PSYCHOLOGY (PSYC)

PSYC 001 Introduction to Experimental Psychology
This course provides an introduction to the basic topics of psychology including our three major areas of distribution: the biological basis of behavior, the cognitive basis of behavior, and individual and group bases of behavior. Topics include, but are not limited to, neuropsychology, learning, cognition, development, disorder, personality, and social psychology.
For BA Students: Living World Sector
One-term course offered either term
Activity: Lecture
1 Course Unit

PSYC 070 Psychology of Food
Taught by: Rozin
Activity: Seminar
1 Course Unit
Notes: Does not count for the Psych major. To apply: https://www.curf.upenn.edu/spring-2017-bfs-seminars

PSYC 097 Psych Abroad
One-term course offered either term
Activity: Lecture
1 Course Unit

PSYC 109 Introduction to Brain and Behavior
Introduction to the structure and function of the vertebrate nervous system, including the physiological bases of sensory activity, perception, drive, motor control and higher mental processes. The course is intended for students interested in the neurobiology of behavior. Familiarity with elementary physics and chemistry will be helpful.
For BA Students: Living World Sector
One-term course offered either term
Also Offered As: BIBB 109, BIOL 109
Activity: Lecture
1 Course Unit

PSYC 111 Perception
How the individual acquires and is guided by knowledge about objects and events in their environment.
One-term course offered either term
Also Offered As: VLST 211
Prerequisite: PSYC 001 or COGS 001
Activity: Lecture
1 Course Unit

PSYC 127 Physiology of Motivated Behaviors
This course focuses on evaluating the experiments that have sought to establish links between brain structure (the activity of specific brain circuits) and behavioral function (the control of particular motivated and emotional behaviors). Students are exposed to concepts from regulatory physiology, systems neuroscience, pharmacology, and endocrinology and read textbook as well as original source materials. The course focuses on the following behaviors: feeding, sex, fear, anxiety, the appetite for salt, and food aversion. The course also considers the neurochemical control of responses with an eye towards evaluating the development of drug treatments for: obesity, anorexia/cachexia, vomiting, sexual dysfunction, anxiety disorders, and depression.
Taught by: Grill
One-term course offered either term
Also Offered As: BIBB 227
Prerequisite: PSYC 001
Activity: Lecture
1 Course Unit

PSYC 149 Cognitive Neuroscience
The study of the neural systems that underlie human perception, memory and language; and of the pathological syndromes that result from damage to these systems.
Taught by: Epstein or Mackey
One-term course offered either term
Also Offered As: BIBB 249
Prerequisite: PSYC 001 or COGS 001
Activity: Lecture
1 Course Unit

PSYC 151 Language and Thought
This course describes current theorizing on how the human mind achieves high-level cognitive processes such as using language, thinking, and reasoning. The course discusses issues such as whether the language ability is unique to humans, whether there is a critical period to the acquisition of a language, the nature of conceptual knowledge, how people perform deductive reasoning and induction, and how linguistic and conceptual knowledge interact.
One-term course offered either term
Prerequisite: PSYC 001 or COGS 001
Activity: Lecture
1 Course Unit

PSYC 160 Personality and Individual Differences
This course provides an introduction to the psychology of personality and individual differences. Many psychology courses focus on the mind or brain; in contrast to those approaches of studying people in general, the focus in this course is on the question "How are people different from each other?" It will highlight research that take a multidimensional approach to individual differences and attempts to integrate across the biological, cognitive-experimental, and social-cultural influences on personality.
One-term course offered either term
Prerequisite: PSYC 001
Activity: Lecture
1 Course Unit
PSYC 162 Abnormal Psychology
The concepts of normality, abnormality, and psychopathology; symptom syndromes; theory and research in psychopathology and psychotherapy.
Taught by: Ruscio
One-term course offered either term
Prerequisite: PSYC 001
Activity: Lecture
1 Course Unit

PSYC 170 Social Psychology
An overview of theories and research across the range of social behavior from intra-individual to the group level including the effects of culture, social environment, and groups on social interaction.
For BA Students: Society Sector
One-term course offered either term
Prerequisite: PSYC 001
Activity: Lecture
1 Course Unit

PSYC 181 Intro to Developmental Psychology
The goal of this course is to introduce both Psychology majors and non-majors majors to the field of Developmental Psychology. Developmental Psychology is a diverse field that studies the changes that occur with age and experience and how we can explain these changes. The field encompasses changes in physical growth, perceptual systems, cognitive systems, social interactions and much more. We will study the development of perception, cognition, language, academic achievement, emotion regulation, personality, moral reasoning, and attachment. We will review theories of development and ask how these theories explain experimental findings. While the focus is on human development, when relevant, research with animals will be used as a basis for comparison.
Taught by: Brannon
One-term course offered either term
Prerequisite: PSYC 001
Activity: Lecture
1 Course Unit

PSYC 193 Study Abroad
Activity: Lecture
1 Course Unit

PSYC 207 Introduction to Cognitive Science
Cognitive Science is founded on the realization that many problems in the analysis of human and artificial intelligence require an interdisciplinary approach. The course is intended to introduce undergraduates from many areas to the problems and characteristic concepts of Cognitive Science, drawing on formal and empirical approaches from the parent disciplines of computer science, linguistics, neuroscience, philosophy and psychology. The topics covered include Perception, Action, Learning, Language, Knowledge Representation, and Inference, and the relations and interactions between such modules. The course shows how the different views from the parent disciplines interact, and identifies some common themes among the theories that have been proposed. The course pays particular attention to the distinctive role of computation in such theories, and provides an introduction to some of the main directions of current research in the field. It is a requirement for the BA in Cognitive Science, the BAS in Computer and Cognitive Science, and the minor in Cognitive Science, and it is recommended for students taking the dual degree in Computer and Cognitive Science.
Taught by: Brainard/Ungar
One-term course offered either term
Also Offered As: CIS 140, COGS 001, LING 105, PHIL 044, PPE 140
Prerequisites: An Introductory Course in Computer Science, Linguistics, Neuroscience, Philosophy, or PSYC 001
Activity: Lecture
1 Course Unit

PSYC 217 Visual Neuroscience
An introduction to the scientific study of vision, with an emphasis on the biological substrate and its relation to behavior. Topics will typically include physiological optics, transduction of light, visual thresholds, color vision, anatomy and physiology of the visual pathways, and the cognitive neuroscience of vision.
Taught by: Stocker
Course usually offered in spring term
Also Offered As: BIBB 217, VLST 217
Prerequisite: PSYC 109
Activity: Lecture
1 Course Unit

PSYC 225 Drugs, Brain, and Mind
The course will begin with a review of basic concepts in pharmacology: routes of drug administration, drug metabolism, the dose response curve, tolerance, and sensitization. Following a brief overview of cellular foundations of neuropharmacology (cell biology, synaptic and receptor function), the course will focus on various classes of drugs used to treat neuropsychiatric disorders including, among others, depression, schizophrenia, and anxiety. We will additionally consider mechanisms mediating the mind-altering, addictive and neurotoxic effects of abused drugs.
Taught by: Kane
Course usually offered in spring term
Also Offered As: BIBB 270
Prerequisite: PSYC 109 or BIBB 109
Activity: Lecture
1 Course Unit
PSYC 231 Animal Behavior
The evolution of social behavior in animals, with special emphasis on
group formation, cooperation among kin, mating systems, territoriality
and communication.
One-term course offered either term
Also Offered As: BIBB 231, BIOL 231
Prerequisite: PSYC 001 or BIOL 102 or COGS 001
Activity: Lecture
1 Course Unit

PSYC 235 Psychology of Language
This course describes the nature of human language, how it is used to
speak and comprehend, and how it is learned. The course raises and
discusses issues such as whether language ability is innate and unique
to humans, whether there is a critical period for the acquisition of a
language, and how linguistic and conceptual knowledge interact.
Taught by: Tetlock
One-term course offered either term
Prerequisite: PSYC 151 or LING 001
Activity: Lecture
1 Course Unit

PSYC 239 Neuroendocrinology
This course is designed to examine the various roles played by the
nervous and endocrine systems in controlling both physiological
processes and behavior. First, the course will build a foundation in the
concepts of neural and endocrine system function. Then we will discuss
how these mechanisms form the biological underpinnings of various
behaviors and their relevant physiological correlates.
Taught by: Flanagan-Cato
One-term course offered either term
Also Offered As: BIBB 260
Prerequisite: PSYC 109
Activity: Lecture
1 Course Unit

PSYC 247 Neuroscience and Society
Cognitive, social, and affective neuroscience have made tremendous
progress in the last two decades. As this progress continues,
neuroscience is becoming increasingly relevant to all of the real-world
endeavors that require understanding, predicting and changing human
behavior. In this course we will examine the ways in which neuroscience
is being applied in law, criminal justice, national defense, education,
economics, business, and other sectors of society. For each application
area we will briefly review those aspects of neuroscience that are most
relevant, and then study the application in more detail.
Taught by: Gerstein
One-term course offered either term
Also Offered As: PSYC 549
Prerequisite: PSYC 109 or PSYC 149
Activity: Lecture
1 Course Unit

PSYC 253 Judgment and Decisions
Thinking, judgment, and personal and societal decision making, with
emphasis on fallacies and biases.
One-term course offered either term
Also Offered As: PPE 153
Prerequisite: One semester of statistics or microeconomics
Activity: Lecture
1 Course Unit

PSYC 265 Behavioral Economics and Psychology
This course will introduce you to the study of choice, and will examine
in detail what we know about how people make choices, and how we
can influence these choices. It will utilize insights from psychology and
economics, and will apply these insights to domains including consumer
choice, risky decision making, and prosocial decision making.
Taught by: Bhatia
One-term course offered either term
Also Offered As: PPE 313
Prerequisites: Microeconomics and PSYC 001
Activity: Lecture
1 Course Unit

PSYC 266 Introduction to Positive Psychology
An introduction to the study of positive emotions, positive character
traits, and positive institutions. The positive emotions consist of
emotions about the past (e.g., serenity, satisfaction, pride), about the
future (e.g., hope, optimism, faith), and emotions about the present
(pleasure and gratification). The distinction among the pleasant life,
the good life, and the meaningful life is drawn. The positive traits include
wisdom, courage, humanity, justice, temperance, and spirituality, and the
classification of these virtues is explored. The positive institutions are
exemplified by extended families, free press, humane leadership, and
representative government.
Course usually offered in spring term
Prerequisite: PSYC 001
Activity: Lecture
1 Course Unit

PSYC 275 Introduction to Political Psychology
This course will explore psychological approaches to understanding
political beliefs, attitudes, and actions at the levels of both individual
citizens and national leaders. It will also explore the possibility that
psychological science itself is not immune to the political debates
swirling around it. Specific topics will include: the workings of belief
systems (and their power to shape what we “see”), cognitive biases (and
their power to cause miscalculations), sacred values and their role in
stabilizing belief systems and social interaction, personality and ideology
(the linkages between the personal and the political), and clashing
conceptions of morality and distributive and corrective justice (striking
variations among people in what they consider to be fair). We shall also
explore some topics that have sparked controversy in the psychological
research literature and that tend to polarize opinion along political lines,
including work on intelligence and unconscious bias.
Taught by: Tetlock
One-term course offered either term
Also Offered As: PPE 275
Prerequisite: PSYC 001 or COGS 001
Activity: Lecture
1 Course Unit
Notes: NOTE: Students who are more interested in business-related
issues may want Wharton 276x which is a modified version of this course
specifically for Wharton undergraduates.
PSYC 280 Developmental Psychology
This course will cover theory and research related to the development of attachment, emotional regulation, peer and intimate relationships, personality, moral reasoning, and emotional and behavioral disorders. The course will emphasize the degree to which family, peer, and community contexts influence development from infancy into adulthood. Efforts will be made to integrate biological and environmental accounts of development across the lifespan.
One-term course offered either term
Prerequisite: PSYC 001
Activity: Lecture
1 Course Unit

PSYC 281 Cognitive Development
What infants and young children come to know about the world, and how they learn it. Topics will include changes in children's thinking, perceptual development, language acquisition, and current theories of cognitive development.
Taught by: Swingley or Weisberg
One-term course offered either term
Prerequisite: PSYC 001 or COGS 001
Activity: Lecture
1 Course Unit

PSYC 311 Research Experience in Perception
In this research course, students will begin by first replicating earlier experiments to measure human visual memory capacity. After several class discussions to discuss ideas, each student will design and conduct their own experiment to further investigate visual and/or familiarity memory.
Taught by: Rust
One-term course offered either term
Also Offered As: VLST 212
Prerequisites: One semester of statistics, and one of the following:
PSYC 111, 149, 151, 217, or permission of instructor.
Activity: Seminar
1 Course Unit
Notes: Dept permission required. Undergraduates only.

PSYC 362 Research Experience in Abnormal Psychology
PSYC 362-301 is a two-semester course starting in the Fall. Class size limited to 8 students.
Taught by: Dr. Melissa Hunt
Prerequisites: PSYC 162 and one semester of statistics. Psych majors only. Instructor permission required.
Activity: Seminar
1 Course Unit
Notes: PSYC 362-301 is a two-semester course starting in the Fall.

PSYC 370 Research Experience in Social Psychology
In this course, students will work in small groups to develop, empirically test, and report on a research question within one of the domains of social psychology. Depending on the nature of the project, students will employ survey/experimental, or observational research methodology, and learn how to conduct and report the appropriate statistical tests with Excel and/or SPSS (typically, correlations, t-tests, ANOVA and ANCOVA, multiple regression, factor analysis, and measures of reliability). Class discussions will help students craft their projects, and in-class presentations will provide the opportunity to develop and refine presentation skills. Psychology majors only. Class size is limited to 14 students.
Prerequisites: PSYC 170 AND one semester of statistics.
Activity: Seminar
1 Course Unit
Notes: Dept permission required. Psychology majors only.

PSYC 399 Individual Empirical Research
Individual research involving data collection. Students do independent empirical work under the supervision of a faculty member, leading to a written paper. Normally taken in the junior or senior year.
One-term course offered either term
Activity: Independent Study
1 Course Unit
Notes: Dept permission required

PSYC 400 Senior Honors Seminar in Psychology
Open to senior honors candidates in psychology. A two-semester sequence supporting the preparation of an honors thesis in psychology. Students will present their work in progress and develop skills in written and oral communication of scientific ideas.
Taught by: Thompson-Schill
Prerequisite: acceptance into the Honors Program in Psychology
Activity: Seminar
0.5 Course Units
Notes: Dept permission required

PSYC 407 Behavioral Genetics
This course will cover basic principles of human and animal behavior genetics, including the genetics of normal variation as well as extreme phenotypes represented by behavioral, psychiatric and neurologic disorders. The course will focus on methods necessary to critically evaluate research findings on normal and abnormal human behavior. Animal models will also be reviewed.
Taught by: Price
One-term course offered either term
Prerequisite: Basic statistics or permission of instructor
Activity: Seminar
1 Course Unit

PSYC 421 Neurobiology of Learning and Memory
This advanced course focuses on the current state of our knowledge about neurobiological basis of learning and memory. Students will explore the molecular and cellular basis of learning invertebrates and vertebrates from a behavioral and neural perspective.
Taught by: Gerstein
One-term course offered either term
Also Offered As: BIBB 442, BIOL 442, NGG 575
Activity: Seminar
1 Course Unit
PSYC 423 Seminar in Motivation
One-term course offered either term
Prerequisite: Permission of the instructor
Activity: Seminar
1 Course Unit

PSYC 429 Big Data, Memory, and the Human Brain
Advances in brain recording methods over the last decade have
generated vastly more brain data than had been collected by
neuroscientists during the previous century. To understand the human
brain, scientists must now use computational methods that exploit the
power of these huge data sets. This course will introduce you to the
use of big data analytics in the study of human memory and its neural
basis. Through hands-on programming projects, we will analyze multi-
terabyte data sets both to replicate existing phenomena and to make
new discoveries. Although the course has no formal neuroscience or
psychology prerequisites it does require CIS 121 and Python experience.

Because of the heavy computing resources required to perform the
assignments enrollment is limited to 15 students and there is a required
course application. http://psychology.sas.upenn.edu/undergraduate/
forms
Taught by: Kahana
Also Offered As: BIBB 429
Prerequisite: CIS 121 & Python experience
Activity: Seminar
1 Course Unit
Notes: Instructor permission required. Application form can be found
here: http://psychology.sas.upenn.edu/undergraduate/forms

PSYC 431 Seminar in Animal Cognition
The aim of this course will be to provide advanced undergraduates with
a detailed review of a number of research areas in behavioral ecology.
Topics will change each year, and students will be able to take the course
more than once.
One-term course offered either term
Also Offered As: BIBB 432
Prerequisite: PSYC 231/Biol 231 / BIBB 231
Activity: Seminar
1 Course Unit

PSYC 435 Psycholinguistics
Taught by: Dahan
Prerequisites: PSYC 151, or PSYC 235, or LING 001, or permission of
instructor.
Activity: Seminar
1 Course Unit

PSYC 439 Neuroendocrinology Seminar
This course is designed to examine the various roles played by the
nervous and endocrine systems in controlling both physiological
processes and behavior. First, the course will build a foundation in the
concepts of neural and endocrine system function. Then, we will discuss
how these mechanisms form the biological underpinnings of various
behaviors and their relevant physiological correlates. We will focus on
sexual and parental behaviors, stress, metabolism, neuroendocrine-
immune interactions, and mental health.
Taught by: Flanagan-Cato
One-term course offered either term
Also Offered As: BIBB 460
Prerequisite: PSYC 109
Activity: Seminar
1 Course Unit

PSYC 440 Sleep and Sleep Disorder
Activity: Lecture
1 Course Unit

PSYC 447 Brains Behind Radiolab
Radiolab is a show about curiosity. Where sound illuminates ideas,
and the boundaries blur between science, philosophy, and human
experience. This seminar is a course about curiosity. In particular, this
seminar will develop and nurture your curiosity about the mind and the
brain, about human thought and behavior, and about the biology of the
human experience. Every month, hours of radio programs and podcasts
are aired-ranging from science-themed shows such as Radiolab and
Invisibilia (and locally produced The Pulse) to more general interest
shows like This American Life and TED Radio Hour-that highlight the
scientific study of the human mind. Behind every podcast are dozens of
laboratories, publications, and investigators (including students) who
make the science behind the show. We will explore the "Brains behind
Radiolab" through a careful study of the primary sources that report the
psychological and neuroscientific findings that thousands of listeners
tune every week. You will practice the craft of conveying scientific
findings to audiences with different levels of expertise and background in
science; and you will learn about the important role that scientists play in
enhancing public understanding of human behavior.
Taught by: Thompson-Schill
One-term course offered either term
Activity: Seminar

PSYC 449 Seminar in Cognitive Neuroscience
Topics vary each semester. PSYC 449-301 (Gerstein) Neuroscience for
Policymakers: This seminar will provide an overview of the neuroscience
behind some of the most relevant issues in public health policy
today. Why are clinical trials for Alzheimer's disease treatments so
difficult to run and why do so many fail? How does the teenage brain
make decisions and who should be considered an adult in court? What
is implicit bias and why do we make snap decisions based on mental
associations? If you could 'improve' your brain with devices or drugs,
should you? We will examine the primary scientific literature as well
as delve into lay articles about the science and policy surrounding
each issue. A basic understanding of neuroscience and some comfort
working with primary literature is assumed.//PSYC 449-302 (Epstein)

Consciousness: Consciousness is our subjective experience of the
world, including both perceptions and felt internal states. In this seminar,
we will explore the the burgeoning scientific literature on the neural
basis of consciousness. We will focus in particular on three topics:
What are the neural systems underlying visual awareness? What are the
mechanisms that control the progression of conscious contents to create
our stream of thought? What is the relationship between consciousness
and behavior?
Prerequisite: PSYC 109 or PSYC 149
Activity: Seminar
1 Course Unit
Notes: PSYC 449-601 is an LPS course. PSYC 449-301 - 302 are Psych
Dept courses.

PSYC 451 Seminar in Cognitive Psychology
Topics vary each semester.
One-term course offered either term
Also Offered As: BIBB 431
Prerequisite: PSYC 231
Activity: Seminar
1 Course Unit
PSYC 453 Seminar in Decision Making
Topics vary each semester.
One-term course offered either term
Prerequisite: PSYC 253
Activity: Seminar
1 Course Unit
Notes: Undergraduates only.

PSYC 462 Seminar in Abnormal Psychology
Topics vary each semester. PSYC 462-601 (Fall 2017): Anxiety Disorders, OCD, and PTSD: Theory, Diagnosis, and Evidence Based Practice
Taught by: Staff, PSYC 462-601 (Fall 2017): Jeremy Tyler
Prerequisite: PSYC 162
Activity: Seminar
1 Course Unit
Notes: Undergraduates only.

PSYC 466 Seminar in Positive Psychology: Imagination and Creativity in Psychology
By forming mental representations of things not immediately present to the senses (imagination), and/or simulating possible futures (prospection), humans can generate novel ideas and products (creativity) that contribute to human progress and flourishing. This course will specifically focus on imagination and creativity within the field of psychology. Students will learn about the cognitive, motivational, and social processes that shaped important creative insights (or big moments) in the history of the discipline. In addition, students will be given the opportunity to apply knowledge gained from the course by designing their own original creative research proposal as the final project for the course. Note: This course constitutes a research study designed to investigate how scientific creativity can best be taught to undergraduate students. Student participation in the research study is voluntary, subject to informed consent, and will not affect their performance in the course.
Prerequisite: PSYC 001
Activity: Seminar
1 Course Unit
Notes: Instructor permission required. Course does not fulfill the research requirement for psych majors.

PSYC 470 Seminar in Social Psychology
Topics vary each semester.
One-term course offered either term
Prerequisite: PSYC 170
Activity: Seminar
1 Course Unit
Notes: Undergraduates only. PSYC 470-301 (Bermant)

PSYC 471 Cultural Psychology
Humans are a cultural species, constantly navigating a complex web of cultural bound practices, norms, and worldviews. This seminar will survey the theory and research of the young but rapidly expanding field of cultural psychology. In the seminar, we will explore how culture shapes and is shaped by an array of psychological domains, ranging from perception, information processing, and language, to concepts of the self, motivations, emotion, morality, and physical and mental health.
Prerequisite: PSYC 170 or PSYC 272
Activity: Seminar
1 Course Unit

PSYC 475 Behavioral Law and Economics
Topics vary each semester.
One-term course offered either term
Prerequisite: PSYC 253 or PSYC 265
Activity: Seminar
1 Course Unit
Notes: Undergraduates only.

PSYC 476 Seminar in Positive Psychology: Imagination and Creativity in Psychology
By forming mental representations of things not immediately present to the senses (imagination), and/or simulating possible futures (prospection), humans can generate novel ideas and products (creativity) that contribute to human progress and flourishing. This course will specifically focus on imagination and creativity within the field of psychology. Students will learn about the cognitive, motivational, and social processes that shaped important creative insights (or big moments) in the history of the discipline. In addition, students will be given the opportunity to apply knowledge gained from the course by designing their own original creative research proposal as the final project for the course. Note: This course constitutes a research study designed to investigate how scientific creativity can best be taught to undergraduate students. Student participation in the research study is voluntary, subject to informed consent, and will not affect their performance in the course.
Prerequisite: PSYC 001
Activity: Seminar
1 Course Unit
Notes: Instructor permission required. Course does not fulfill the research requirement for psych majors.

PSYC 478 CAPSTONE: SOCIAL PSYCHOLOGY
Though almost half a century old, Milgram's 1961-1962 studies of "destructive obedience" continue to puzzle, fascinate, and alarm. In this seminar, we will take an in-depth look at these famous studies (along with the more recent replications) and explore their various psychological, historical, and philosophical ramifications. This course has a number of intellectual goals that go beyond simply rarifying one's understanding of a particular content area (important and generative as it may be). One such a goal is to enable you to think critically (though not disparagingly) about other people's research and theoretical claims that ensue from it, all with the hope that you can then apply the self-same critical acumen to your own future work. Second, this course will offer a hospitable environment for developing (and exchanging) creative ideas of your own. Your work on your individual reaction papers and on the term paper in particular will be a key element in achieving this goal.
Taught by: Royzman
Also Offered As: PPE 477
Prerequisite: PSYC 170
Activity: Seminar
1 Course Unit
PSYC 480 Seminar in Developmental Psychology
This seminar will examine how the imagination works and how it develops. Students in this course will read and discuss the latest research in this area, learn to analyze empirical articles in cognitive and developmental psychology, and explore the links between imaginative processes and other important cognitive skills.
Taught by: Weisberg
Prerequisite: PSYC 181 or PSYC 280 or PSYC 281
Activity: Seminar
1 Course Unit
Notes: Undergraduates only.

PSYC 481 Seminar: Cognitive Development
Taught by: Swingley
Prerequisites: PSYC 281 or PSYC 280.
Activity: Seminar
1 Course Unit

PSYC 501 Mathematical Foundations for Language and Communication Science I
This two-semester sequence will provide basic mathematical modeling and algorithmic tools for interdisciplinary research in animal, human or machine communication, in association with the IRCS IGERT program. Topics include signal processing, statistical modeling and machine learning, information theory, game theory, and formal language theory. The courses will be taught in a laboratory setting, and will emphasize practical skills as well as basic concepts.
Taught by: Liberman
Two terms. Student may enter either term.
Also Offered As: COGS 501, LING 545
Activity: Lecture
1 Course Unit

PSYC 502 Mathematical Foundations for Language and Communication Science II
This two-semester sequence will provide basic mathematical modeling and algorithmic tools for interdisciplinary research in animal, human or machine communication, in association with the IRCS IGERT program. Topics include signal processing, statistical modeling and machine learning, information theory, game theory, and formal language theory. The courses will be taught in a laboratory setting, and will emphasize practical skills as well as basic concepts.
Taught by: Liberman
Two terms. Student may enter either term.
Also Offered As: COGS 502, LING 546
Activity: Lecture
1 Course Unit

PSYC 511 Prob Models of Perception
Activity: Lecture
1 Course Unit

PSYC 525 Controversies in Psychology and Neuroscience
In this seminar, we will discuss several recent controversies in psychology and neuroscience, for example: “p-hacking,” replicability, methodological terrorists, neural activity in dead salmon and failures to control the false positive rate in neuroimaging, “voodoo correlations” and double dipping, whether Tic-Tacs can improve self-control and whether reading “old” makes you walk slower. Our goal is not just to engender ennui and/or schadenfreude, but also to ask what we can learn from these discussions about how to do science in the most rigorous, reproducible manner possible.
Activity: Seminar
1 Course Unit

PSYC 539 Theoretical and Computational Neuroscience
This course will develop theoretical and computational approaches to structural and functional organization in the brain. The course will cover: (i) the basic biophysics of neural responses, (ii) neural coding and decoding with an emphasis on sensory systems, (iii) approaches to the study of networks of neurons, (iv) models of adaptation, learning and memory, (v) models of decision making, and (vi) ideas that address why the brain is organized the way that it is. The course will be appropriate for advanced undergraduates and beginning graduate students. A knowledge of multi-variable calculus, linear algebra and differential equations is required (except by permission of the instructor). Prior exposure to neuroscience and/or Matlab programming will be helpful.
Taught by: Balasubramanian
Course not offered every year
Also Offered As: BIBB 585, NGG 594, PHYS 585
Activity: Lecture
1 Course Unit

PSYC 547 Foundations Soc Cog Neurosci
Activity: Lecture
1 Course Unit

PSYC 549 Neuroscience and Society
Also Offered As: PSYC 247
Activity: Lecture
1 Course Unit

PSYC 557 Neuroscience, Ethics & Law
How does the neuroscience of human decision-making and emotion impact our understanding of ethics and law? What can neuroscience tell us about why people find actions moral or immoral, worthy of praise or punishment? What, if anything, can it tell us normatively about morality, agency and responsibility? And what other insights might neuroscience offer regarding other morally and legally relevant phenomena such as stereotyping and bias, the causes of antisocial behavior and the detection of deception?
Activity: Seminar
1 Course Unit

PSYC 579 Exp Methods Perception
Activity: Lecture
1 Course Unit

PSYC 600 Proseminar in General Psychology
Choice of half or full course units each sem. covering a range of subjects and approaches in academic psychology.
One-term course offered either term
Also Offered As: NGG 589
Activity: Seminar
1 Course Unit
Notes: Dept permission required
PSYC 603 Behavioral Neuroscience
Current research on the neural basis of behavior is organized in six subsections: animal communication, sex behavior, circadian rhythms, variety energy and water balance, synaptic plasticity and learning, and communication, addiction. Topics are selected based on excitement surrounding recent research developments. Each topic is analyzed initially at thermal receptors behavioral level, followed by the systems and the cell and molecular control of levels. Throughout the course, attention is paid to the analysis of behavior interesting stereotyped behaviors, e.g., bird song, lordosis, licking, whose description and neurology has provided insights into the neural basis systems that contribute to overall neural control of behavior. Attention is also paid to the development of understanding of the neuroanatomy of selected neural systems.
Taught by: Grill
Course offered fall; even-numbered years
Also Offered As: NGG 595
Activity: Seminar
1 Course Unit
Notes: Fulfills the "Brain" requirement

PSYC 604 Cognitive Neuroscience
Review of what has been learned about the neural mechanisms underlying intelligent behavior in humans and animals. Traditional topic areas of cognitive science are covered, specifically: vision (early vision through object recognition), attention, learning and memory, motor control, planning and problem-solving, and language. Attempts are made to integrate results of different neuroscience approaches to each topic, including the study of human neurological patients, lesion studies in animals, single unit recordings, neural network modelling, and functional imaging techniques.
Taught by: Farah
One-term course offered either term
Activity: Seminar
1 Course Unit

PSYC 605 Behavioral Neuropharmacology
The effects of various drug classes on animal behavior are examined. Behavioral studies identifying the neurochemical mechanisms of action of psychotropic drugs are reviewed. Animal models of neurological and psychiatric illnesses are discussed.
Taught by: Lucki and Staff
One-term course offered either term
Also Offered As: NGG 582
Prerequisite: Permission of course director
Activity: Lecture
1 Course Unit

PSYC 608 Judgment and Decisions
Thinking, judgment, decision making, beliefs, and probability, with emphasis on fallacies and errors.
Taught by: Baron
One-term course offered either term
Also Offered As: OIDD 900
Activity: Lecture
1 Course Unit

PSYC 609 Systems and Integrative Neuroscience
Course usually offered in fall term
Also Offered As: NGG 573
Activity: Lecture
1 Course Unit
Notes: Fulfills the Brain requirement

PSYC 610 Mathematics for Psychologists
Course not offered every year
Also Offered As: STAT 501
Activity: Lecture
1 Course Unit
Notes: A two-term course.

PSYC 611 Statistics for Psychologists
Course usually offered in fall term
Also Offered As: BSTA 550, STAT 500
Activity: Lecture
1 Course Unit

PSYC 612 Introduction to Nonparametric Methods and Log-linear Models
Course usually offered in spring term
Also Offered As: STAT 501
Activity: Lecture
1 Course Unit

PSYC 630 Cognitive Neuroscience of Memory
This course will review the neural mechanisms of learning and memory. Readings will include both seminal and cutting-edge papers on topics ranging from perceptual memory to higher order functions, including working memory, declarative memory, skill learning, and semantic memory. Within each topic we will attempt to integrate the results of different neuroscience approaches, including the study of human neurological patients, lesion studies and single unit recordings in animals, neural network modeling, event-related potentials, and functional imaging techniques.
One-term course offered either term
Also Offered As: NGG 630
Activity: Seminar
1 Course Unit
Notes: Fulfills the Brain requirement

PSYC 631 Cognitive Neuroscience of Affect
We will survey, and as far as possible, synthesize, three bodies of literature on emotion and the brain, specifically: (1) neuroimaging and pharmacologic studies of emotion and the normal human brain; (2) the neuroscience of affective disorders in humans; and (3) relevant studies of reinforcement and learning in animals.
Taught by: Farah
One-term course offered either term
Activity: Lecture
1 Course Unit

PSYC 632 Cognitive Neuroscience of Vision
This course will review the neural basis of visual cognition. Emphasis will be placed on linking cognitive theory to neuroscientific methods. Topics will include object and face recognition, scene perception, visual attention, mental imagery, and visual awareness.
Taught by: Epstein
One-term course offered either term
Activity: Lecture
1 Course Unit
**PSYC 671 Violence: A Clinical Neuroscience Approach**
Developed for both Psychology and Criminology graduate students, this interdisciplinary course outlines a clinical neuroscience approach to understanding violence in which the tools of neuroscience—neuroanatomy, neurophysiology, neurocognition, neuroendocrinology, neuropharmacology, molecular and behavioral genetics—are used to help inform the etiology and treatment of violence. Clinical components include psychopathy, proactive and reactive aggression, homicide domestic violence, conduct disorder, oppositional defiant disorder, antisocial personality disorder, crime, and delinquency as well as their comorbid conditions (schizophrenia, drug abuse, hyperactivity). The interaction between social, psychological, and neurobiological processes in predisposing to violence will be highlighted, together with neurodevelopmental perspectives on violence focusing on prospective longitudinal and brain imaging research. Key implications for the criminal justice system, neuroethics, forensics psychology, and intervention will also be outlined.
Taught by: Raine
Course usually offered in fall term
Also Offered As: CRIM 671
Activity: Lecture
1 Course Unit
Notes: Graduate students only.

**PSYC 699 Individual Research for First-Year Graduate Students**
Two terms. Student must enter first term.
Activity: Independent Study
3 Course Units

**PSYC 703 Special Topics in Psychology**
One-term course offered either term
Activity: Seminar
1 Course Unit

**PSYC 704 Research Methods and Statistical Procedures for Social and Clinical Sciences**
This course has three primary objectives: 1) developing criteria and strategies for strong inference of causal relationships in social and clinical psychology research; 2) examining the array of research designs employed in the social/clinical sciences together with the threats to internal and external validity associated with each; 3) learning and applying statistical analytical methods appropriate for questions in the social/clinical sciences. The course will employ a seminar format and a project-oriented approach to learning. Students will be encouraged to utilize examples from their own research programs in applying the design and analysis concepts covered in the course.
One-term course offered either term
Activity: Seminar
1 Course Unit

**PSYC 705 Neuroethics**
Neuroscience is increasingly affecting all aspects of human life, from the relatively familiar medical applications in neurology and psychiatry, to new applications in education, business, law, and the military. Today's neuroscience graduate students will be among the scientists, citizens, and policymakers who will lead society through the maze of decisions regarding the appropriate uses of neuroscience. This course provides a survey of the key ethical, legal, and social issues at the intersection of neuroscience and society. It will include a combination of traditional classroom lectures, discussion and debates, as well as an online component coordinated with a course at Wisconsin's Neuroscience and Public Policy graduate program.
Taught by: Farah
One-term course offered either term
Activity: Seminar
1 Course Unit
Notes: Dept permission required.

**PSYC 709 Special Topics in Clinical Psychology**
In this seminar we will survey substantive, methodological and statistical issues that arise in the planning, conduct, and interpretation of empirical inquiries about the effects of psychotherapies. Challenges presented in efforts to disseminate evidence-based clinical practices will also be addressed.
One-term course offered either term
Activity: Seminar
1 Course Unit
Notes: Graduate students only.

**PSYC 711 Basic Problems in Developmental II**
One-term course offered either term
Activity: Seminar
1 Course Unit

**PSYC 712 Regression & Anova II**
One-term course offered either term
Activity: Seminar
1 Course Unit

**PSYC 715 Teaching Seminar**
This course is designed to aid graduate students in developing fundamental teaching skills. The focus will be on lecturing, applicable to job talks as well as classroom lectures, but there will also be some attention to discussion sections and handling of questions.
Taught by: Rozin
One-term course offered either term
Prerequisite: For graduate students in Psychology
Activity: Seminar
1 Course Unit

**PSYC 719 Experimental Methods in Perception**
This IGERT foundational course covers experimental methods and data analysis techniques used in the study of human perception.
Taught by: Brainard
Activity: Seminar
1 Course Unit
Notes: This is an IGERT foundational course.

**PSYC 730 Special Topics in Motivation**
One-term course offered either term
Activity: Seminar
1 Course Unit
PSYC 733 Special Topics in Vision
One-term course offered either term
Activity: Seminar
1 Course Unit

PSYC 736 Special Topics in Language
One-term course offered either term
Activity: Seminar
1 Course Unit

PSYC 739 Special Topics in Perception
Probability theory has become an increasingly popular and successful framework for modeling human perceptual and cognitive behavior. This course will provide a careful introduction to probability theory and the various ways it has been applied in psychology and neuroscience. Goal is to make students understand the most important state-of-the-art probabilistic models in perception and cognition, what they reveal about the brain's underlying computations and strategies in dealing with uncertainty, and how such computations can potentially be performed by populations of neurons.
Taught by: STOCKER
One-term course offered either term
Activity: Seminar
1 Course Unit

PSYC 745 Special Topics in Cognitive Neuroscience
One-term course offered either term
Also Offered As: NGG 583
Activity: Seminar
1 Course Unit

PSYC 750 Special Topics in Neuropsychopharmacology
Biological issues relevant to neuropsychiatric illnesses are covered in detail in four sections. The first section covers clinical aspects of major psychiatric disorders and includes some contact with patients. The second section presents the neuroanatomy of the limbic system. In the third section, emphasis is on the mechanisms of action of psychotropic drugs, including antidepressants, antipsychotics, anxiolytics, and stimulants. The final section covers information relevant to understanding biological processes that may be abnormal in neuropsychiatric illnesses, such as stress, sleep, and circadian rhythms, as well as quantitative genetics.
Taught by: Lucki and Staff
One-term course offered either term
Also Offered As: PHRM 550
Prerequisite: Permission of Instructor
Activity: Lecture
1 Course Unit

PSYC 751 Special Topics in Cognitive Psychology
One-term course offered either term
Activity: Seminar
1 Course Unit

PSYC 757 Language and Communication Sciences Research Seminar
Taught by: Trueswell
Course not offered every year
Activity: Seminar
1 Course Unit

PSYC 770 Special Topics in Social Psychology
One-term course offered either term
Activity: Seminar
1 Course Unit

PSYC 790 Self-Regulation & Behav
This seminar will cover psychological theories of goals, research on self-control, and models of behavior change, tailored to the interests of the students. We will read classic and contemporary research related to goal setting, conscious and unconscious goal processes, and mechanisms of behavior change.
Taught by: ALBARRACIN
Also Offered As: COMM 890
Activity: Seminar
1 Course Unit

PSYC 810 Psychodiagnostic Testing
Course usually offered in fall term
Activity: Seminar
1 Course Unit

PSYC 811 Psychodiagnostic Interviewing
Course usually offered in fall term
Activity: Seminar
1 Course Unit

PSYC 815 Introductory Practicum
Course usually offered in spring term
Activity: Seminar
1 Course Unit

PSYC 820 Advanced Practicum
Intensive studies of single individuals including interviews, tests, and experiments; also clinical experience at appropriate community agencies.
One-term course offered either term
Activity: Seminar
1 Course Unit

PSYC 999 Individual Study and Research
One-term course offered either term
Activity: Independent Study
0.5 Course Units