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 freshman-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 (http://ten-apps.as.cmu.edu/genesis/SCG/SCG-Servlet) each semester for course offerings and for any necessary pre-requisites or co-requisites.

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**62-002 CFA Elective**

Intermittent: 9 units

**TBA**

**62-104 Design Ethics Introduction**

Fall and Spring: 9 units

Design Ethics Introduction

**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 as 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 broader 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 completion 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

TBA

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 capacity for visualizing three-dimensional space through hand-drawing. A parallel objective is fostering visual literacy: the ability to use line and tonal values to represent architectural space. Schedule and Content The course is taught in two three-week segments that alternate with the three-week segments of a parallel course Digital Media I. It concludes with a final project that is shared with 48-100 Introduction to Architecture. The course has three themes that bridge over the two three-week segments. The first focuses on contour and cross contour to describe surface and space. At its completion, it addresses the appearance of architectural space in perspective. Exercises are inspired by the approach of Kimon Nicolaides, The Natural Way to Draw, to these same subjects. The second focuses on the projection of space using both freehand axonometric and perspective drawing. The third is centered on modeling surface and creating space by using tone. A sculptural approach adapted from Kimon Nicolaides is used and at the end applied to drawing architectural sections. This work is preparatory for the final project.

**62-126 Drawing II**

Spring: 6 units

TBA

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 – 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. Description addendum for section B, REMOTE ONLY: This virtual studio course explores all of the topics described above but does so within a digital framework. Students will learn the theory of analog monochrome photography without using a physical darkroom, incorporating modern digital imaging systems into a traditionally-informed practice.

**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. Digital camera required.

**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. Section C will be an Introduction to Digital Storytelling + Archives. 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)
62-195 Writing Experimental Theater
Fall: 9 units
Writing Experimental Theatre is a series of workshops in which participants explore theatre making with one another. We will not act out widely popular works - there shall be no Romeo nor Juliet, or Streetcar for that matter. Instead, we will learn to observe how the bodies enable performative characters, based on which we will try to create performances. We will read a few excerpt from Erika Fischer-Lichte’s “The Transformative Power of Performance: A new Aesthetics,” Jerzy Grotowski’s Toward a poor theatre, and Kirin Narayan’s Alive in the writing, amongst other materials, to discuss various approaches in scripting such performance. Every participant would have created/written at least one experimental theatre work by the end of the course. A class where every member is a must, reading useful, and previous knowledge of theatre optional.

62-196 Intro to Screenwriting
Spring: 9 units
This course is designed to give writers a variety of tools they can use in writing or rewriting a current project full-length screenplay. There will be films assigned to watch and analyze. Either a first draft or a rewritten version of a full-length screenplay is to be completed by the end of the semester. Prerequisite: None.

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/idetevariational-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 confront 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.

62-241 Black and White Photography II
Fall and Spring: 10 units
This course allows you to gain experience with medium and large format film cameras while emphasizing aesthetic development and personal artistic growth. As an advanced student, you have access to an unusual assortment of panoramic and pinhole cameras that will change the way you make photographs, revealing unknown perspectives. Additional topics include digital process though negative scanning and inkjet printing, advanced monotone printing methods, and a focus on exhibition and folio presentation. Cameras will be supplied for this course. 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/classes17.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 Danielle Barrett (dbarrett@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 outlines a journey of discovery revealing computation as the connective tissue encompassing multiple facets of architecture and design culture 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, environmental simulation and responsiveness, and basic approaches to creative data processing, visualization, and materialization. The course offers a holistic view of computation, exploring the different roles computing plays in the design of our artificial environments. The course is driven by themes, each combining state of the art examples, historical insight, and hands-on computational 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 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. For DRAMA students only.
62-347 Hot Glass II
Fall and Spring: 3 units
Now that you're hooked on hot glass, how do you keep the momentum going? By enrolling in Hot 2, you will become more proficient working with glass. Refine and vary the cup and bowl shape in the first few weeks before moving on to more complex shapes. Explore basic methods of color application and learn how to troubleshoot common problems. Class tuition includes 1 hour of open-studio time per student (2 hours with a partner) 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. 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 3. Hot 1, 24 hours of hot shop experience, or instructor permission is required. Registration can only be done on your scheduled registration day and is done on a first come, first serve basis. Please email Dan Barrett (dbarrett@andrew.cmu.edu) for more information and to register. Spaces are limited. 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 tens of 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 Nachtway, 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 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 induction used in modern computer screens). 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.

62-450 Introduction to Flameworking
Fall and Spring: 3 units
Learn flame shop essentials and introduces a variety of creative techniques while working with both Moretti (soft) and Borosilicate (hard) glass. Begin with a solid rod of glass and melt it into a molten ball that can be manipulated 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 can only be done on your scheduled registration day and is done on a first come, first serve basis. Please email Dan Barrett (dbarrett@andrew.cmu.edu) for more information and to register. Spaces are limited. 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 Tiffany method of stained glass while creating your very own panel from a variety of provided patterns. Learn the basic skills of cutting and shaping sheet glass, foiling the pieces, and soldering them together to create a mosaic-like whole. Once you master the pattern supplied and understand the intricacies of the process, you can begin to create luminous panels of your own design. Registration can only be done on or after your scheduled registration day. Please email Dan Barrett (dbarrett@andrew.cmu.edu) for more information and to register. Registration is first come, first served. Course fee is $230. Class is held at Pittsburgh Glass Center.
Course Website: https://www.pittsburghglasscenter.org

62-478 IDeATe: digiTOOL
Fall and Spring: 6 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 the CNC workflow, 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.
Course Website: https://courses.ideate.cmu.edu/62-478