DEVELOPMENT OF MENTAL ABILITIES

- A focus on developing cognitive skills and mental processes
- Incorporates various learning styles and strategies

DESIGN (DSGN)

DSGN 0010 Art, Design and Digital Culture
This course is an introduction to the fundamental perception, representation, aesthetics, and design that shape today’s visual culture. It addresses the way artists and designers create images; design with analog and digital tools; communicate, exchange, and express meaning over a broad range of media; and find their voices within the fabric of contemporary art, design, and visual culture. Emphasis is placed on building an extended form of visual literacy by studying and making images using a variety of representation techniques; learning to organize and structure two-dimensional and three-dimensional space, and designing with time-based and procedural media. Students learn to develop an individual style of idea-generation, experimentation, iteration, and critique as part of their creative and critical responses to visual culture. If you need assistance registering for a closed section, please email the department at fnarug@design.upenn.edu
Fall or Spring
Also Offered As: VLST 2640
1 Course Unit

DSGN 0020 Design 21: Design After the Digital
Last century, the digital revolution transformed every aspect of our lives. It shaped every design discipline and defined the ways we imagine and fabricate anything from images to everyday products to clothing, cars, buildings and and megacities. Today, design is going through other technical and conceptual revolutions. We design with biotechnologies, fall in love in Virtual Reality with AI bots, rent our cognitive labor through cryptocurrencies. Our creative capabilities, on the other hand, are bounded by a polluted, over-crowded, and resource-constrained planet that is suffering major income and educational inequality. Design After the Digital interrogates the role of design for this century. The seminar surveys the conceptual and technical developments in the past decade to develop an interdisciplinary understanding of design, science and technology. We will study how new design and fabrication methods shape what we eat, what we wear, how we form opinions and express ourselves. The goal will be to develop new literacies of design that will help us acclimate better to the realities of the century as creative and critical citizens who can shape its products and values.
Fall
1 Course Unit

DSGN 1010 Digital Illustration
Digital Illustration is a course designed to expose students to the diverse techniques and approaches used in creating digital illustration for print publication. Course assignments will include two-dimensional animation storybord rendering, figure illustration, technical diagram illustration, photographic retouching and enhancing. Digital applications will include morphing with layers, surface cloning, three-dimensional modeling and spatial transformation of scenes and objects. Students completing this course will possess the capability to design and place creatively and skillfully execute finished artwork.
Fall or Spring
1 Course Unit

DSGN 1011 Introduction to Design
An investigation of an object-oriented design process utilizing digital drawings, rapid prototyping, and digital fabrication techniques. This course introduces design as a creative act marking out a synthesis based on observation of a problem, interpretation of possibilities, and translation of a concept into meaningful three-dimensional objects that engage with society and social justice. The course includes a weekly lecture and a biweekly studio component.
Fall
Also Offered As: ARCH 1010
1 Course Unit

DSGN 1020 Art of the web: Interactive Concepts for Art & Design
Art of the Web: Interactive concepts for art and design is a first step in learning how to create, analyze and discuss interactive content, as a visual creator. It is an exploration of the culture of the internet, the ideas behind its quirks, the dreams and freedoms it encapsulates, and the creative power it gives us. Students will be assigned projects that will challenge their current understanding of the web, and the ways it shapes human connectivity and interaction. Upon completion of this course, students will possess a working knowledge how to organize and design websites and learn to critique web-content including navigation, UX design and information architecture. The course will require analytical conceptual skills and foster creative thinking.
Fall or Spring
1 Course Unit

DSGN 1030 3-D Computer Modeling
Students will develop a comprehensive knowledge of how virtual worlds are constructed using contemporary computer graphics technique with a fine arts perspective. The course will offer the opportunity to explore the construction, texturing, and rendering of forms, environments, and mechanism while conforming to modeling specifications required for animation, real-time simulations or gaming environments, and rapid prototyping.
Fall or Spring
1 Course Unit

DSGN 1040 Open Book
"Open Book" will focus on visual communication of information. It will address two methods of inquiry and the corresponding means of visual representation: the objective, well structured research of facts and images, and the creative process of their subjective evaluation and restatement. Students will propose a topic based on their area of interest and engage in a focused, semester-long exploration, which they will present in the form of a designed and printed book.
Fall
1 Course Unit

DSGN 1050 Typography
The study and practice of typography spans the history of individual letterforms through the typesetting of full texts. It is a complete immersion into type as an integral part of visual communication. Typesetting conventions and variables including legibility, readability, texture, color and hierarchy will be stressed, as well as a form for organizing information and expressing visual ideas. Studio work will include collection and analyzing type, designing an original typeface, researching type history and experimenting with typographic forms.
Fall or Spring
1 Course Unit
DSGN 1060 Visual Narrative
Visual Narrative is an introduction to the practice of storytelling with images. From news and information to art, law, and science, visual storytelling is a critical aspect of creating and navigating contemporary culture. This course is situated at the intersection of design, art, and visual culture, focusing on relevant forms and topics including the photo essay, information design and visual explanation, the photographic sequence in contemporary art, scenario design and concept visualization. Visual Narrative focuses on traditional as well as emerging modes of production and distribution for documentary, visual storytelling, and photojournalism, exploring new aesthetics and the social impact of visual narratives. Visual Narrative immerses students in the study of narrative craft and creation of visual stories covering topics relevant to designers and photographers. Beginning with the photo series and the photo documentary tradition, the course evolves through multimedia narrative and non-narrative forms. Students will explore principles of narrative construction in design and photography through lecture, studio projects, and with presentations by visiting artists, designers, and photographers. Students will work within and across disciplines of art, design, and visual journalism, exploring topics including context, cause and effect, time, space, flow, picture-to-picture relationships, sequence, visual hierarchy, and linearity. Study of non-narrative systems - categorical, theoretical, abstract, and associtional forms - as well as interactive narratives will also be included.
Fall
1 Course Unit

DSGN 1070 Graphic Design I: Creative Technologies
This aim this course is to introduce students creative ways to use color, typography, and layout across new materials and media, ranging from print to physical objects. Students will explore visual design through a set of assignments and projects that are geared towards exploring the role of design in visual arts, interaction design, media design and architecture. The course introduces a number of design concepts such as content organization, navigation, interaction and date-driven design and show ways to develop new design metaphors, presentation techniques, and imagery using old and new technologies. Course is structured as a combination of lectures and hands on workshops where students will have the chance to work both individually and collaboratively to realize their projects.
Fall, Spring, and Summer Terms
1 Course Unit

DSGN 2010 Digital Figure Modeling
This course introduces methods of modeling, texturing, and rendering human and animal figures. Students will study anatomical bone and muscle structures, and then employ this knowledge as they develop polygonal models for real-time 3D simulations or gaming environments, high-resolution rendering, and rapid prototyping.
Spring
1 Course Unit

DSGN 2020 Book and Publication Design
Book and Publication Design will focus on the theory and professional practice of designing multi-page publications. Students will analyze formal structures of different types of books-literature and poetry, fiction and non-fiction compilations, illustrated volumes such as art catalogues, monographs and textbooks, and serial editions-discussing both traditional and experimental approaches. The format of the course will be split between theoretical and historical evaluations of book formats by drawing on the Van Pelt Rare Book Collection - and studio time where students will design books with attention to the format's conceptual relationship to the material at hand with a focus on typography and page layout, as well as on understanding production methods of printing and binding. In addition to the conventions of page layout, students will examine paratextual elements (title page, practice of pagination and other internal structuring, content lists and indexes, colophons, notes, and marginalia, and end-leave binding, etc.).
Fall
1 Course Unit

DSGN 2040 Environmental Animation
This studio-based course examines the disciplinary spaces of landscape, art, and architecture through the medium of 3D animation and storytelling. We immerse ourselves in environments that may be as small as a cell or as large as a planet. From the refuging of images, models, graphic design, or video to visualization or coding the genesis of whole environments, this course will allow for a variety of entry point for students of different disciplines and skill levels. Projects will range in scope from animated GIFs to animated shorts. This course embraces a spirit of invention, collaborative learning, and interdisciplinary cross-pollination. Experience in landscape architecture, architecture, animation, programming, film, GIS, and/or graphic design is encouraged. We will examine and discuss some standard typologies such as the walk-through, data-visualization, as well as filmic and avant garde strategies as starting points for creative reinterpretation of space. We will primarily be using 3D Studio Max and After Effects with support from Next Engine 3D Scanner, Rhino, and Grasshopper. Scripting will be included in most assignments to enhance artistic control of the software.
Spring
1 Course Unit

DSGN 2050 Graphic Design Practicum
Practicum provides a real world experience for students interested in solving design problems for non-profit and community organizations. The studio works with two clients each semester, and previous projects have included print design, web design, interpretive signage and exhibit interactives. All projects are real and will result in portfolio-ready finished product. Students will participate in full design experience including design, client interaction, presentations, production and project management. In addition, students will take field trips, meet professionals and go on studio visits.
Fall or Spring
1 Course Unit

DSGN 2060 Advanced 3-D Modeling
Advanced 3-D Modeling will give students the opportunity to refine skills in modeling, texturing, lighting and rendering with an emphasis on the evolution of ideas through constant revision based class critique. Students will use a variety of industry standard software packages, including but not limited to Maya and Mudbox to compose complex environments. Projects are designed to give students the opportunity to work with original content within a simulated production environment.
Fall or Spring
1 Course Unit
DSGN 2070 Graphic Design II
This course will explore advanced commercial, public and personal forms of visual communication. Emphasis will be placed on creative problem solving with consideration for audience. Discussion of design history, current ideology and future design applications will inform individual student projects. Work generated in this studio can be used to build a portfolio.
Fall
1 Course Unit

DSGN 2260 Pixel to Print
This studio course introduces students to the world of print media and circulation through techniques in Risograph (a high-speed digital printing system developed in Japan in the 1980s), xerography, and letterpress, focusing particularly on the format of posters and artists’ ephemera. Beginning with the Adobe Creative Suite, students will create their own broadsides, flyers, announcement cards, and print-based installations throughout the course, exploring ways in which artists and designers make use of the printed form to disseminate information; initiate happenings; advertise events; or foment change. Students will learn about some of the most significant producers working within this realm—from Dada to punk bands in the ’70s to contemporary hybrid publishing collectives—and develop skills in page layout, typography, and design; digital to analog pre-press and post-print production methods; and mechanized and hand-pulled press operations. The course includes a field trip to NYC.
1 Course Unit

DSGN 2500 Cultures of Making
Cultures of Making is an integrative studio that explores new frontiers of design that enable, empower, and interrogate the human in the 21st century. We will take the human body, identity, or image as a site of investigation and design new types of products for it. Through our designs, we will raise questions about the motivations behind quantifying ourselves, desires for being permanently available and connected, complacency with not having privacy or intimacy, and eagerness to substitute craft, labor, and decision-making with intelligent systems from self-driving cars to painting bots and trading algorithms. This studio will pursue a research- and production-oriented format. We will incorporate techniques and technologies from fields as diverse as printed electronics, biochemical fabrication, machine learning and robotics to develop applications that respond to the emergent perceptions of the human for its individual, social, or environmental identity.
Fall
1 Course Unit

DSGN 2510 Biological Design
This course is a research-based design studio that introduces new materials, fabrication, and prototyping techniques to develop a series of design proposals in response to the theme: Biological Design. The studio introduces life sciences and biotechnologies to designers, artists, and non-specialists to develop creative and critical propositions that address the social, cultural, and environmental needs of the 21st century.
Fall or Spring
1 Course Unit

DSGN 2530 Functions for Form and Material
This studio course will introduce methods of material selection and fabrication with the goal of developing evocative and effective designs. We will learn parametric modeling techniques that allow visualization to begin before all the requirements of design are known. We will implement techniques that allow us to structurally test and optimize forms to be stronger, lighter, to fail more predictably, or to function efficiently. The class will work identity to materials with properties that introduce new structural or conceptual possibilities for our designs. For each project, we will use a broad range of fabrication techniques for metals, natural and synthetic materials. The goal of this course is to develop a creative approach towards learning to work with unfamiliar tools and materials.
1 Course Unit

DSGN 2540 Information Design and Visualization
Information Design and Visualization is an introductory course that explores the structures of information (text, numbers, images, sounds, video, etc.) and presents strategies for designing effective visual communication appropriate for various users and audiences. The course seeks to articulate a vocabulary of information visualization and find new design forms for an increasingly complex culture.
Fall or Spring
1 Course Unit

DSGN 2550 Interfacing Cultures: Designing for Mobile, Web and Public Media
This course introduces advanced topics related to contemporary media technologies, ranging from social media to mobile phone applications and urban interfaces. Students learn how to use new methods from interaction design, service design, and social media and work towards prototyping their ideas using new platforms and media. The class will cover a range of topics such as online-gaming, viral communication, interface culture, networked environments, internet of things and discuss their artistic, social, and cultural implications to the public domain.
Spring
1 Course Unit

DSGN 2560 Design Future(s)
Design Future(s) is production-oriented studio which explores the relationship between critical design and emerging technologies. Students learn how to work with sensing, machine learning, robotics, and biofabrication to explore what it means to design in response to the social, cultural, and environmental realities of our times. The course is organized through hands-on workshops, lectures, design and critique sessions to develop both technical skills and learn about new design methodologies. Every semester, the studio is developed around a specific theme (i.e., future of body and labor, future of identity, future interfaces) and work towards developing a discursive and multi-disciplinary understanding of "future" that is informed by methodologies outside the traditional Western design cannon.
Mutually Exclusive: DSGN 5010
1 Course Unit

DSGN 2570 User Experience (UX) and User Interface (UI) Design
Great user experience and user interface design are essential for creating digital products that people love. In this course, we’ll cover a range of topics from user research through designing visual interfaces, as well as principles of human-centered design and the design process. We’ll study existing products to understand the problems they solve and the elements that make them succeed. Lectures and coursework will include practical exercises with user journeys, flowcharts, style sheets, and prototyping tools. No design experience necessary.
1 Course Unit
DSGN 3020 Contemporary Theories of Design
This seminar explores a range of theories, concepts, and thought patterns that shape different disciplines of design. From critical science studies to object-orient ontology and speculative design, it discusses how theoretical frameworks drive innovation, critique, and user experience.
1 Course Unit

DSGN 3030 Creative Research
This seminar explores different aspects of research—knowledge production and dissemination—across a variety of creative practices from the arts to the humanities, engineering, and sciences. Students investigate what it means to observe, measure, analyze, test, study, experiment, diagram, prototype, speculate, generate and criticize; apply multiple modes of inquiry; be conceptual, analytical, propositional and critical at the same time, all in order to develop their work from different perspectives. As students work across different methodologies, they also explore ways of making their work public through various social protocols, publications, and exhibitions that address different audiences.
Spring
1 Course Unit

DSGN 3040 Language of Design
The course will explore the changing relationship during the modern era between design (structure, model, plan of a work of art) and language (metaphor for a system of communication; speech, writing, literature). Our readings and visual presentations will focus on topics in the decorative arts, painting, architecture, typography and visual communication. We will focus on primary sources in order to situate our inquiry in a larger historical context. The discussion will center on claims about the inherent meaning of form, discuss different roles for design - as an ideological statement, as an agent of social change, and as an idiosyncratic expression. Topics will also include the search for a universal language, attempts at bridging the perceived gap between spoken and written language, and the impact of visual form on the meaning of literary texts (particularly when the author has been involved in the publication process). Students can suggest additional topics related to their field of study.
Spring
1 Course Unit

DSGN 3050 Design Tools and Technologies
This studio focuses on providing digital skills to conceptualize, produce and disseminate design products. Through workshops, software training sessions and labs, students will engage with different design professionals and learn state-of-the-art tools used in interactive media, UI/UX, modeling and fabrication design. Students will also learn ways to work with open source software and have a chance to build their own design tools through creative programming exercises. The course does not require any technical background, but assumes basic familiarity with visual design tools (i.e., Adobe Creative Suite).
1 Course Unit

DSGN 3060 Futures for All: Reimagining social equality through art and technology
How can art become a form of activism? How does design shape social equality? This course investigates how technological media shape culture and society, and how artists and designers can actively reshape these dynamics through art and design. We will engage in the practice of "speculative design", and tactical design using various digital tools to envision different futures, reflecting on social, political, and ethical implications of various technologies. Exploring the relationship between digital and physical realities, students will utilize their skills in art and design while applying them to critical social discourse and activism. Students will also develop skills in active reading, critical analysis, and scholarly writing.
1 Course Unit

DSGN 3070 Feminist Technoscience: Art, Technology, & Gender
How does scientific research produce and reinforce concepts of gender? How is sexism propagated through technological media? This course investigates how scientific and technological media shape culture and society, particularly through the lens of gender and sexuality. Engaging in interdisciplinary art making, students will use various technological media to reflect on the social, political, and ethical domains of technoscientific feminism. Exploring the relationship between digital and physical realities, students will engage art and design with critical social discourse and gender theory. Students will also develop skills in active reading, critical analysis, and scholarly writing. By the end of the course, students will have created a unique work of art that imagines more empowered, equitable futures.
1 Course Unit

DSGN 3100 Interrogative Design: Cultural Prosthetics
The course is open to students interested in pursuing artistic, design and research projects that interrogate, and proactively respond to the existential, communicative and survival needs of the estranged, marginalized and excluded persons and social groups, while addressing the unacceptability of conditions that produce such needs. In the words of art theorist Rosalyn Deutsche, the 'utopia' of interrogative design is 'based on the hope that its very function will render it obsolete'. The course will consist of readings, discussions, and presentations related to the fields and methods of interrogative, critical and speculative design, 'cultural prosthetics', 'scandalizing functionalism', forensic design, monument participatory animation, and, most importantly, on the ideation, experimentation, development, and presentation of students' original projects. After a short introductory assignment, the students - individually or in teams - will work on a selected by them project to be advanced and discussed in class during the semester, presented at the midterm and at the final review, with the response and input from guest critics.
Mutually Exclusive: DSGN 5100
1 Course Unit

DSGN 4010 Independent Study
Undergraduate Fine Arts independent study course for students pursuing advanced, specialized, indecently-driven course work. This course must be taught by a full-time faculty member.
Fall or Spring
1 Course Unit
DSGN 4020 Design Senior Seminar Project (Fall)
This rigorous pair of courses, one offered in the Fall and one offered in
the Spring semester, are designed as the capstone of the Design major
and are required for all graduating Design seniors. They can only be taken
in the senior year.
Fall
1 Course Unit

DSGN 4030 Design Senior Seminar Project (Spring)
This rigorous pair of courses, one offered in the Fall and one offered in
the Spring semester, are designed as the capstone of the Design major
and are required for all graduating Design seniors. They can only be taken
in the senior year.
Fall
1 Course Unit

DSGN 5001 Art, Design and Digital Culture
This course is an introduction to the fundamental perception,
representation, aesthetics, and design that shape today's visual culture.
It addresses the way artists and designers create images; design with
analog and digital tools; communicate, exchange, and express meaning
over a broad range of media; and find their voices within the fabric of
contemporary art, design, and visual culture. Emphasis is placed on
building an extended form of visual literacy by studying and making
images using a variety of representation techniques; learning to organize
and structure two-dimensional and three-dimensional space, and
designing with time-based and procedural media. Students learn to
develop an individual style of idea-generation, experimentation, iteration,
and critique as part of their creative and critical responses to visual
culture. If you need registering for a closed section, please email the
department at fnarug@design.upenn.edu
Fall or Spring
1 Course Unit

DSGN 5002 Design 21: Design After the Digital
Last century, the digital revolution transformed every aspect of our
lives. It shaped every design discipline and defined the ways we imagine
and fabricate anything from images to everyday products to clothing,
cars, buildings, and megacities. Today, design is going through other
technical and conceptual revolutions. We design with biotechnologies,
fall in love in Virtual Reality with AI bots, rent our cognitive labor through
cryptocurrencies. Our creative capabilities, on the other hand, are bounded
by a polluted, over-crowded, and resource-constrained planet that is
suffering major income and educational inequality. Design After the
Digital interrogates the role of design for this century. This seminar
surveys the conceptual and technical developments in the past decade
to develop an interdisciplinary understanding of design, science, and
technology. We will study how new design and fabrication methods
shape what we eat, what we wear, how we form opinions and express
ourselves. The goal will be to develop new literacies of design that will
help us acclimate better to realities of the century as creative and critical
citizens who can shape its products and values.
Fall
1 Course Unit

DSGN 5003 Digital Illustration
Digital Illustration is a course designed to expose students to the diverse
techniques and approaches used in creating digital illustration for print
publication. Course assignments will include two-dimensional animation
storyboard rendering, figure illustration, technical diagram illustration,
photographic retouching and enhancing. Digital applications will include
morphing with layers, surface cloning, three-dimensional modeling and
spatial transformation of scenes and objects. Students completing this
course will possess the capability to design and plan creatively and
skillfully execute finished artwork.
Fall or Spring
1 Course Unit

DSGN 5004 Art of the Web: Interactive Concepts for Art & Design
Art of the Web: Interactive concepts for art and design is a first step
in learning how to create, analyze and discuss interactive content, as
a visual creator. It is an exploration of the culture of the internet, the
ideas behind its quirks, the dreams and freedoms it encapsulates, and
the creative power it gives us. Students will be assigned projects that
will challenge their current understanding of the web, and the ways it
shapes human connectivity and interaction. Upon completion of this
course, students will possess a working knowledge how to organize and
design websites and learn to critique web-content including navigation,
UX design and information architecture. The course will require analytical
conceptual skills and foster creative thinking.
Fall or Spring
1 Course Unit

DSGN 5005 3-D Computer Modeling
Students will develop a comprehensive knowledge of how virtual worlds
are constructed using contemporary computer graphics technique with
a fine arts perspective. The course will offer the opportunity to explore
the construction, texturing, and rendering of forms, environments, and
mechanisms while conforming to modeling specifications required for
animation, real-time simulations or gaming environments, and rapid
prototyping.
Fall or Spring
1 Course Unit

DSGN 5006 Open Book
"Open Book" will focus on visual communication of information. It will
address two methods of inquiry and the corresponding means of visual
representation: the objective, will structured research of facts and images,
and the creative process of their subjective evaluation and restatement.
Students will propose a topic based on their area of interest and engage
in a focused, semester-long exploration, which they will present in the form
of a designed and printed book.
Fall
1 Course Unit

DSGN 5007 Typography
The study and practice and typography spans the history of individual
letterforms through the typesetting of full texts. It is a complete
immersion into type as an integral part of visual communication.
Typesetting conventions and variables including legibility, readability,
texture, color and hierarchy will be stressed, as well as a form for
organizing information and expressing visual ideas. Studio work will
include collecting and analyzing type, designing and original typeface,
researching type history and experimenting with typographic forms.
Spring
1 Course Unit
DSGN 5008 Visual Narrative
Visual Narrative is an introduction to the practice of storytelling with images. From news and information to art, law, and science, visual storytelling is a critical aspect of creating and navigating contemporary culture. This course is situated at the intersection of design, art, and visual culture, focusing on relevant forms and topics including the photo essay, information design and visual explanation, the photographic sequence in contemporary art, scenario design and conceptual visualization. It proposes that studying and making sequential images and visual essays in a wide range of media—comics and graphic novels, propaganda, environments and installations, social media, animation, video, and digital media—are critical to understanding culture. The course immerses students in the study of narrative craft and creation of visual stories covering topics relevant to designers and photographers. Beginning with the photo series and the photo documentary tradition, the course evolves through multimedia narrative and non-narrative forms. Students will explore principles of narrative construction in design and photography through lecture, studio projects, and with presentations by visiting artists, designers, and photographers.
1 Course Unit

DSGN 5009 Digital Figure Modeling
This course introduces methods of modeling, texturing, and rendering human and animal figures. Students will study anatomical bone and muscle structures, and then employ this knowledge as they develop polygonal models for real-time 3D simulations or gaming environments, high-resolution renderings, and rapid prototyping.
Spring
1 Course Unit

DSGN 5011 Book and Publication Design
Book and Publication Design will focus on the theory and professional practice of designing multi-page publications. Students will analyze formal structures of different types of book—literature and poetry, fiction and non-fiction compilations, illustrated volumes such as art catalogues, monographs, and textbooks, and serial editions—discussing both traditional and experimental approaches. The format of the course will be split between theoretical and historical evaluations of book formats by drawing on the Van Pelt Rare Book collection and studio time where students will design books with attention to the format's conceptual relationship to the material at hand with a focus on typography and page layout, as well as understanding production methods of printing and binding. In addition to the conventions of page layout students will examine paratextual elements (title page, practices of pagination and other internal structuring, content lists and indexes, and colophons, notes and marginalia, end-leaves, binding etc.). Prerequisite: DSGN 264 or permission from the instructor.
Fall
1 Course Unit

DSGN 5012 Environmental Animation
This studio-based course examines the disciplinary spaces of landscape, art, and architecture through the medium of 3D animation and storytelling. We immerse ourselves in environments that may be as small as a cell or as large as a planet. From the refiguring of images, models, graphic design, or video to visualization or coding the genesis of whole environments, this course will allow for a variety of entry points for students of different disciplines and skill levels. Projects will range in scope from animated GIFs to animated shorts. This course embraces a spirit of invention, collaborative learning, and interdisciplinary cross-pollination. Experience in landscape architecture, architecture, animation, programming, film, GIS, and/or graphic design is encouraged. We will examine and discuss some standard typologies such as the walk-through, data visualization, as well as filmic and avant garde strategies as starting points for creative reinterpretation of space. We will primarily be using 3D Studio Max and After Effects. Prerequisite: Experience in landscape architecture, architecture, animation, programming, file, Photoshop, or graphic design is strongly encouraged but not required.
Spring
1 Course Unit

DSGN 5013 Graphic Design Practicum
Practicum provides a real world experience for students interested in solving design problems for non-profit and community organizations. The studio works with two clients each semester, and previous projects have included print design, web design, interpretive signage and exhibit interactives. All projects are real and will result in a portfolio-ready finished product. Students will participate in a full design experience including design, client interaction, presentations, production, and project management. In addition, students will take field trips, meet professionals and go on studio visits.
Fall or Spring
1 Course Unit

DSGN 5014 Advanced 3D Modeling
Advanced 3D Modeling will give students the opportunity to refine skills in modeling, texturing, lighting, and rendering with an emphasis on the evolution of ideas through constant revision based on critical feedback. Students will use a variety of industry standard software packages, including but not limited to Maya and Mudbox to compose complex environments. Projects are designed to give students the opportunity to work with original content with a simulated production environment.
Fall or Spring
1 Course Unit

DSGN 5015 Graphic Design II
This course will explore advanced commercial, public and personal forms of visual communication. Emphasis will be placed on creative problem solving with consideration for audience. Discussion of design history, current ideology and future design applications will inform individual student projects. Work generated in this studio can be used build a portfolio. Prerequisite: Permission from instructor if prerequisites are not met.
Fall
1 Course Unit
DSGN 5016 Cultures of Making
Cultures of Making is an integrative studio that explores new frontiers of design that enable, empower, and interrogate the human in the 21st century. We will take the human body, identity, or image as a site of investigation and design new types of products for it. Through our designs, we will raise questions about the motivations behind quantifying ourselves, desires for being permanently available and connected, complacency with not having privacy or intimacy, and eagerness to substitute craft, labor, and decision-making with intelligent systems from self-driving cars to painting bots and trading algorithms. This studio will pursue a research- and production-oriented format. We will incorporate techniques and technologies from fields as diverse as printed electronics, biochemical fabrication, machine learning and robotics to develop applications that respond to the emergent perceptions of the human for its individual, social, or environmental identity.
Spring
1 Course Unit

DSGN 5017 Biological Design
This course is a research-based design studio that introduces new materials, fabrication, and prototyping techniques to develop a series of design proposals in response to the theme: Biological Design. The studio introduces life sciences and biotechnologies to designers, artists, and non-specialists to develop creative and critical propositions that address the social, cultural, and environmental needs of the 21st century.
Fall or Spring
1 Course Unit

DSGN 5018 Graphic Design I: Creative Technologies
The aim of this course is to introduce students creative ways to use color, typography, and layout across materials and media, ranging from print to physical objects. Students will explore visual design through a set of assignments and projects that are geared towards exploring the role of design in visual arts, interaction design, media design and architecture. The course introduces a number of design concepts such as content organization, navigation, interaction and data-driven design and show ways to develop new design metaphors, presentation techniques, and imagery using old and new technologies. Course is structured as a combination of lectures and hands on workshops where students will have the chance to work both individually and collaboratively to realize their projects.
Fall or Spring
1 Course Unit

DSGN 5019 Functions for Form and Material
This studio course will introduce methods of material selection and fabrication with the goal of developing evocative and effective designs. We will learn parametric modeling techniques that allow visualization to begin before all the requirements of a design are known. We will implement techniques that allow us to structurally test and optimize forms to be stronger, lighter, to fail more predictably, or to function efficiently. The class will work to identify materials with properties that introduce new structural or conceptual possibilities for our designs. For each project, we will use a broad range of fabrication techniques for metals, natural and synthetic materials. The goal of the course is to develop a creative approach towards learning to work with unfamiliar tools and materials.
Spring
1 Course Unit

DSGN 5021 Information Design and Visualization
Information design and visualization is an introductory course that explores the structure of information (text, numbers, images, sounds, video, etc.) and presents strategies for designing effective visual communication appropriate for various users and audiences. The course seeks to articulate a vocabulary of information visualization and find new design forms for an increasingly complex culture.
Fall or Spring
1 Course Unit

DSGN 5022 Interfacing Culture: Designing for Mobile, Web and Public Media
This course introduces advanced topics related to contemporary media technologies, ranging from social media to mobile phone applications and urban interfaces. Students learn how to use new methods from interaction design, service design, and social media and work towards prototyping their ideas using new platforms and media. The class will cover a range of topics such as online-gaming, viral communication, interface culture, networked environments, internet of things and discuss their artistic, social, and cultural implications to the public domain.
Spring
1 Course Unit

DSGN 5023 User Experience (UX) and User Interface (UI) Design
Great user experience and user interface design are essential for creating digital products that people love. In this course, we’ll cover a range of topics from user research through designing visual interfaces, as well as principles of human-centered design and the design process. We’ll study existing products to understand the problems they solve and the elements that make them succeed. Lectures and coursework will include practical exercises with user journeys, flowcharts, style sheets, and prototyping tools. No design experience necessary.
1 Course Unit

DSGN 5024 Contemporary Theories of Design
This seminar explores a range of theories, concepts, and thought patterns that shape different disciplines of design. From critical science studies to object-orient ontology and speculative design, it discusses how theoretical frameworks drive innovation, critique, and user experience.
1 Course Unit

DSGN 5025 Creative Research
This seminar explores what it means to do research in creative and critical practices. Students learn about different research methods from design, engineering, humanities and sciences; utilize them for developing and evaluating their individual creative work as cultural producers. This is an interdisciplinary course that encourages students to observe, measure, analyze, test, study, experiment, diagram, prototype, speculate, generate and criticize; apply multiple modes of inquiry; be conceptual, analytical, propositional and critical at the same time to develop their work from different perspectives.
Fall
1 Course Unit
DSGN 5026 Language of Design
The course will explore the changing relationship during the modern era between design (structure, model, plan of a work of art) and language (metaphor for a system of communication; speech, writing, literature). Our readings and visual presentations will focus on topics in decorative arts, painting, architecture, typography and visual communication. We will focus on primary sources in order to situate our inquiry in a larger historical context. The discussion will center on claims about the inherent meaning of form, discuss different roles for design - as an ideological statement, as an agent of social change, and as an idiosyncratic expression. Topics will also include the search for a universal visual language, attempts at bridging the perceived gap between spoken and written language, and the impact of visual form on the meaning of literary texts (particularly when the author has been involved in the publication process). Students can suggest additional topics to their field of study.
Spring
1 Course Unit

DSGN 5027 Design Tools and Technologies
This studio focuses on providing digital skills to conceptualize, produce and disseminate design products. Through workshops, software training sessions and labs, students will engage with different design professionals and learn state-of-the-art tools used in interactive media, UI/UX, modeling and fabrication design. Students will also learn ways to work with open source software and have a chance to build their own design tools through creative programming exercises. The course does not require any technical background, but assumes basic familiarity with visual design tools (i.e., Adobe Creative Suite).
1 Course Unit

DSGN 5028 Futures for All: Reimagining social equality through art and technology
How can art become a form of activism? How does design shape social equality? This course investigates how technological media shape culture and society, and how artists and designers can actively reshape these dynamics through art and design. We will engage in the practice of "speculative design", and "tactical design" using various digital tools to envision different futures, reflecting on social, political, and ethical implications of various technologies. Exploring the relationship between digital and physical realities, students will utilize their skills in art and design while applying them to critical social discourse and activism. Students will also develop skills in active reading, critical analysis, and scholarly writing.
1 Course Unit

DSGN 5029 Feminist Technoscience: Art, Technology, & Gender
How does scientific research produce and reinforce concepts of gender? How is sexism propagated through technological media? This course investigates how scientific and technological media shape culture and society, particularly through the lens of gender and sexuality. Engaging in interdisciplinary art making, students will use various technological media to reflect on the social, political, and ethical domains of technoscientific feminism. Exploring the relationship between digital and physical realities, students will engage art and design with critical social discourse and gender theory. Students will also develop skills in active reading, critical analysis, and scholarly writing. By the end of the course, students will have created a unique work of art that imagines more empowered, equitable futures.
1 Course Unit

DSGN 5042 Pixel to Print
This studio course introduces students to the world of print media and circulation through techniques in Risograph (a high-speed digital printing system developed in Japan in the 1980s), xerography, and letterpress, focusing particularly on the format of posters and artists’ ephemera. Beginning with the Adobe Creative Suite, students will create their own broadsides, flyers, announcement cards, and print-based installations throughout the course, exploring ways in which artists and designers make use of the printed form to disseminate information; initiate happenings; advertise events; or foment change. Students will learn about some of the most significant producers working within this realm—from Dada to punk bands in the '70s to contemporary hybrid publishing collectives—and develop skills in page layout, typography, and design; digital to analog pre-press and post-print production methods; and mechanized and hand-pulled press operations. The course includes a field trip to NYC.
1 Course Unit

DSGN 5100 Interrogative Design: Cultural Prosthetics
The course is open to students interested in pursuing artistic, design and research projects that interrogate, and proactively respond to the existential, communicative and survival needs of the estranged, marginalized and excluded persons and social groups, while addressing the unacceptability of conditions that produce such needs. In the words of art theorist Rosalyn Deutsche, the ‘utopia’ of interrogative design is ‘based on the hope that its very function will render it obsolete’. The course will consist of readings, discussions, and presentations related to the fields and methods of interrogative, critical and speculative design, ‘cultural prosthetics’, ‘scandalizing functionalism’, forensic design, monument participatory animation, and, most importantly, on the ideation, experimentation, development, and presentation of students’ original projects. After a short introductory assignment, the students - individually or in teams- will work on a selected by them project to be advanced and discussed in class during the semester, presented at the midterm and at the final review, with the response and input from guest critics.
Mutually Exclusive: DSGN 3100
1 Course Unit