)**

VLST 101 Eye, Mind, and Image
Visual Studies 101 provides an introduction to the collaboration of eye, mind, and image that produces our experience of a visual world. How and what do we see? How do we perceive color, space, and motion? What is an image? Does seeing vary across cultures and time? What can art tell us about vision? Is there a 21st-century form of seeing? This course combines different approaches to the study of vision, drawing from psychology, cognitive science, philosophy, history of art, and fine art. Professors representing two or three disciplines present lectures that demonstrate the methods of their disciplines and draw connections across fields. This course examines different approaches to the study of vision, drawing from psychology, cognitive science, philosophy, history of art, and fine art. Professors representing two or three disciplines present lectures that demonstrate the methods of their disciplines and draw connections across fields.
For BA Students: Hum/Soc Sci or Nat Sci/Math Sector
Taught by: Hatfield/Leja
One-term course offered either term
Activity: Lecture
1 Course Unit
Notes: Fulfills General Education in Sectors IV (Humanities and Social Sciences) and VII (Natural Science and Mathematics). This course is required of all Visual Studies Majors (stage 1).

VLST 102 Form and Meaning
This course will introduce students to the theory and practice of image making, focusing on the development of observational skills and analytical thinking. We will look at conventions of artistic representation across time and cultures; discuss types of visual information and modes of formal language; explore visual narrative techniques; and seek to expand our understanding of the role images play in our culture. We will look at conventions of pictorial representation across time and cultures; discuss types of visual information and modes of formal language; explore visual narrative techniques; and seek to expand our understanding of the role images play in our culture.
Taught by: Bendtsen/Hyland
One-term course offered either term
Activity: Studio
1 Course Unit
Notes: This course is required of all Visual Studies Majors (stage 1 or 2).
VLST 103 3 Dimensions: Time and Space
Through studio projects, readings and class discussion, this class will begin to address, both conceptually and physically, basic 3D structures and translations between 3D and 2D, as well as materiality, experiential phenomena, light and time-based processes. The interconnection between mediums in our cultural climate employs a wide range of tools, processes, and ideas. It is imperative that visual studies students recognize and think through these connections. The work produced and ideas confronted in this class will facilitate discussions and constructive criticism on the fundamentals of space and time via the experiential, conceptual, and the formal as essential elements of meaning. The interconnection between mediums in our cultural climate employs a wide range of tools, processes, and ideas. It is imperative that visual studies students recognize and think through these connections. The work produced and ideas confronted in this class will facilitate discussions and constructive criticism on the fundamentals of space and time via the experiential, conceptual, and the formal as essential elements of meaning.

Taught by: Freedman/Neighbor

One-term course offered either term

Activity: Studio

1 Course Unit

Notes: This course is required of all Visual Studies Majors (stage 1 or 2).

VLST 212 Research Experience in Perception
In this research course, students will begin by first replicating earlier experiments to measure human visual memory capacity. After several class discussions to discuss ideas, each student will design and conduct their own experiment to further investigate visual and/or familiarity memory.

Taught by: Rust

One-term course offered either term

Also Offered As: PSYC 311

Prerequisites: One semester of statistics, and one of the following:
PSYC 111, 149, 151, 217, or permission of instructor.

Activity: Seminar

1 Course Unit

Notes: Dept permission required. Undergraduates only. This course can count toward Sector A, (Stage 2 or 3) of the Visual Studies Major.

VLST 217 Visual Neuroscience
An introduction to the scientific study of vision, with an emphasis on the biological substrate and its relation to behavior. Topics will typically include physiological optics, transduction of light, visual thresholds, color vision, anatomy and physiology of the visual pathways, and the cognitive neuroscience of vision.

Taught by: Rust

Course usually offered in spring term

Also Offered As: BIBB 217, PSYC 217

Prerequisites: PSYC 001, COGS 001, or VLST 101

Activity: Lecture

1 Course Unit

Notes: This course can count toward Sector A, (Stage 2 or 3) of the Visual Studies Major.

VLST 221 Introduction to Philosophy of Mind
In this course, we will explore philosophical questions concerning the nature of minds. In seeking to understand the nature of minds, philosophers and psychologists have often used metaphors drawn from the forms of technology available to them. Leibniz once described the mind as a mill, while Freud compared the mind to a hydrolytic and electromagnetic system. In our own time, many have followed Alan Turing's proposal and have viewed the mind as a special kind of computer; indeed, this "Computational Theory of Mind" forms the foundation for much work in contemporary cognitive science. In this class, we will explore the extent to which the computational theory of mind can adequately characterize the distinctive capacities involved in representing an external environment and having conscious experiences that is displayed by minds in general and human minds in particular. Although an introductory class in philosophy or logic will aid students' understanding, no prior familiarity with the philosophy of mind or cognitive science will be presumed.

Taught by: Domotor, Miracchi

Also Offered As: PHIL 244

Activity: Lecture

1 Course Unit

Notes: This course can count toward Sector A, (Stage 2 or 3) of the Visual Studies Major.

VLST 222 Philosophy of Perception
Taking our perceptual experience as a given, what causes it? In a realistic mood, we accept that objects in the environment, or in the "external world," cause us to have the perceptual experiences that we do (as of a table with food, or as of a garden with flowers in it). Yet on this realistic view, our perception is the result of a causal chain that leads from object to eye to brain to experiences, and we are only given the last element: the experience. So how do we really know how our experiences are caused, and where do we get the idea that they are casued by an external world of physical objects? The seminar will focus on the problem of the external world as examined by David Hume, Thomas Reid, G. E. Moore, and Bertrand Russell, along with recent authors.

Taught by: Hatfield

Course not offered every year

Also Offered As: PHIL 330

Activity: Seminar

1 Course Unit

Notes: Department Majors Only. This course can count toward Sector A, (Stage 2 or 3) of the Visual Studies Major.

VLST 223 Philosophy and Visual Perception
In this course, we'll use the biology, psychology and phenomenology of vision to explore philosophical questions about color, such as these: Color vision helps us get around in our environments, but in what sense is it a window onto reality, if it is? Are colors properties of objects, or are they inherently private, subjective properties of minds? What can non-human forms of color vision teach us about the nature of color, and how should we empirically study color vision? Do we need to see in color to understand it? How do our ordinary ways of talking and thinking about colors relate to the experiences we have in color? How does color vision figure in aesthetic judgment? And to what degree can it be influenced by learning, or by social biases like sexist or racist prejudices?

Taught by: Hatfield, Connolly

One-term course offered either term

Also Offered As: PHIL 223, PHIL 423

Activity: Seminar

1 Course Unit

Notes: This course can count toward Sector A, (Stage 2 or 3) of the Visual Studies Major.
VLST 232 Renaissance to Contemporary: Introduction to Western Art, 1400 to the Present
This course is an introduction to the visual arts including painting, sculpture, print culture, and new media such as photography, film, performance and installation art-in Europe and the United States from 1400 to the present. It offers a broad historical overview of the key movements and the artists of the period, as well as an investigation into the crucial themes and contexts that mark visual art production after the middle ages. Such themes include the secularization of art; the (gendered) role of the artist in society; the sites of art production and consumption such as the artist’s studio, the royal courts and the art exhibition; the materials of art; the import of technology and science to art’s making, content and distribution; the rise of art criticism; and the socio-political contexts of patronage and audience; among others.
For BA Students: Arts and Letters Sector
Taught by: Dombrowski, Kim, Shaw
Course usually offered in spring term
Also Offered As: ARTH 102
Activity: Lecture
1 Course Unit
Notes: This course can count toward Sector B, (Stage 2 or 3) of the Visual Studies Major.

VLST 233 Art and Civilization in East Asia
Introduction to major artistic traditions of China and Japan and to the methodological practices of art history. Attention given to key cultural concepts and ways of looking, in such topics as: concepts of the afterlife and its representation; Buddhist arts and iconography; painting styles and subjects; and more broadly at the transmission of styles and cultural practices across East Asia. Serves as an introduction to upper level lecture courses in East Asian art history cultures. If size of class permits, certain sessions will be held in the University Museum or the Philadelphia Museum of Art.
For BA Students: Arts and Letters Sector
Taught by: Davis/Steinhardt
Course not offered every year
Also Offered As: ARTH 103, EALC 013
Activity: Lecture
1 Course Unit
Notes: This course can count toward Sector B, (Stage 2 or 3) of the Visual Studies Major.

VLST 234 Introduction to Art in South Asia
This course is a survey of sculpture, painting and architecture in the Indian sub-continent from 2300 B.C., touching on the present. It attempts to explore the role of tradition in the broader history of art in India, but not to see India as ‘traditional’ or unchanging. The Indian sub-continent is the source for multi-cultural civilizations that have lasted and evolved for several thousand years. Its art is as rich and complex as that of Europe and diverse. This course introduces the full range of artistic production in India in relation to the multiple strands that have made the cultural fabric of the sub-continent so rich and long lasting.
For BA Students: Arts and Letters Sector
Taught by: Meister
One-term course offered either term
Also Offered As: ARTH 104, SAST 200, SAST 500
Activity: Lecture
1 Course Unit
Notes: This course can count toward Sector B, (Stage 2 or 3) of the Visual Studies Major.

VLST 235 Introduction to Visual Culture of the Islamic World
A one-semester survey of Islamic art and architecture which examines visual culture as it functions within the larger sphere of Islamic culture in general. Particular attention will be given to relationships between visual culture and literature, using specific case studies, sites or objects which may be related to various branches of Islamic literature, including historical, didactic, philosophical writings, poetry and religious texts. All primary sources are available in English translation.
For BA Students: Humanities and Social Science S
Taught by: Holod
One-term course offered either term
Also Offered As: AAMW 635, ARTH 235, ARTH 635, NELC 285, NELC 685
Activity: Lecture
1 Course Unit
Notes: This course can count toward Sector B, (Stage 2 or 3) of the Visual Studies Major.

VLST 236 Art Now
One of the most striking features of today's art world is the conspicuous place occupied in it by the photographic image. Large-scale color photographs and time-based installations in projections are everywhere. Looking back, we can see that much of the art making of the past 60 years has also been defined by this medium, regardless of the form it takes. Photographic images have inspired countless paintings, appeared in combines and installations, morphed into sculptures, drawings and performances, and served both as the object and the vehicle of institutional critique. They are also an increasingly important exhibition site: where most of us go to see earthworks, happenings and body-art. This course is a three-part exploration of our photographic present.
Taught by: Silverman
Course not offered every year
Also Offered As: ARTH 294, ARTH 694, ENGL 059, GSWS 294
Activity: Lecture
1 Course Unit
Notes: This course can count toward Sector B, (Stage 2 or 3) of the Visual Studies Major.

VLST 250 Introduction to Printmaking
The course offers an introduction to several forms of printmaking including: intaglio, screen printing, relief, and monoprinting. Through in-class demonstrations students are introduced to various approaches to making and printing in each medium. The course enhances a student's capacity for developing images through two-dimensional design and conceptual processes. Technical and conceptual skills are developed through discussions and critiques.
Course usually offered in spring term
Also Offered As: FNAR 250, FNAR 550
Activity: Studio
1 Course Unit
VLST 251 Introduction to Photography
This course is an introduction to the basic processes and techniques of black & white photography. Students will learn how to expose and process 35mm film, SLR camera operation, darkroom procedures & printing, basic lighting and controlled procedures to understand the aesthetic issues and photographic history. Assignments, ideas and important examples of contemporary art will be presented via a series of slide lectures, critiques and discussion. No previous experience necessary. 35mm SLR cameras will be available throughout the semester for reservation and checkout from the photography equipment room.
One-term course offered either term
Also Offered As: FNAR 271, FNAR 571
Activity: Studio
1 Course Unit

VLST 252 Sculpture Practices
As an introduction to traditional and contemporary three-dimensional practice, this course is concerned with the concepts and methodologies surrounding three-dimensional art making in our time. Students experiment with a variety of modes of production, and develop some of the fundamental techniques used in sculpture. In addition to these investigations, assignments relative to the history and social impact of these practices are reinforced through readings and group discussion. Processes covered include use of the Fab Lab, wood construction, clay, paper, mixed media, and more.
One-term course offered either term
Also Offered As: FNAR 145, FNAR 545
Activity: Studio
1 Course Unit

VLST 253 Drawing I
This course is designed to develop visual awareness and perceptual acuity through the process of drawing. Students will learn to sharpen perceptual skills through observational drawing, and to explore the expressive potential of drawing. A variety of problems and media will be presented in order to familiarize students with various methods of working and ways of communicating ideas visually. Subject matter will include object study, still life, interior and exterior space, self-portrait and the figure. Different techniques and materials (charcoal, graphite, ink, collage) are explored in order to understand the relationship between means, material and concept. Critical thinking skills are developed through frequent class critiques and through the presentation of and research into historical and contemporary precedent in drawing.
Two terms. student may enter either term.
Also Offered As: FNAR 123, FNAR 523
Activity: Studio
1 Course Unit

VLST 260 Photography Practices
This course is an introduction to the basic principles, strategies and processes of photographic practice. It is designed to broaden the student’s aesthetic explorations and to help the student develop a visual language based on cross-disciplinary artistic practice. Through a series of projects and exercises students will be exposed to a range of camera formats, techniques and encouraged to experiment with the multiple modes and roles of photography - both analogue and digital. Attention will also be given to developing an understanding of critical aesthetic and historical issues in photography. Students will examine a range of historical and contemporary photowork as an essential part of understanding the possibilities of image making.
One-term course offered either term
Also Offered As: FNAR 150
Activity: Studio
1 Course Unit

VLST 261 Video I
This course provides students with the introductory skills and concepts related to producing short works that explore the language of the moving image. Students will learn the basics of cinematography and editing through a series of assignments designed to facilitate the use of the medium for artistic inquiry, cultural expression and narrative storytelling, through both individual and group projects.
One-term course offered either term
Also Offered As: CIMS 061, FNAR 061, FNAR 661
Activity: Seminar
1 Course Unit

VLST 264 Art, Design and Digital Culture
This course is an introduction to the fundamental perception, representation, aesthetics, and design that shape today’s visual culture. It addresses the way artists and designers create images; design with analog and digital tools; communicate, exchange, and express meaning over broad range of media; and find their voices within the fabric of contemporary art, design, and visual culture. Emphasis is placed on building an extended form of visual literacy by studying and making images using a variety of representation techniques; learning to organize and structure two-dimensional and three-dimensional space, and designing with time-based and procedural media. Students learn to develop an individual style of idea-generation, experimentation, iteration, and critique as part of their creative and critical responses to visual
One-term course offered either term
Also Offered As: FNAR 264, FNAR 636
Activity: Studio
1 Course Unit
VLST 265 Digital Photography
This class offers an in-depth technical and conceptual foundation in digital imagery and the opportunity to explore the creative, expressive possibilities of photography. Students will become proficient with the basic use of the camera, techniques of digital capture, color management and color correction. They will also develop competency in scanning, retouching, printing and a variety of manipulation techniques in Photoshop. Through weekly lectures and critiques, students will become familiar with some of the most critical issues of representation, consider examples from photo history, analyze the impact of new technologies and social media. With an emphasis on structured shooting assignments, students are encouraged to experiment, expand their visual vocabulary while refining their technical skills. No previous experience is necessary. Although it is beneficial for students to have their own Digital SLR camera, registered students may reserve and checkout Digital SLR cameras and other high-end equipment from the department.

One-term course offered either term
Also Offered As: FNAR 340, FNAR 640
Activity: Studio
1 Course Unit

VLST 301 What is Visual Studies?
Visual Studies 301 is a seminar-format course that challenges students to develop independent ideas about how the eye, the mind and the image that is created therein, all work together to inform our conception of the world at large. Rather than present a unified viewpoint, the course asks the question, "What is visual studies?" by examining parallel and sometimes antagonistic approaches to the ways that human beings understand sight and the concept of visuality. Over the course of the semester, students will discuss and write about various approaches to vision, examining this contested field through the lenses of several disciplines -- including psychology, philosophy, and art history. By parsing and assimilating diverse ideas, students will decide for themselves what are the most pertinent and relevant approaches to the various avenues of research that present themselves in the emerging interdisciplinary field of Visual Studies.

One-term course offered either term
Also Offered As: ARTH 301, VLST 501
Prerequisite: VLST 101 or Instructor Permission
Activity: Seminar
1 Course Unit
Notes: This course is required of all Visual Studies Majors (Stage 2).

VLST 303 The Rise of Image Culture: History and Theories
Images are ubiquitous in the cultural life of the 21st century, yet only two centuries ago they were rare. When and how did pictures come to permeate daily life? How has ordinary experience--psychological, social, cultural, intellectual--changed as a result? This seminar addresses these questions through close reading of influential historical and theoretical writings about the rise of image culture and its effects, including Benjamin, Debord, McLuhan, Mitchell.

Taught by: Leja
Also Offered As: VLST 503
Activity: Seminar
1 Course Unit
Notes: This course can count toward Sector B, (Stage 2 or 3) of the Visual Studies Major.

VLST 305 What is an Image?
The course explores various concepts of images. It considers natural images (as in optics), images as artifacts, virtual images, images as representations, and works of art as images. Themes to include: the image controversy in cognitive science, which asks whether some cognitive representations are irreducibly imagistic; the question of whether some images resemble what they represent; the development of the concept of the virtual image and of three-dimensional images; the notions of pictorial representation and non-representational images in art. Readings from C. S. Peirce, Nelson Goodman, Robert Hopkins, Dominic Lopes, W. J. T. Mitchell, John Kulvicki, and Mark Rollins, among others.

Taught by: Verstegen
Also Offered As: VLST 505
Activity: Seminar
1 Course Unit
Notes: This course can count toward Sector A, (Stage 2 or 3) of the Visual Studies Major.

VLST 395 Senior Project
Permission of Instructor Required.
Two terms. student must enter first term.
Activity: Seminar
0.5 Course Units
Notes: This course is required of all Visual Studies Majors. (Stage 4)
Seniors only.

VLST 399 Independent Study
Activity: Independent Study
1 Course Unit
Notes: See department for appropriate section numbers

VLST 501 What is Visual Studies?
Visual Studies 301 is a seminar-format course that challenges students to develop independent ideas about how the eye, the mind and the image that is created therein, all work together to inform our conception of the world at large. Rather than present a unified viewpoint, the course asks the question, "What is visual studies?" by examining parallel and sometimes antagonistic approaches to the ways that human beings understand sight and the concept of visuality. Over the course of the semester, students will discuss and write about various approaches to vision, examining this contested field through the lenses of several disciplines -- including psychology, philosophy, and art history. By parsing and assimilating diverse ideas, students will decide for themselves what are the most pertinent and relevant approaches to the various avenues of research that present themselves in the emerging interdisciplinary field of Visual Studies.

One-term course offered either term
Also Offered As: ARTH 301, VLST 301
Activity: Seminar
1 Course Unit

VLST 503 Rise of Image Culture
Images are ubiquitous in the cultural life of the 21st century, yet only two centuries ago they were rare. When and how did pictures come to permeate daily life? How has ordinary experience--psychological, social, cultural, intellectual--changed as a result? This seminar addresses these questions through close reading of influential historical and theoretical writings about the rise of image culture and its effects, including Benjamin, Debord, McLuhan, Mitchell.

Taught by: Leja
Also Offered As: VLST 303
Activity: Seminar
1 Course Unit
VLST 505 What is an Image?
Taught by: Hatfield
Also Offered As: VLST 305
Activity: Seminar
1 Course Unit

VLST 540 Topics in Visual Culture
Course not offered every year
Also Offered As: ARTH 572
Activity: Seminar
1 Course Unit

VLST 599 Independent Study
One-term course offered either term
Activity: Independent Study
1 Course Unit
Notes: See department for appropriate section numbers

Wharton Undergraduate (WH)

WH 101 Business and You
WH 101 is the first step of the Leadership Journey at Wharton. The course is designed to fuel students' unique interests in academic, research, and professional pursuits; to raise awareness of the complexity of business; and to increase understanding of the interrelatedness of business disciplines. Students will also acquire greater awareness of their strengths and leadership potential as members of the Wharton community and as future professionals. Students will come to appreciate that leadership is an act and best developed through study, feedback from trusted colleagues and peers, and stretch experiences that stimulate growth and development. Students will also begin to hone skills essential to the pursuit of personal, academic, and professional goals: thinking creatively, analyzing problems, applying what you have learned, and reflecting on learnings. A case-analysis project will engage students with the community through helping local agencies examine business challenges that they face.
Taught by: Rosenkopf; Greenhalgh; Romeika
Course usually offered in fall term
Activity: Recitation
0.5 Course Units

WH 150 Evaluating Evidence
WH 150 provides an introduction to all stages of the research process for business topics. In the first third of the course, we discuss theory building, hypothesis development, and research design choices particularly in casual research. In the second third, we discuss data collection methods (e.g., surveys, experiments, case studies and fieldwork) and the use of archival databases. This part of the course emphasizes the interplay between research design and sampling/data collection methods. In the final third of the course, we introduce data analysis and interpretation, including methods for converting raw data into measurable constructs suited to statistical analysis.
One-term course offered either term
Activity: Seminar
1 Course Unit

WH 201 Management Communication: Persuasive Speaking and Writing for Business
WH 201 is the second step the Leadership Journey at Wharton. The objective of the course is to ensure that students become more confident and effective speakers and writers. Students will learn the fundamentals of persuasion and apply those concepts to increasingly challenging business contexts. Students will present in-class speeches and submit writing assignments that are evaluated by instructors. The speaking component of the course will begin with the fundamentals of public speaking and persuasion, and then move to settings in which managers face higher stakes with less time to respond. For the writing component, students will write on various topics for the first few weeks of the course. For the last half of the course, speaking and writing assignments will be integrated, allowing students to offer in-depth analysis through their written recommendations. All assignments will reinforce the overarching theme of clear, concise, persuasive communications.
One-term course offered either term
Activity: Lecture
0.5 Course Units

WH 299 Whug Research Scholars
This seminar takes place over two semesters and provides students with the skills to perform their own research under the guidance of a Wharton faculty member. At the conclusion of the fall semester, students will produce a thesis proposal including literature review, significance of the research, methodology, and exploratory data if relevant. Throughout the fall semester faculty guests from a range of disciplines will present on their research in class, highlighting aspects that are relevant to the work students are engaging in at that point. During the second semester, students will collect and analyze data and write up the results in close collaboration with their faculty mentor. At the end of the spring semester, each student will present their research in a video presentation. Throughout the course, students will work individually, in small groups, and under the mentorship of a Wharton faculty member. The goal is to become capable independent researchers who incorporate feedback and critical (self-) analysis to take their research to the next level.
Two terms. student must enter first term.
Activity: Seminar
0.5 Course Units

WH 301 Teamwork and Interpersonal Dynamics
One-term course offered either term
Activity: Lecture
0.5 Course Units

WH 398 Senior Capstone
Wharton 398 is a for-credit, interactive business simulation that provides Wharton seniors with the opportunity to draw on their business knowledge - finance, management, marketing, leadership, and social responsibility - while formulating and executing business strategy in a competitive, team-based environment. Utilizing real-time problem solving within a dynamic simulation environment, teams design and implement strategic plans, integrate feedback from the consequences of those decisions, and interact with other teams to create shareholder and social value.
Course usually offered in spring term
Activity: Independent Study
0.5 Course Units
Yiddish Language (YDSH)

**YDSH 101 Beginning Yiddish I**
The goal of this course is to help beginning students develop skills in Yiddish conversation, reading and writing. Yiddish is the medium of a millennium of Jewish life. We will frequently have reason to refer to the history and culture of Ashkenazie Jewry in studying the language.

For BA Students: Language Course
Course usually offered in fall term
Also Offered As: JWST 031, YDSH 501
Activity: Lecture
1 Course Unit

**YDSH 102 Beginning Yiddish II**
In this course, you can continue to develop basic reading, writing and speaking skills. Discover treasures of Yiddish culture: songs, literature, folklore, and films.

For BA Students: Language Course
Course usually offered in spring term
Also Offered As: JWST 032, YDSH 502
Prerequisite: YDSH 101 or permission of the instructor
Activity: Lecture
1 Course Unit

**YDSH 103 Intermediate Yiddish I**
The course will continue the first year’s survey of Yiddish grammar with an additional emphasis on reading Yiddish texts. The course will also develop conversational skills in Yiddish.

For BA Students: Language Course
Course not offered every year
Also Offered As: JWST 033, YDSH 503
Prerequisite: YDSH 102 or permission of the instructor
Activity: Lecture
1 Course Unit

**YDSH 104 Intermediate Yiddish II**
Continuation of GRMN 403. Emphasis on reading texts and conversation.

For BA Students: Last Language Course
Course not offered every year
Also Offered As: JWST 034, YDSH 504
Prerequisite: YDSH 103 or permission of the instructor
Activity: Lecture
1 Course Unit

**YDSH 108 Readings in Modern Yiddish Literature**
This course will survey modern Yiddish literature through readings of Yiddish prose and poetry from the end of the 19th century through the late 20th century. The class will be conducted in both Yiddish and English. Reading knowledge of Yiddish is required, although some texts will be available in English translation.

Taught by: Botwinik
Course not offered every year
Also Offered As: JWST 438, YDSH 508
Prerequisite: Reading knowledge of Yiddish
Activity: Lecture
1 Course Unit

**YDSH 501 Beginning Yiddish I**
The goal of this course is to help beginning students develop skills in Yiddish conversation, reading and writing. Yiddish is the medium of a millennium of Jewish life. We will frequently have reason to refer to the history and culture of Ashkenazie Jewry in studying the language.

For BA Students: Language Course
Course usually offered in fall term
Also Offered As: JWST 031, YDSH 101
Activity: Lecture
1 Course Unit

**YDSH 502 Beginning Yiddish II**
For BA Students: Language Course
Course usually offered in spring term
Also Offered As: JWST 032, YDSH 102
Prerequisite: YDSH 101 or permission of the instructor
Activity: Lecture
1 Course Unit

**YDSH 503 Intermediate Yiddish I**
The course will continue the first year’s survey of Yiddish grammar with an additional emphasis on reading Yiddish texts. The course will also develop conversational skills in Yiddish.

For BA Students: Language Course
Course not offered every year
Also Offered As: JWST 033, YDSH 103
Prerequisite: YDSH 102 or permission of the instructor
Activity: Lecture
1 Course Unit

**YDSH 504 Intermediate Yiddish II**
Continuation of GRMN 403. Emphasis on reading texts and conversation.

For BA Students: Last Language Course
Course not offered every year
Also Offered As: JWST 034, YDSH 104
Prerequisite: YDSH 103 or permission of the instructor
Activity: Lecture
1 Course Unit
YDSH 508 Readings in Modern Yiddish Literature
This course will survey modern Yiddish literature through readings of Yiddish prose and poetry from the end of the 19th century through the late 20th century. The class will be conducted in both Yiddish and English. Reading knowledge of Yiddish is required, although some texts will be available in English translation. Authors include I.L. Peretz, Isaac Bashevis Singer, Moyshe-Leyb Halpern, and Kadya Molodowsky.
Taught by: Hellerstein
Course not offered every year
Also Offered As: JWST 438, YDSH 108
Prerequisite: Reading knowledge of Yiddish
Activity: Lecture
1 Course Unit
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