

College of Fine Arts Interdisciplinary Courses

About Course Numbers:

Each Carnegie Mellon course number begins with a two-digit prefix that designates the department offering the course (i.e., 76-xxx courses are offered by the Department of English). Although each department maintains its own course numbering practices, typically, the first digit after the prefix indicates the class level: xx-1xx courses are freshmen-level, xx-2xx courses are sophomore level, etc. Depending on the department, xx-6xx courses may be either undergraduate senior-level or graduate-level, and xx-7xx courses and higher are graduate-level. Consult the Schedule of Classes (<https://enr-apps.as.cmu.edu/open/SOC/SOCServlet/>) each semester for course offerings and for any necessary pre-requisites or co-requisites.

62-002 CFA Elective

Intermittent: 9 units
TBA

62-104 Design Ethics & Social Justice in Architecture

Fall and Spring: 3 units

This course is aimed at first year architecture students as an introduction to social justice and design ethics. The course will explore how architecture relates to the human experience, human labor, and human rights; how the economic, political, and cultural contexts in which architects work contribute to issues of inequity; and what responsibilities architects and designers have to assure a greater sense of social justice for all. We will start by examining the traditional norms for the "standard" human body in design. Then will explore the meaning of identity (including race, class, gender, ethnicity), economic class and privilege. We will continue by exploring social justice, activism, climate change, colonialism and historically racist urban practices. Throughout the course, we will discuss how architecture is embedded in these issues and how architects might address these issues in current and future practice, both as citizens and as designers. This course includes lectures, weekly reading responses, and small group discussions. Class attendance and participation is required.

62-106 Architecture and the Arts

Fall: 9 units

This interdisciplinary course explores the entangled relationship between architecture and the arts, and their struggle between autonomy and engagement. It will be structured around a series of themes, drawings, and writings that reveal architecture's constantly changing involvement with art, culture, society, and related disciplines. The course functions both an introduction to Architecture as Art for a general audience, as well as a critical introduction to architectural thinking and theory for architecture majors. The course will include slide lectures, readings, reading reports, discussions, and a series of research exercises to engage architecture and art more critically, and an exam. We'll examine the common roots, disparate characters, and inter-twined histories of architecture and the arts. We'll investigate not just buildings and art works, but ideas, drawings, images and other representations involved in the construction and reception of architecture that often relate closely to the arts. We'll look at shared terms like composition, rhythm, studio, and form. We'll define architecture in relation to categories such as fine and applied arts, high and low arts, visual and performing arts, and relate these to broad categories such as design, visual culture, and the liberal arts. We'll ask "why" we make architecture and art, rather than "how," and discuss how the human need for expression and meaning can augment the technical and constructed value of mere making or building. We'll debate how the discipline of architecture has been, and can continue to be framed as a fine art, but also act as a service profession, a political tool, a technical expertise, a research endeavor, or as a mode of cultural discourse.

62-122 Digital Media I

Fall: 6 units

This course will engage in an overview of foundational workflows in digital media regarding two-dimensional representation techniques for spatial design processes. The course is divided into two topics with one assignment each: Technical Drawing and 2D Graphics. Students are required to submit work at the end of each class, in addition to self-guided work outside of class times: satisfactory completions of the two assignments, specific Lynda tutorials, final project, and final portfolio are required for the successful completion of the course. Through these deliverables, the course will inquire issues of 2D representation as it pertains to the effective communication of technical and conceptual information in spatial design processes. With digital media, designers now have an arsenal of tools that can subvert and augment traditional means of representation with exponentially greater fidelity and efficiency. Students will have an opportunity to practice these values and favor hybrid approaches that strive to blur the boundaries of analog and digital media, so as to learn how to be versatile in leveraging all forms of media for the design task at hand. Students are required to bring their own laptop computers with AutoCAD, Photoshop, Illustrator, and InDesign installed.

62-123 Digital Media II

Spring: 6 units

This is the second course in a two-course sequence that introduces students to a broad range of architectural drawing techniques and practices that document, communicate, and generate design possibilities. The course situates modes of representation within a rich disciplinary tradition, as well as within adjacent fields of discourse on visual culture and epistemology. This second instantiation expands the foundational skills established in 62-122 by surveying select, contemporary modes of digital production and communication especially as situated between design disciplines and adjacent practices in the sciences, the animation and gaming industries, digital forensics and archaeology, artificial intelligence and other modes of cultural production. The course also challenges students to establish a visual agenda of their by referencing and critiquing chosen practices and styles within contemporary architectural media.

Prerequisite: 62-122

62-125 Drawing I

Fall: 6 units

62-125 is an introductory course in free-hand architectural drawing. Its central learning objective is building a capacity for visualizing three-dimensional space through freehand drawing. A parallel objective is fostering visual literacy: the ability to use line and tonal values to represent architectural space. Topics covered are contour drawing, freehand perspective, axonometric projection, and tonal drawing in charcoal. The course concludes with a final project conducted jointly with 48-100, first-year architectural design.

62-126 Drawing II

Spring: 6 units

The central learning objective of Drawing II is building a capacity for visualizing three-dimensional space through freehand drawing. It has two secondary objectives: using line, tone and color to represent architectural space and architectural proposals. The course has four parts 1) free-hand and constructed perspective, 2) shade and shadow and chiaroscuro drawing in charcoal and colored pencil, 3) color drawing in pastel. 4) a final project combining freehand drawing, color work in Photoshop and a 3D digital model. Prerequisite: 62-125 or permission of the instructor.

Prerequisite: 62-125

62-141 Black and White Photography I

Fall and Spring: 10 units

This course will teach you the basic craft of photography from exposure of the negative through darkroom developing and printing to print finishing and presentation. Content includes student presentations, class discussions, shooting assignments, darkroom sessions and class critiques. We will concentrate not only on the technical aspects of photography, but also the aesthetics of seeing with a camera. The course concentrates on photography as a fine art and #8212; what is unique to it and the concerns that are shared with other visual arts, such as composition, tonal values, etc. and aims to equip students with an understanding of the formal issues and the expressive potentials of the medium. Lab fee and 35mm manual camera required. Each student is responsible for the cost of paper and film.

62-142 Digital Photography I

Fall and Spring: 10 units

This course explores digital photography and digital printing methods. By semester's end students will have knowledge of contemporary trends in photography, construction (and deconstruction) of photographic meaning, aesthetic choices, and the use of color. Students will learn how digital cameras work, proper digital workflow, RAW file handling, color management and Adobe Photoshop. Through the combination of the practical and theoretical, students will better define their individual voices as photographers. No prerequisites.

62-150 IDEATe Portal: Introduction to Media Synthesis and Analysis

Fall: 10 units

To view the different section topics, visit courses.ideate.cmu.edu/62-150. Technologists, artists, and designers are engaging in new, interdisciplinary modes to consume, create, and reuse media. To do this, they thoughtfully collaborate and critically reflect on media creation, distribution, participation, interaction, and how media affects the audience. In this course, students will challenge themselves to work in these new modal contexts by thinking critically in a genre of exploration. They will formulate the intent of their creative work, articulate relationships to art/design practice and theory, and respond insightfully to creative, media-rich outcomes. The class will introduce core concepts through foundational texts, in-class exercises, collaborative projects, and group critique. Through hands-on media exploration, students will ground concepts such as embodiment, emergence, composition, participatory interfaces, and mediated experiences. Section A will be an Introduction to Textile Media. Section B will be an Introduction to Mediascapes: 2D to 3D Spatial Environments. For more detail on these sections, please visit courses.ideate.cmu.edu/62-150

Course Website: <https://courses.ideate.cmu.edu/62-150> (<https://courses.ideate.cmu.edu/62-150/>)

62-207 IDEATe: Variational Geometry I

Fall: 6 units

This course will introduce concepts and strategies for the modeling and development of complex computational geometry for 3D printing purposes and introduce algorithmic thinking using the Rhinoceros McNeel platform and Grasshopper plugin. This course is intended for students with no or little 3-D modeling skills to advance their abilities in modeling, digital prototyping and visual communication.

Course Website: <http://ideate.cmu.edu/about-ideate/departments/college-fine-arts/ideate-variational-geometry-i/>

62-225 Generative Modeling

Fall and Spring: 9 units

This course introduces students to the fundamentals of generative modeling using computer aided design as practiced in the field of architecture. Core competencies will be developed through modeling projects and software intensive labs, while a broader critical framework for conceiving of contemporary and historical parametric practices will be encouraged through periodic lectures. Emphasis will be placed on careful consideration of digital mediums and developing a sense of craft related to digital modeling in the hope that students will become conscientious makers and consumers of digital content. Students will be encouraged to understand and apply algorithmic problem solving to the many design constraints encountered in architecture. The course will explore the relationship of parametric workflows to design thinking and will situate contemporary trends in a broader framework of computational design. The course will also forefront complex form-making as a response to bio-mimicry, systems thinking, and mass-customization. Rather than positioning parametric modeling as a disruption of historical architectural design process, the course will encourage students to consider how new tools might augment the discipline's historical commitments to orthographic projection, perspectival drawing, and physical modeling.

62-239 Reading Pictures, Writing Photography

Intermittent: 9 units

Through photography's history, writers have sought to identify what is special about photography, the medium's essential characteristics, and what happens when photographs make something visible. In this course students will engage critically with photographs and photography through classic and contemporary texts on photography, and by producing their own writing. Students will become familiar with significant photographers and key issues raised around photography and develop their own critical and authorial voices. Readings include pieces by Roland Barthes, Walter Benjamin, Susan Sontag, Hito Steyerl, Rebecca Solnit, Teju Cole, and many others.

Course Website: <http://cfaphoto.cfa.cmu.edu/classesf17.html>

62-241 Black and White Photography II

Fall and Spring: 10 units

Black and White Photography II continues developing your technical skills in analog photography by introducing medium and large format cameras and prints. Large format view cameras remain the state of the art in control and quality in both film and digital photography. These cameras as well as unusual panoramic and pinhole cameras will be supplied. This course emphasizes aesthetic development and personal artistic growth through individual tutorials and group critiques, and will help to build professional level photography skills. Additional topics include digital printing and negative scanning, advanced monotone printing methods, and a focus on exhibition and folio presentation.

Prerequisites: 62-141 or 60-141

62-245 Portrait Photography

Intermittent: 10 units

Portraiture maintains a unique standing in photography for its direct and collaborative relationship between an individual and a photographer. This course will examine this relationship and the larger contexts which provide the conceptual framework for deriving meaning and understanding from an image of another person. We will study the theoretical and practical aspects of portrait photography in both studio and environmental settings, providing students with an understanding of the genre by developing both technical and conceptual skill sets. Students will utilize analog and digital equipment, learn studio lighting techniques, develop approaches to working with natural light, and explore methods of printing and presentation. Students will gain knowledge in the development of portraiture through the work of notable figures in the medium's history and contemporary field, including August Sander, Dorothea Lange, Walker Evans, Dawoud Bey, Milton Rogovin, Rineke Dijkstra, Zoe Strauss, Susan Lipper, Justine Kurland, Stefan Ruiz, Larry Sultan, Carrie Mae Weems, Roy DeCarava and Alec Soth. Class discussions, readings and critiques will provide an outline for completing both single and serial image assignments.

Course Website: <http://cfaphoto.cfa.cmu.edu/classesf17.html>

62-247 Introduction to Hot Glass I

Fall and Spring: 3 units

In this introductory class, learn to gather clear molten glass from the furnace and then shape it into various forms, from paperweights to simple blown shapes, such as cups and bowls. Instruction focuses on a team approach to glassblowing, with an emphasis on safety, proper tool use, basic techniques, and materials. You'll never drink from a glass again without appreciating the energy and detail that went into making it! Little to no hot shop experience is required. You may also wish to take this class a second time in order to continue to develop and refine basic skills before moving on to Hot Glass 2. Each time you take it, your skill level, confidence, and passion for glass will grow. Class tuition includes 2 hours of open-studio time to be used during the 8-week course period. This will help you become familiar with the studio itself and learn the process of studio rental beyond class hours. Registration for Pittsburgh Glass Center classes can only be done on or after your scheduled registration day. Spaces are limited. Registration is done on a first come, first served basis. Please email Stefanie McGowan (stefanim@andrew.cmu.edu) for more information and to register. Course fee is \$300. Not eligible for PCHE Cross Registration. Course taught at the Pittsburgh Glass Center.

Course Website: <https://www.pittsburghglasscenter.org/>

62-275 Fundamentals of Computational Design

Fall and Spring: 9 units

As analog mechanisms; as metaphors; as bodily extensions or prosthetics; as material systems; as building envelopes; as partners or slaves? of humans. This course takes computers outside the box and out on a journey of discovery revealing computation as the connective tissue encompassing multiple facets of architectural practice and experience. Addressing conceptual and practical aspects of the relationship between computation and design, the course explores the fundamentals of generative and rule-based systems for designing and making, simulation, and responsiveness, along with basic approaches to creative data processing, representation, and realization. The course offers a holistic view of computation, exploring the different roles computing plays in the design of our built environment. Organized in two-week modules, the course explores six themes, each combining historical insight, architectural examples, and hands-on design exploration.

Prerequisite: 48-100

62-314 The Art of Personal Finance

Fall and Spring: 6 units

Money is an inevitable part of our everyday lives. Managing the money we earn and living within our means is essential to ensure that we have the freedom to do what we want to do with our lives. However, even if we successfully eliminate debt and save for the future, true financial freedom will not exist unless we have a plan to guide us on our way. In this course, students will create a simple one-page financial plan that they can use to guide them through their next several years as they cultivate the skills that will ensure their artistic success. Additionally, they will develop the tools needed to support the execution of the plan and create a sourcebook of information they can refer to in the future as their lives (and their financial plans) change.

62-315 Shaping Environments: Experiments in Geometry and (Waste)Matter

Fall

Shaping Environments is a design-research seminar that explores alternative material formations beyond our current petrochemical reality. Using digital environments and computational tools, such as photogrammetry, depth-map texture modeling, AI workflows, and 3D printing, we will experiment with shaping new hybrid material systems. Using resources, such as food and/or construction waste, our goal is to propose new material paradigms that embrace ecological thinking and environmental stewardship through physical prototyping.

62-347 Hot Glass II

Fall and Spring: 3 units

Enroll in Hot I and build on your existing skill set and expand your creative potential. Refine and diverge from the standard cup and bowl shape in the first few weeks before moving on to more complex forms. Explore basic color application methods and learn how to troubleshoot common problems. It is recommended that all students take this class a second time in order to continue to develop and refine basic skills before moving on to Advanced Hot Glass. Hot I, 24 hours of hot shop experience, or instructor permission is required. Registration for Pittsburgh Glass Center classes can only be done on or after your scheduled registration day. Spaces are limited. Registration is done on a first come, first served basis. Please email Stefanie McGowan (stefanim@andrew.cmu.edu) for more information and to register. Course fee is \$300. Not eligible for PCHE Cross Registration. Course taught at the Pittsburgh Glass Center.
Prerequisite: 62-247

Course Website: <https://www.pittsburghglasscenter.org>**62-360 Photographers and Photography Since World War II**

Spring: 9 units

Invented in 1839, photography was a form of visual expression that immediately attracted a large public following. Starting around 1900, photography was practiced with two dominant strands. One of these firmly believed in the power of photographs to provide a window on the world, and was led by Lewis Hine, whose documentary photographs for the National Child Labor Committee helped to ameliorate living and working conditions for thousands of immigrant children. The other strand adhered to the philosophy of Alfred Stieglitz who adamantly affirmed that photographs were first and foremost reflections of the soul and were art objects, equal to painting, drawing and sculpture. These two schools of thought guided photographers throughout the twentieth century. This course explores in depth the tremendous range of photographic expression since World War II and examines in particular the contributions of significant image-makers such as Helen Levitt, W. Eugene Smith, Robert Frank, Diane Arbus, Garry Winogrand, Charles "Teenie" Harris, Cindy Sherman, Carrie Mae Weems, Nan Goldin, James Nachtwey, and many others. Classes include a slide lecture, student presentation, and video segments that introduce a focused selection of images by major photographers in an attempt to understand their intentions, styles, and influences.

62-362 IDEATe: Electronic Logics && Creative Practice

Intermittent: 12 units

Electronic Logics and amp; and amp; Creative Practice investigates the fundamentals of electronic computation as metaphors for art and interaction. Students explore technology through a creative lens, as conceptual and physical material to be manipulated and synthesized, by examining the basis of digital computation alongside contemporary and new media art practices. There are three main units: Gates (the logical building blocks of computers), Flow (ways in which signals "flow" through physical and electronic systems), and Arrows (the stacked layers of indirection used in modern computer systems). These major themes are addressed through lecture, readings, and the creation of individual and collaborative works. Throughout the semester students complete a series of quick thematic exercises and three larger-scale projects; these works are reviewed through meetings, group critique, and documentation. Our toolbox includes 7400-series logic chips, the Arduino electronics platform, software, wood, laser cut acrylic, found objects, props, projections, and glue. We address technical engineering subjects (e.g. Karnaugh maps) alongside art and performance theory. Students deepen conceptual skills while increasing the scale and ambition of creative output. The course culminates in an end-of-semester showcase where students publicly exhibit their work.

62-371 Photography, The First 100 Years, 1839-1939

Fall: 9 units

Photography was announced to the world almost simultaneously in 1839, first in France and then a few months later in England. Accurate "likenesses" of people were available to the masses, and soon reproducible images of faraway places were intriguing to all. This course will explore the earliest image-makers Daguerre and Fox Talbot, the Civil War photographs organized by Mathew Brady, the introduction in 1888 of the Kodak by George Eastman, the critically important social documentary photography of Jacob Riis and his successor, Lewis Hine, the Photo-Secession of Alfred Stieglitz, the Harlem Renaissance of James VanDerZee, the precisionist f64 photographers Ansel Adams, Imogen Cunningham, and Edward Weston, and other important photographers who came before World War II. The class will be introduced to 19th century processes, such as the daguerreotype, tintype, and ambrotype, as well as albumen prints, cyanotypes, and more.

62-450 Introduction to Flameworking

Fall and Spring: 3 units

Learn flame shop essentials and a variety of creative techniques while working with a solid rod of glass. Using a propane/oxygen torch, students will learn to melt and manipulate glass into little treasures, such as beads, pendants, marbles, chains, and sculptures. Over the course of 8 weeks, learn color application, hand control, and annealing. The instructor will also provide one-on-one troubleshooting. Class tuition includes 2 hours of open-studio time to be used during the 8-week course period. This will help you become familiar with the studio itself and learn the process of studio rental beyond class hours. Registration for Pittsburgh Glass Center classes can only be done on or after your scheduled registration day. Spaces are limited. Registration is done on a first come, first served basis. Please email Stefanie McGowan (stefanim@andrew.cmu.edu) for more information and to register. Course fee is \$190. Not eligible for PCHE Cross Registration. Course taught at the Pittsburgh Glass Center.

Course Website: <https://www.pittsburghglasscenter.org>**62-459 Intro to Stained Glass**

Fall and Spring: 3 units

Explore the possibilities of colorful stained glass. In this introductory course, you will learn the basics for working with flat glass; cutting, grinding, foiling, and soldering. You will explore the famous Tiffany Method of construction and work with provided patterns to create a beautiful stained-glass pane ready for display! This class is designed for beginners and is a pre-requisite for Intermediate and Advanced Stained Glass. Registration for Pittsburgh Glass Center classes can only be done on or after your scheduled registration day. Spaces are limited. Registration is done on a first come, first served basis. Please email Stefanie McGowan (stefanim@andrew.cmu.edu) for more information and to register. Course fee is \$240. Not eligible for PCHE Cross Registration. Course taught at the Pittsburgh Glass Center.

Course Website: <https://www.pittsburghglasscenter.org>**62-478 IDEATe: digiTOOL**

Fall and Spring: 9 units

This course serves as an introduction to the fundamental concepts, processes, and procedures to utilize digital and traditional equipment within the IDEATe facilities in Hunt Library. After completion, participating students should leave with a thorough understanding of 3D modeling, 3D printing, laser cutting, engraving, and basic finishing techniques. Students will learn how to operate in a safe, responsible, and efficient manner. This comprehension and experience proves useful for all creative disciplines, and participants are certified for future fabrication equipment access.