School of Art 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 freshman-level, xx-2xx courses are sophomore-level, etc. Depending on the department, xx-5xx 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.

60-104 Foundations: Art First-Year Seminar
Fall: 6 units
Foundations: First-Year Seminar is a critical aspect of beginning your experience as a School of Art Student. This course introduces you to the school's many facilities, equipment, opportunities, staff, and faculty that will be essential resources for you throughout your four years at CMU School of Art. You will build community with your entire first year cohort, both BFA and BXA students, as you share 24-hour access to the Foundations Studio, a multi-use shared studio space that will support your studio coursework during your first year. Through lectures and panel discussions, you will explore various methods of artistic research and forms of making that support today's creative citizens. Through hands-on demonstrations, you will learn technical skills and gain access to equipment that will prepare you for academic and artistic success at CMU and beyond.

60-105 Cultural History of the Visual Arts
Spring: 9 units
Have you ever felt that you liked an artwork but couldn't explain why? Do you have questions about art that you were always afraid to ask? This course is conceived to give students the tools to feel at home when visiting a museum and talk about art in social, business and academic settings. It is organized over two semesters, but students can take only one of the two courses. Cultural History of the Visual Arts I (in the fall) covers the period from the 1500s to the 1800s and features masterpieces and lesser known works in Western and Non-Western art, organized chronologically and by theme. Some of the topics we will study include the controversy surrounding Leonardo's and Michelangelo's works, the role of censorship in the arts, the development of perspective experiments and visual theories from Antiquity onward, the concept of landscape and the status of the artist in the Ming dynasty, the impact of colonialism and post-colonial identity in South American Art, the rediscovery of Pompeii and Herculaneum and the Egyptian cpace in the 1800s, the world of Opera and ballet, and the Impressionists' ideas of what an artwork should be. The course also includes museum visits that will be organized taking in consideration the students' schedule. No prerequisite required and open to students from all disciplines.

60-106 Cultural History of the Visual Arts - the Modern Period
Spring: 9 units
Have you ever felt that you liked an artwork but couldn't explain why? Do you have questions about art that you were always afraid to ask? This course is conceived to give students the tools to feel at home when visiting a museum and to talk about art in social, business and academic settings. It is organized over two semesters, but students can take only one of the two courses, or both, in any order they prefer. Cultural History of the Visual Arts - The Modern Period (offered in the spring) covers the period from the 1800s to the 2000s and features masterpieces and lesser-known works that define our idea of what art is and what role it has in society. Some of the topics we will study include the invention of a "modern" way of seeing in Japanese art; the impact of science, film and photography on the Impressionists; the myth of the artist as a savage, a fool, and a prophet; the creation of ideal homes for common (and uncommon) people; the meaning of the avant-garde; and the many ways in which artists and politicians experiment with art and architecture in order to control our minds and emotions. The course also includes museum visits that will be organized in relation to the students' schedules. No prerequisite required and open to students from all disciplines.

60-107 Foundations: Critical Studies
All Semesters: 9 units
Foundations: Critical Studies is a seminar course that expands your historical knowledge concerning contemporary art and human experience in society. Through critical reading and writing, you will learn how the role of artistic research contextualizes the conceptual creativity of your studio practice. This course involves close reading and discussions of a wide range of texts, from foundational theories to short stories, nonfiction, poetry, exhibition reviews, artist interviews, curatorial essays, and excerpts from scholarly monographs. Today's visual artist will find that writing is a key to future professional opportunities and that research, writing, and theory are integral parts of artmaking. This course integrates analytical reading and research-based writing into your creative process.

60-110 Foundations: Time-Based Media
Spring: 10 units
Foundations: Time Based Media introduces you to audio and video production software, equipment and techniques into your interdisciplinary studies in art. Projects explore the making and critical viewing of imagery and audio across a variety of contexts, and take an active approach in learning how to produce your own new media work using both standard and experimental production techniques. You will build comprehension of related histories and theories; explore the meanings and consequences of ubiquitous broadcast and social media; and learn how to interrogate and wield media paradigms to challenge their influences in our lives.

60-120 Foundations: Digital Media
Spring: 10 units
Foundations: Digital Media is a practical introduction to expanded modes of creative practice made possible by the computer. In this studio course, you will develop the skills and confidence necessary to produce interactive, generative, and immersive artworks; discuss your work in relation to current and historic praxes of electronic art; and engage new technologies critically. Topics will include no-code and low-code approaches to: internet art, immersive world-building, and environmental storytelling; generative art and experimentation with learning machines; creative interventions and performance in social platforms; and the development of branching narratives and games.

60-125 IDeATe: Introduction to 3D Animation Pipeline
Fall and Spring: 12 units
This class will explore computer animation as it pertains to a professional animation production pipeline. The course is designed to give students exposure to key job descriptions that align to the animation industry. Topics covered include: character design, world building, storyboarding, digital sculpture, look development, rigging, layout, animation, cinematography, lighting, and rendering. These topics are taught in 2-4 week sprints that allow a student to learn the fundamentals of each craft. The course includes lecture, critiques, and training workshops, students will become acquainted with the necessary skills needed to create their own characters and animations. By completion of the course, students will be familiar with industry-standard best practices and ready to take advanced courses related to animation, vfx, and video game related pipelines. This course specifically offers insight on how the craft of animation is always evolving at top studios such as Walt Disney Animation Studios, Pixar, and Industrial Light and Magic.

Course Website: http://cmuanimation.weebly.com/

60-126 Introduction to Performance Capture and Rendering
Intermittent: 6 units
This mini is designed for those interested in the growing world of performance capture and visual effects. Utilizing the advanced motion capture facilities at Carnegie Mellon and the Kinect, students will learn how to capture motion from performance and apply it to CG characters and objects. While this technique is found in many video games and vfx movies, it has the ability to create endless possibilities within the realm of computer graphics and experimental animation/art. Students will also become more familiar with the process of rendering to create the necessary polish for their animations/visualizations. CG Lighting, camera work, and material shading are just a few of the many topics covered in this course.
Prerequisites: 15-104 Min. grade C or 62-150 Min. grade C

60-128 IDeATe: Real-Time Animation
Fall: 10 units
An introductory course that explores improvisational strategies for making animation within real-time computer graphics frameworks. Advancements in motion capture technologies, real-time 3D computer graphics engines, and visual programming tools for AV synthesis provide open frameworks for the exploration of animation in spatial and interactive contexts. Studio work will explore real-time animation in a variety of contexts, including screen-based interaction, site-specific installation, and spatial immersion. Conceptual frameworks drawn from the histories of video art, animation, and immersive media design will inform collaborative group work and class discussion. Students without the prerequisite may register by instructor permission.
60-131 Foundations: Sculpture
Fall: 10 units
Foundations: Sculpture I is an introductory studio course in concepts, techniques, and tools for the fabrication of three dimensional physical works. The studio course introduces both digital and physical fabrication methods to translate ideas and materials into 3D forms. We will cover measuring, drawing, planning, pattern making, and construction techniques for cardboard, fabric, recycled materials, and a variety of mixed media, as well as the use of plaster, paper clay, and/or wax. Through technical demonstrations, assignments, and hands-on explorations, students will learn how to make use of equipment in our sculpture labs such as laser cutters, sewing machines, and a variety of hand tools. Concepts explored as a group include physical and sensorial properties such as scale, weight, and materiality; as well as deconstruction / disassembly, reconstruction / reassembly / transformation, translation, function, dysfunction, and utility. Our experiments will prompt us to consider relationships between objects, bodies, spaces, and society; as well as between technology, craft, form, and language; ultimately exploring how to use the making of 3D objects as both a communicative tool and a practical tool for life. No prior knowledge or experience in the field is required to take this course.

60-135 Foundations: Sculpture II
Spring: 10 units
Foundations: Sculpture II is an introductory studio course in concepts, techniques, and tools for the fabrication of three dimensional sculptural works in wood and metal. This studio course introduces physical fabrication methods to translate ideas and materials into 3D forms. We will cover measuring, drawing, planning, subtractive and additive processes, joinery techniques for wood and metal, and a variety of materials in combination with these construction techniques. Through technical demonstrations, assignments, and safe hands-on explorations, students will learn how to use equipment located in our woodshop and metal shop, including major saws and Sanders, hand tools, metal saws, and MIG welders. This class will explore concepts and histories related to functional object-making and utility; as well as sculpture in relation to space and site. Through presentations, readings, and class dialogue, students will be introduced to contemporary artists working across 3D physical media and installation, with special attention to the relationship between idea and materiality. Our experiments will prompt us to consider relationships between objects as architectures, bodies, spaces, and society; as well as between technology, craft, and language; ultimately exploring how to use the making of 3D forms as a communicative tool. No prior knowledge or experience in the field is required to take this course.

60-136 Ceramics for Non-Majors
Intermittent: 10 units
An introduction to three-dimensional form in clay, with access to our ceramics facility and kiln firings. Skills covered include hand building, sketching and modeling for larger fireable clay forms, throwing on the wheel, and basic glazing techniques. Discussions will include contemporary artists working in ceramics, as well as historical examples, and various approaches and techniques for working in clay.

60-137 Physical Computing for Non-Majors
Intermittent: 10 units
TBA

60-141 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 this medium, its historical context, and its relationship to other art forms. We will explore the expressive potentials of the medium. Lab fee and 35mm manual camera required. Each student is responsible for the cost of paper and film.

60-142 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.

60-150 Foundations: Drawing
Fall: 10 units
Foundations: Drawing is a vital foundation for your interdisciplinary studies in art. This course will concentrate on the traditional elements of drawing and design: structure, line, shape, texture, motif, gesture, value and composition. You will be introduced to figure drawing, portraiture, perspective, and media experimentation. By the end of the semester, you will understand the importance of drawing as a visual language as well as a means of thinking. You will be expected to expand your mindset of what constitutes drawing and apply skills, knowledge and ideas from other studio classes and academic studies to your work.

60-170 Foundations: Paint/Print
Spring: 10 units
Foundations: Paint/Print introduces you to color, paint, printed multiples, and digital imaging to expand upon the techniques, concepts and materials used in contemporary two dimensional image making. You will work predominantly in drawing and painting (water based media), but will also have opportunities to experiment with screen printing, risograph, image transfers, and digital output. With an emphasis on material exploration, you will investigate how scale, medium, and color support or distract from the intention of your artwork. You will think about how contemporary artists do visual research in our image and media saturated world, and what it means to appropriate, collage, produce memes, and/or publish in multiple media. Working in multiples and in series, you will practice working iteratively, producing deeper visual exploration of your artistic concept and intention.

60-200 Sophomore Review
Fall and Spring
Students present their work and their ideas about their work to a faculty committee. A successful review is required for advancement to the junior year. Although this is a non-credit course, it is required of all Art (BFA, BHA, BSA, and BCNSA) sophomores.

60-201 Intermediate Studio: Social Practice
Fall: 10 units
In recent years, socially-engaged art projects that invite exchange, imagine new social relationships, and provoke individual and collective action have gained increasing prominence. These projects can double as a barter network, a walking tour, a residency program, a protest, or even a post-natural history museum. Rather than being the result of a solitary artist working within an isolated studio, social practice projects are driven by the desire to connect, to look outside oneself in meaningful and tangible ways, and to impact daily life within specific communities. Through the production of work that intersects with a variety of publics, students in this class will use their art practice as a means for directly engaging with the world around them.

60-203 Publics
Intermittent: 10 units
Publics, introduces students to the wide range of approaches artists use to engage with different audiences, contexts and publics. Publics acknowledges that all artwork exists within specific social and political conditions and embraces that context as a fundamental material of art-making. In this course, students will be asked to consider what artists’ roles and responsibilities could be - culturally, politically, and socially. Throughout this course, students will be introduced to interdisciplinary cultural practices which seek to critique, challenge and alter public systems and ultimately create artworks which explore power dynamics, subjectivity, institutional frameworks, accessibility and more. Through the production of art engaging with a variety of publics, real and virtual, students will explore the possibility of becoming active change agents in the world through making. Students will respond to theory-driven prompts and are encouraged to take risks and explore a variety of different approaches to art-making, as each assignment will not have a specific medium requirement.

60-204 Futures
Intermittent: 10 units
In Futures, students will be asked the question, “what if?” Looking backwards and forwards students will grapple with what futures might be possible, impossible, desirable, undesirable and more. Throughout the class, students will explore critical and imaginative world-making and utopian, dystopian, and ambiguous scenarios from a variety of perspectives through the act of making. In addition to speculating and inventing futures, students will explore various histories of the future - through mythologies, origin stories, science fiction, futurist movements across cultural contexts, and more. Students will respond to theory-driven prompts and are encouraged to take risks and explore a variety of different approaches to art-making, as each assignment will not have a specific medium requirement.
60-208 Alternative Photography: Contemporary Antiquarian Printmaking
Intermittent: 5 units
This course will explore alternative photographic techniques and concepts in an effort to extend the boundaries of the photographic image. Through the course the student will investigate contemporary digital imaging and apply them to turn-of-the-last-century hand-applied emulsions. Subjects covered are digital imaging, digital negative printing and workflow, hand-applied emulsions, alternative uses of Polaroid photography, and concepts and theory of the still image. As we move through the course we will also consider the theory and history of photography and create images that are not standard in today's imaging practices. A diverse range of contemporary photographic work will be presented to increase students' visual awareness and understanding of the possibilities inherent in the medium. Throughout the course students will evaluate their own ideas and judgments in pursuit of a well-communicated image.

60-212 Intermediate Studio: Creative Coding
Intermittent: 12 units
This is an intermediate level course in “creative coding”: the use of programming and computation within the context of the arts. Ideal as a second course for students who have already had one semester of elementary programming (in any language), this course is for you if you’d like to use code to create art and #8212; AND you’re already familiar with the basics of programming, such as for() loops, if() statements, objects, and arrays. Students will develop or deepen the skills and confidence to produce interactive, generative, and computational artworks; discuss their work in relation to current and historic praxes of computer art; and engage new technologies critically. Through rigorous programming exercises, students will develop mastery over the basic vocabulary of constructs that govern static, dynamic, and interactive form, with the aim of applying these skills to problems in creative explorations of transmediability, connectivity, generativity, and immersivity.

60-213 Intermediate Game Studio: Real Time 3D
Intermittent: 10 units
Game Studio: Real Time 3D is a hands-on intermediate course focused on immersive experiences, world building, character creation, and real time experiences at the boundaries of gaming. On a conceptual level we’ll look at practices within digital art and independent game development: virtual architecture and sculpture, walking simulators, avatar-based performances, and other playable media. On a technical level the course will introduce you to 3D modeling for real time applications (using Blender) and game engine workflows (using Unity) as a scaffolding for advanced courses. Students will work individually. Experience with game engines and 3D modeling is not required.

60-214 Photography and the Narrative of Place
Intermittent: 5 units
This half-semester course will use photography to develop understandings of our surrounding environments. Students will choose a single location to work in, photographing and researching its function in the community, its history, and its relationship to broader concepts and similar spaces. Weekly assignments will require students to work with a variety of photographic methods to construct a narrative that derives meaning from the complex connections between people, objects and the spaces they inhabit. Throughout the course, students will strengthen their understanding of the ways in which these tangible and abstract elements of our environments work together through in-class exercises, weekly discussions and critiques. The course will culminate in a portfolio of the completed project. The class will study work and books by notable and emerging figures in the medium, including Robert Adams, Carolyn Drake, Roy DeCarava, Rinke Kawachi, Daniel Roth, Carrie Mae Weems, Zoe Strauss, Gregory Halpern, and Susan Lipper. Required readings will include essays and short stories by Wendell Berry, Rebecca Solnit, Teju Cole, Joan Didion, and Georges Perec.

60-216 Intermediate Studio: Story Development for Animation
Intermittent: 10 units
This intermediate studio explores story and character development for animation. This is a rich and diverse field of creative inquiry - one that affords unique and expressive possibilities for communication across a wide spectrum of media. Contemporary animation is not limited to cinematic modes of storytelling, but abides across expanded forms, such as non-linear, spatial, and real-time interactive media. This course explores a variety of storytelling strategies through coursework that builds proficiency in: story structures and narrative; storyboarding; legible character posing and layout design principles; expressive cinematography, staging, and lighting; and effective timing, spacing, and editing techniques. A combination of rigorous studio practice, historical exposition, and theoretical discourse will equip students with the practical techniques and critical tools required to advance new dimensions in animated storytelling. Studio work emphasizes hands-on making through a variety of materials, exercises, and independent projects. Students will be exposed to a variety of contemporary practices and techniques, including outlooks and practices from both historical and independent artists. Class discussion will consider affordances available across a wide and diverse spectrum of creative and professional paths, expanding awareness and exposing new possibilities for storytellers in the Twenty-first Century.

60-217 Intermediate Studio: Experimental Hybrid Film - Video and Animation
Intermittent: 10 units
Digital production and post-production technologies have made hybrid moving images that combine live action, animation and image processing ubiquitous. Collage processes and aesthetics are at work even in moving image media that appear naturalistic. While developing proficiency in Adobe After Effects and other production and post production tools, students in this course will explore the experimental world-building and storytelling possibilities of hybrid moving image production. The course is structured around technical tutorials and workshops, readings and screenings, and the creation of collaborative and independent hybrid filmmaking exercises and projects. Artists whose work we will look to for inspiration include Yuge Zhou, Shana Moulton, Tabita Rezaire, Rachel Maclean, Chitra Ganesh, Jec Young Lee, Sondra Perry, Miwa Matreyek, Saya Woolfalk, Jacoby Satterwhite, Alex DaCorte, Grace Naylor Rhee, Nan June Paik, Wangechi Mutu, Joo Young Choi, Cecile B. Evans, Ryan Trecartin, Oskar Fischinger, Karel Zeman, Sin Wai Kin, Winston Hacking, Russ Murphy (RUFFMERCY); Jordan Belson and many others.

60-218 IDeATe Portal: Real-Time Animation
Fall: 10 units
An introductory course that explores improvisational strategies for making animation within a real-time computer graphics frameworks. Advancements in motion capture technologies, real-time 3D computer graphics engines, and visual programming tools for AV synthesis provide open frameworks for the exploration of animation in spatial and interactive contexts. Studio work will explore real-time animation in a variety of contexts, including screen-based interaction, site-specific installation, and spatial immersion. Conceptual frameworks drawn from the histories of video art, animation, and immersive media design will inform collaborative group work and class discussion. Students without the prerequisite may register by instructor permission.

60-220 IDeATe: Technical Character Animation
Fall: 10 units
Technical Character Animation is a deep dive into the fundamental concepts of character animation and “The Illusion of Life.” This course will focus on building a foundation of body mechanics that demonstrate weight, balance, and authenticity. Through a series of strategically designed modules, students will gain a command of all 12 principles of animation, beginning with a ball bounce to more advanced block, spline, and polish workflows. This course is designed to give students exposure to the art of movement as it is done by animators in the fx, film, and game industries.

60-222 Intermediate Studio: Animation
All Semesters: 10 units
This is an open animation studio for students who want to improve existing animation skills and develop a personal animated short. The class will introduce a variety of techniques and concepts for animation production. Using both 2D and 3D tools, animation will be explored through short assignments designed to develop diverse skills and ideas. Each student will develop and produce a short animation. The class will engage in discussion and critique of each other’s work along with examples of historic and contemporary animation.

60-223 IDeATe Portal: Introduction to Physical Computing
Fall and Spring: 10 units
This practical project-based course covers the basic technical skills (including electronics, programming, and hardware) needed to build simple interactive objects with embedded behavior using the Arduino microcontroller. A sequence of projects challenge students to apply their technical skills in creative ways. For the final project, the class works with a local group of older people who serve as design clients; students conjure and build them functioning custom interactive assistive devices of a practical or whimsical nature. Sensor inputs covered include an ultrasonic ranger, thermometer, light sensor, and human inputs like buttons and knobs; outputs to affect the world include actuators such as motors, LED lights, speakers, and haptic feedback devices. This introductory portal course has no technical prerequisites. Readings and guest speakers address topics including design, disability, and aging. See courses.ideate.cmu.edu/60-223/2018/2018/work for examples of prior student projects. Contact contact@cmu.edu with any questions about the course. Students are encouraged to also take the micro course 99-353 IDeATe CAD and Laser Cutting.

Course Website: https://courses.ideate.cmu.edu/60-223/
60-232 Intermediate Studio: Interactive Objects
All Semesters: 10 units
Interactive Objects is an intermediate sculpture course that explores the concepts, techniques, and tools behind making interactive, responsive, or kinetic art works using physical computing and basic robotics. This studio course introduces students to building circuits, programming with arduino and processing, and integrating human-computer and human-object interaction into sculptures and installations. Through technical demonstrations, assignments, and hands-on explorations, students will build circuits, experiment with various sensors and actuators, program microcontrollers, rewire existing electronics, and better understand electrical current and conductivity in order to harness it to create responsive elements and motion. Students in this course will be given priority access to the tools and equipment in our physical computing lab, as well as learn how to integrate these tools with our other digital fabrication facilities, including laser cutters and 3D printers, as well as our soft sculpture lab. Students will be expected to do technical assignments as well as individually-motivated self-driven projects based on research and ideas they find personally interesting and compelling. Our research, experiments, and projects will prompt us to consider the relationships between digital and the physical; as well as the relationships between objects, bodies, technologies, spaces, cultures, and societies. No prior knowledge or experience in the field is required to take this course.

60-234 Intermediate Studio: Ceramics
All Semesters: 10 units
This course is a comprehensive introduction to the craft of ceramic art. Students will investigate clay as an art material for personal expression. The primary emphasis is on studio work leading to a portfolio of finished pieces by the end of the semester. The goal of this course is that students will be able to create expressive, three-dimensional clay forms with the proper understanding of the materials and process. The topics include, but are not limited to, various construction techniques such as soft and hard slab, pinch, coil, and wheel-throwing. Also, surface treatment techniques such as texturing and underglaze painting will be introduced. Discussions will include contemporary artists working in ceramics as well as historical examples and various approaches and techniques for working in clay. This course will consist of demonstrations and lectures, research/writing assignments in and out of class, as well as work time. Students will develop a body of work within the context of the projects to express their individual voice. This course requires students to participate in critiques to analyze their own and others work and identify strengths and weaknesses while promoting artistic growth and the exchange of ideas. No prior experience in clay is required.

60-236 Intermediate Studio: Mixed Media
All Semesters: 10 units
How Do Things Connect? Even when a sculpture may appear to be made with a single material there are often complex connections between many elements that are intended to either be visible or invisible. How do physical connections between materials and objects affect our visual experience? Can the ways pieces connect create or reinforce meaning in an object? Might you need to invent your own form of joynery for a sculpture? This class focuses on a variety of contemporary approaches to making mixed media sculpture with an emphasis on how things connect both physically and conceptually. Students will learn a wide range of techniques for assembling dissimilar materials including hot and cold metal joints, wood joinery, adhesive bonding, and flexible connections. Basic metal working and intermediate wood constructing techniques will be developed on an as needed basis to accommodate individual projects and inquiries. Through in-class practice, assignments, research, presentations, readings, and critiques students will take on self-directed projects that explore how things connect in a deep and meaningful way. The goal for this course is to develop a stronger understanding of materials in order to broaden your options when considering how you choose to put your sculptures together. Connections between parts are just one more aspect of developing your own personal visual language. It is recommended that a foundations sculpture course be completed as a prerequisite for this class.

60-240 Unfolding Environments: The Intersection of Person and Place
Intermittent: 10 units
In this course students will use photography to develop projects that study our social environments and personal landscapes. This studio explores the ways photography can combine form and concept to derive meaning from place. Students will be assigned two projects for the semester. The first will be a brief study of a familiar space. The second will comprise the remainder of the semester, concentrating on a single location of the student's choosing. Students will photograph and research their chosen place's function, its history, and its relationship to broader concepts and comparative spaces. A series of prompts, readings, lectures, and critiques will help students understand their project and develop new ways to approach their subject matter as they create a long-form narrative.

60-241 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: 60-141 or 62-141

60-242 Digital Photography II
Intermittent: 10 units
Digital Photography II combines digital and analog processes in both color and black and white. Students will gain experience with digital workflow, analog to digital conversion, virtual drum scanning and large format digital printing. Topics include trends in contemporary photography, professional practices, project development, narrative and digital work, and portfolio presentation. Students will be expected to develop their own self-directed projects throughout the semester culminating in a cohesive portfolio of their work. Readings, assignments, artist visits, critiques and discussions will give context to the practical work and help develop a wide ranging familiarity with the subjects.
Prerequisites: 62-141 or 60-142 or 60-141 or 62-142

60-244 Contemporary Photo Theory
Intermittent: 9 units
Because you know, the photographs are more a question than a reply. (Sebastiao Salgado) A photograph is a moral decision taken in one eighth of a second, or one sixteenth, or one hundred-and-twenty-eighth. (Salman Rushdie) This seminar investigates current topics in photography and the image; our goals are twofold: identification of photo theory as it applies to current practice from both the viewpoint of maker and consumer. The course is designed to address philosophical issues for photographers working now and will favor conversation over written work; students are expected to fully participate in critical analysis and discussions. Readings include works by Roland Barthes, Stephen Shore, Susan Sontag, Hollis Frampton, John Szarkowski, Robert Adams, Italo Calvino, Berenice Abbott, John Berger and James Elkins. No pre-requisites.

60-245 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 Lippel, 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.

60-250 Intermediate Studio: Painting
Fall: 10 units
This course serves as an introduction to technical, conceptual and historical practices of painting. Through a variety of painting experiences and presentations using oil media, students progress from observational exercises and exposure to materials and techniques to developing personal processes, imagery and ideas. Class sessions include technical demonstrations, illustrated lectures, personal and group critiques.
Prerequisites: 60-157 or 60-150

60-251 Intermediate Studio: Print Media
Fall: 10 units
Printmaking is a process based medium that produces multiples of original artworks. Students will create four works on paper using the following printmaking approaches: Relief (carved), Intaglio (engraved), Lithography (planographic), and Screen Printing (stencil). Each technique's unique set of materials, processes and aesthetics will be explored. This course focuses on traditional tools and processes, but will include utilization of digital images and sources through a critical lens. While primarily focused on the learning of fundamental techniques, the class will also expose students to ways that Print Media can be a tool (physically and conceptually) in contemporary practice. Open to sophomores in the School of Art, or by instructor permission.
Prerequisites: 60-150 or 60-157
60-252 Intermediate Studio: Color
Intermittent: 10 units
In this course, students will learn to employ a wide range of color theories and color systems through hands-on exercises and studies. Studies will be done primarily in paint, with some use of collage and digital media. These exercises will be aimed at mastering a variety of color approaches that will be applicable to each student's own artistic practice. Students will develop, based on their own interests, a cohesive body of work in which to practice and expand on the skills learned through the directed exercises. Studio work will be augmented by lectures, demonstrations, critiques, readings and critical discussion of writings about color.

60-254 Intermediate Studio: Photography
Intermittent: 10 units
A photograph captures a moment of time and freezes it in place. In this introductory course, students will reflect on their own lives, capturing people, places and things, through portraiture, interior space, landscape and still lifes. We will consider the formal qualities of light, composition, color, sequencing, editing and print as we take, shape and print our own digital photographs. The course will be framed by field trips, readings, discussions and presentations that look at how artists make photographs.

60-260 Intermediate Studio: Imaging
Fall: 10 units
TBA

60-263 Intermediate Studio: Graphic Novel
Intermittent: 10 units
In this course, students will critically and creatively engage with the medium of comics to learn how to better communicate their ideas in this format as well as challenge its boundaries. A substantial portion of the course will focus on familiarizing students with the basics of storytelling in a sequential narrative format and creating opportunities for students to discover, hone and explore their own voice and style. In addition to creating new work, students will also explore the history of comics and the origins of the “modern” graphic novel. Students will also be exposed to both graphic and non-graphic artists whose works has challenged and redefined the genre. We will explore these artists in order to understand how our own work borrows from and draws upon a rich lineage. Students will also be expected to think beyond the commonly accepted notions of comics and to question the relevancy of their work in this medium. Finally, each student will produce a new body of work that will culminate in the production of a 4-5 “page” sequential narrative.

60-276 Photography and the Ephemerald
Intermittent: 10 units
Photography and the ephemeral is an interdisciplinary photography course designed for students of various disciplines interested in exploring the relationship between images and the ephemeral: things that last only a short moment in time. Throughout the semester students will explore different themes and ways to approach ephemeral imagery such as: still lifes, installations, performances for the camera, and the short-lived nature of images both physical and digital. Participants explore these themes through weekly presentations, discussions, assignments, and critiques.

60-277 Constructing Meaning with Photographs
Intermittent: 5 units
Constructing Meaning with Photographs will discuss ways in which multiple images can be used to expand upon and clarify the intended message of individual photographs and a visual series in whole. Throughout this half semester studio course, students will work through a variety of approaches to image sequencing and editing. At the start of the course, students are expected to have a significant body of completed work or an easily accessible archive of print resolution images (100+ images) to work with for out of class assignments. Using their archive, they will edit sequences for different presentation methods including gallery exhibitions, books and zines, websites, linear displays, and print portfolios. Weekly in class editing exercises will conceptually correspond with out of class assignments to allow for experimentation and conversation around different approaches to photographic sequencing. Lectures, readings, guest, exhibition visits, and book presentations will provide additional support for understanding how to use photographs in series to build meaning.

60-278 Infinite Rooms: Photography and Installation
Intermittent: 10 units
Infinite Rooms is an interdisciplinary photography course designed for students of various backgrounds interested in exploring the relationships between place, images, and installation. This course will investigate the methodologies of how a place is documented, constructed, and imagined in photographs. This class will introduce a critical survey of images, films, and texts from artists who work at the intersection of installation and images. Throughout the semester various prompts will introduce different frameworks for thinking about photography and installation, such as the dramatic; the psychological; and the personal. Students will utilize digital and analog equipment, learn how to use a large-format view camera, learn studio lighting techniques, develop approaches to working with natural light, and explore methods of printing and presentation.

60-279 Photo and the Ineffable
Intermittent: 10 units
This course explores the relationship between photography and the indescribable, intangible, and hard-to-see. From the spiritual, to the sublime, to the abstract, we will revisit thinking frameworks for thinking about the ineffable and how it relates to photographic work. Students will explore these themes through weekly presentations, discussions, assignments, working workshops, and critiques. We'll look at artists who think critically about photographic representation and investigate a heightened sensorial interpretation of the world. This class will encourage experimental methods and approaches to photography.

60-333 IDeATe: Animation Rigging
Spring: 10 units
Animation Rigging explores processes for building digital skeletons and control systems to drive computer animated forms. This course investigates vital techniques and concepts to create expressive, fully articulated characters for computer animation, film, and game production. Beginning with rigging fundamentals, coursework will advance through various systems and methods that are needed to convey motivated movement and expression in a variety of character forms. Certain key topics include kinematics, joint orientations, driven keys, direct connections, space switching, corrective blend-shapes, custom attributes and graphic user interfaces (GUIs), skinning and deformation. Additionally, coursework provides an introduction to scripting methods for rig creation, including expressions, Python, and MEL. Students will be provided a valuable range of tools that meet production standards for animated film and game creation, as well as a necessary conceptual framework to enable complex problem solving at all levels of rig creation. Anyone interested in the artistic and technical sides of computer animation are encouraged to enroll. Previous experience with Autodesk Maya/3D animation is preferred.

60-335 IDeATe Special Topics in Animation: Story Development
All Semesters: 6 units
IDeATe Special Topics in Animation: Story Development provides insight and strategy for animated storytelling in film and media production. This mini- studio seminar draws upon diverse historical examples to highlight storytelling strategies across cultures and production paradigms. Over this seven-week course, students will develop their own original stories in the forms of scripts and pitch packets, to be later produced as animated content. Discussion and critique will cultivate storytelling skills with greater understanding for audience, form, and cultural context, providing essential tools for communication through animation.

60-337 IDeATe Special Topics in Animation: Storyboarding
All Semesters: 6 units
IDeATe Special Topics in Animation: Storyboarding focuses on the translation of stories and ideas into sequential image boards for animation. This mini-studio seminar exposes the visual grammar of filmic storytelling through analysis and production of storyboards and animatics. Over this seven-week course, students will develop their own original storyboards and animatics to be later produced as animation. Analysis of historical examples will reveal strategies for storyboarding through narrative and animation. Discussion and critique will cultivate storytelling skills with greater understanding for audience, form, and cultural context, providing essential tools for communication through animation and design.

60-350 Professional Development for Creative Practices
Fall and Spring: 9 units
This course is intended to expose students studying in creative fields to the basic principles, skills and functions of business used every day in creative practices and industries. Supporting a creative practice - whether an individual studio practice, a temporary collaboration or commission, or an incorporated business or non-profit - all require a foundational knowledge of basic organizational, legal, and financial structures and practices. Throughout this seminar-style course, students can expect to develop a starting knowledge of basic business concepts; learn a foundational understanding of ethics and best practices in business; develop problem-solving skillsets and methodologies for managing creative projects and programs; and practice applying these learnings to their own creative practices. Topics covered will include, but are not limited to: basic business structures; intellectual property; Contracts and employment; methods for generating income and fundraising; financial management and taxes; marketing and communications; negotiation and compromise; and elements of business strategy development. This course assumes no prior background in business education or administration experience.

60-351 Entering the Artworld: Mapping a career path in an uncharted artworld
Intermittent: 9 units
Building a career as an artist is a nuanced endeavor that looks different for each individual. Unlike other fields, where a set professional structure exists and one can graduate students into a career, the artworld is self-navigated. This course gives artists a foundational understanding of the multifaceted profession they are entering, where they will learn about key support structures like museums, commercial galleries, DIY spaces, residencies, and much more. They will also train in a wide range of concrete skills, including writing artist statements, creating a network, building an online presence, and pricing an artwork. The goal of this class is to give students the awareness, skills, and resourcefulness they need to chart their own course as a studio-based fine artist in an artworld that's ever-changing.
This seminar will explore audio art in its widest sense: sound sculpture and installations, radio art, the soundtrack, just about anything audible but not conceived as music. Special focus on the production (and reception) of sound by art. This year’s goal is to amplify those creative efforts that, in having explored acoustics, soundscapes, and listening, might also serve to inspire students to incorporate sound in their own work. Contemporary critical theory, by and large, is still glaringly silent on aurality and auditory phenomenology: it seriously fails to consider sound as an object of study, instead focusing quite exclusively on visual culture (film, TV, video, computer screens, which are, of course, technologies of vision and sound). This seminar will address this overarching silence by examining some suggestive but disparate theoretical work related to sound and by engaging with a range of artistic practices that explore the production and reception of sound itself.

During the last decade of the twentieth century, new technologies have transformed the way we think about live performance. By examining the use of media (analog and digital) across the areas of sound/muse, dance, theater, performance art, gaming, and installation, this course will traverse multiple theories and practices of performance history. With an eye to how changing theories of performativity have influenced how artists think about what it means to "perform," this seminar, in a sense, will be engaged in both philosophical and aesthetic research about how technology has changed the conventions of performative artistic practice. What was the role of technology in the dematerialization of the object of art? How have ideas about virtual, parallel worlds changed the way artists think of "performative body"? If technology once acted as a prosthetic device, increasing an artist’s sensual and perceptual world, what happens to the role and impact of an artist’s work in the seemingly inert realms of programming or the increasingly autonomous areas of Robotic Intelligence? What does art look like in a post-internet age?

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60-378 Critical Studies: Science Fiction Film
Intermittent: 9 units
Science Fiction Cinema offers an idiosyncratic survey of the science fiction film genre. More than just a form of entertainment, science fiction is a powerful tool for exploring our hopes, fears, and dreams about the future. This class reveals how science fiction films often grapple with philosophical and ethical questions about the nature of humanity and our place in the universe. Together we will explore how filmmakers have used the science fiction film genre to explore both the timeless human condition and the complex issues of their time. In addition to studying the films themselves, we will consider the various cultural, social, political, and technological contexts in which they were created as well as how the films have themselves influenced society and culture. Additionally, we will examine the creative and technical innovations that filmmakers use to create stunning and thought-provoking works of art. Throughout the course, we will watch and analyze a variety of science fiction films, from international and independent productions like "World on a Wire", "Stalker" and "Advantageous" to blockbuster and studio productions like "Nope", "The Wandering Earth" and "The Matrix". Through weekly readings, film screenings, and class discussions, students will learn to analyze film as a creative medium of social commentary and critique. Assignments will include personal written responses to the films and readings, visual essays, and creative projects.

60-398 Critical Studies: Social History of Animation
Intermittent: 9 units
Social History of Animation will investigate the history of animation from early experiments with trick film through the development of major studios, to independent animation, web based work and emerging forms. Animation will be analyzed and discussed in relation to the social movements and technological innovations that affected animators and their work. This class will read related texts and view examples from around the world to explore animation as a means for personal expression and as a reflection of the context in which they were made.

60-399 Art History/Theory Independent Study
Fall and Spring: 9 units
A tutorial course in which an Art student works individually on a self-generated project under the supervision of a School of Art faculty member. Prior to enrolling in Independent Study, the student must complete an “Independent Study Proposal” form (available in the bins on the 3rd floor of CFA) which is signed by the faculty member and the Assistant Head of the School of Art. Prerequisite: Art junior or senior status, or by instructor permission.

60-400 Senior Review
Spring
Students present their work and their ideas about their work to a faculty committee. This review affords graduating students the opportunity to analyze and summarize their work, and to engage a faculty committee in discussion about issues that face an artist preparing to enter a career in art. Although this is a non-credit course, it is required of all Art (BFA, BHA, BSA and BCSA) seniors.

60-401 Senior Studio
Fall: 10 units
The primary goal of Senior Studio is to create a context for students to develop and realize an ambitious and self-defined creative project. With the guidance of faculty, each student will pursue their own artistic goals and develop their ability to sustain focused artistic activity while developing their own voice. Additionally, Senior Studio will help students to: Foster a community and shared sense of purpose in an atmosphere of mutual support, critical dialog, knowledge exchange and camaraderie; Cultivate and apply professional practice skills by preparing for life after graduation; Participate in studio visits with a multidisciplinary team of faculty, visiting artists and critics; Collaboratively produce a successful Open Studio event on the last day of the semester.

60-402 Senior Studio
Spring: 10 units
Students continue a comprehensive two-semester capstone project. Each student pursues an ambitious and cohesive body of work with guidance by a team of School of Art faculty. Multimedia, multidisciplinary, and collaborative work is encouraged. Studio work is supplemented by group critiques, workshops on writing, professional presentation skills, career preparation, and technical instruction as needed.

60-403 Senior Critique Seminar
Fall and Spring: 10 units
Senior Critique Seminar comprised of group discussions that analyze the conceptual and aesthetic frameworks that surround each student’s individual studio practice. The course supports independent inquiry, mature studio practice and both an in-depth critical reading of visual art and an increased comfort in the articulation of ideas and processes. Each student can expect two or more hour-long critiques throughout the semester, paired with ample time for individual studio work. These course discussions will also be informed by the Visiting Artist Lecture series and concepts and concerns carried from studio and academic seminar classes.

60-406 Advanced ETB: Internet Resistance
Intermittent: 10 units
Through bombs and crashes, colorizations and disruptions, IPOs and LOLZ, Internet has been a spectacular laboratory of social conflict. But what can artists do on the net besides create a buzz, reaking their pitiful portfolios and sinking into social media malaise? What is the function of the network in the age of pervasive surveillance, fake news, and filter bubbles? How to Internet under the First Troll President of the United States? Internet Resistance is both a schizo-seminar about critical issues in cyberspace and a trans-media studio to develop terrible ideas for the networked society. [http://internetresistance.molleindustria.org/]
Prerequisites: 60-210 or 60-110

60-407 IDEAtE: Experimental Sound Synthesis
Spring: 9 units
This is a course that will guide students into the world of experimental approaches to music and sound production, with particular emphasis in some of the key practices and concepts developed in the 20th and 21st centuries. We will examine a variety of ways in which sound works are made and perceived; understanding the historical perspectives and critical viewpoints of each approach through the application of hands-on practicum. The topics covered in the course are divided into three large areas: the art of sound, the making of sound works, and the creation of interdisciplinary sound installation. Students from different disciplines will work together to collaborate on the designing, prototyping and execution of a series of ambitious projects in response to the topics covered in class.
Course Website: [https://courses.idate.cmu.edu/57-344/](https://courses.idate.cmu.edu/57-344/)

60-408 Advanced ETB: Digital Storytelling and Resistance
Intermittent: 10 units
Digital Storytelling and amp; Resistance is a class through which students will explore the varied ways artists use contemporary technology to create complex alternative stories to dominant media narratives as well as the ways in which video, film, performance and media artists have historically used hybrid documentary storytelling practices and appropriation as a way to resist, respond to, and deconstruct one-dimensional news media and pop cultural stories. In this course students will create video essays, remix and appropriation-based works, hyperlink-enabled interactive stories, modded games, written pieces and interactive moving-image based narrative works through new multimedia publishing platforms.
Prerequisite: 60-110

60-409 Advanced ETB: Video & Performance
Intermittent: 10 units
This studio course will concentrate primarily on the historical and ongoing relationship between video and performance. That said, this course will be flexible enough to allow students to create video, performance and video/performance projects. For structured projects, all students will be expected to participate in performance. Class time will be spent considering the history of performance and video/performance, viewings of primarily video/performance works to provide background and inspiration, presenting and critiquing student projects and studio time to work on projects. Technical instruction in video editing, compositing and effects, audio recording/editing and midi applications will be offered on an as needed basis.
Prerequisite: 60-110

60-410 Advanced ETB: Moving Image Magic: Visual Effects and Motion Graphics
Intermittent: 10 units
Fly like Harry Potter, fall into Alice’s looking glass, create new worlds, or take a head-trip into the inner reaches of your subconscious. It’s all possible in Moving Image Magic! This course serves as an introduction to the creation of extraordinary cinematic visions using a variety of analog and digital tools and techniques. These include: digital composting, miniatures, motion tracking, rotoscoping, matte painting, puppets and motion graphics. Primary software tools are After Effects and Photoshop
Prerequisites: Electronic Media Studio: Introduction to the Moving Image or instructor permission.
Prerequisite: 60-110
60-412 Interactive Art and Computational Design
Intermittent: 12 units
This is an advanced studio course in arts-engineering and new media practice, with a special emphasis for Spring 2016 on mapping and information visualization using geographic data. Topics surveyed in the course will be tailored to student interests, and may include: experimental interface design, locative and mobile media, data-driven activism, image processing and computer vision-based interactions, and other topics. Through a small number of exploratory assignments and a public capstone project, students will bolster interdisciplinary problem-solving abilities and explore computation as a medium for curiosity-driven experimentation. Enrolling students are expected to have demonstrable programming skills, with exception, beyond the level of an introductory class such as 15-112. Although the course will provide technical overviews of major visualization toolkits (including D3, Processing, and openFrameworks), assignments may be executed in the student's preferred programming environment. Graduate students should register for section 51-882, 60-712, or 62-726, which meets with the undergraduate sections 60-412 and 51-482. Prerequisites: 15-110 or 60-112 or 15-112.

60-413 Advanced ETB: Real-Time Animation
An exploratory studio that considers improvisational strategies for making animation within real-time computer graphics frameworks. Advancements in virtual production, real-time computer graphics engines, and visual programming tools for AV synthesis provide open frameworks for the exploration of animation in spatial and interactive contexts. Studio work will explore real-time animation in a variety of contexts, including screen-based interaction, site-specific installation, and spatial immersion. Conceptual frameworks drawn from the histories of animation, video art and Expanded Cinema, and immersive media design will inform collaborative group work and class discussion. Students without the prerequisite may register by instructor permission. Prerequisites: 60-210 or 60-110

60-414 Advanced ETB: Animation Art and Technology
Spring: 12 units
Animation, Art, and Technology is an interdisciplinary, Art and Computer Science, cross-listed course. Faculty and teaching assistants from computer science and art teach the class as a team. It is a project-based course in which interdisciplinary teams of students can produce animations across platforms from single channel to augmented reality. Most of the animations have a substantive technical component and the students are challenged to consider innovation with content to be equal with the technical. The class includes basic tutorials for work in Maya and Unity leading toward more advanced applications and extensions of the software such as motion capture and algorithms for animating cloth, hair, particles, and immersive technologies. Prerequisites: 60-125 Min. grade C or 60-110 Min. grade C or 60-220 Min. grade C or 60-333 Min. grade C

60-415 Advanced ETB: Animation Studio
Fall: 10 units
This is an open animation studio for students who want to improve existing animation skills and develop a personal animated short. The class will introduce a variety of techniques and concepts for animation production. Using both 2D and 3D tools, animation will be explored through short assignments designed to develop diverse skills and ideas. Each student will develop and produce a short animation. The class will engage in discussion and critique of each other's work along with examples of historic and contemporary animation. Prerequisites: 60-220 Min. grade C or 60-110 Min. grade C or 60-333 Min. grade C or 60-218 Min. grade C or 60-125 Min. grade C

60-416 Advanced ETB: Documentary Storytelling
Intermittent: 10 units
In this class students will develop projects which use a variety of narrative concepts to convey stories in new ways. We will begin with a core practice around video, audio, and expand into internet media, performance, physical media and installation. Emphasis will be placed on story structure and strategies for choosing a media most appropriate to the narrative as well as the desired audience. Works by Janet Cardiff, Errol Morris, Spalding Gray, Werner Herzog, Laurie Anderson, This American Life and others will be mined for inspiration. With permission of instructor. We will also examine and discuss a range of historical and contemporary strategies employed by art makers who have used forums from on-line and virtual spaces to physical and site specific venues to expand and explore the relationship between the art object and the audience. Prerequisite: 60-110

60-417 Advanced ETB: Video Art
Intermittent: 10 units
In this advanced studio course, students will focus on creating experimental works of video art exploring a variety of both historical and contemporary approaches to the field. Building from their prior foundational moving image courses, students will have the opportunity to dive deeply into an array of formal and conceptual approaches to the medium. Throughout the semester, students will produce several major assignments focused on the production of video artworks exploring visual effects and abstraction, documentary forms and video essays, performance-for-video, generative video, and multichannel media installation. Each assignment will be supported through relevant video and audio technical demonstrations. Additionally, all the major assignments will be supported by reading and screening homework, benchmark check-in assignments, workshops, visiting artist lectures, and in-progress meetings and amp. critiques. This class will give students the opportunity to independently explore their evolving material and conceptual interests within the language of video and allow students to develop their own research and fabrication strategies unique to their ideas with a supportive community operating in dialogue throughout the planning, making, and exhibiting process. The class will culminate in a public screening event at the end of the semester. Prerequisite: 60-110

60-419 Advanced ETB: Experimental Game Studio: Digital Playgrounds
Intermittent: 10 units
A hands-on intermediate course focused on immersive environments, world building, and real time experiences pushing the boundaries of gaming. On a conceptual level we'll look at practices within digital art and independent game development: virtual architecture and sculpture, walking simulators, avatar-based performances, interactive art, procedural animation, environmental storytelling. On a technical level the course will introduce you to 3D modeling (Blender), game engine workflows and scripting (Unity) forming a scaffolding for advanced Electronic and Time-based courses. Course Website: http://mycours.es/

60-422 Advanced ETB: Experimental Animation
Spring: 12 units
This class will examine animation production from the student’s perspective. Animations that explore both form and content will be developed and discussed. Topics will include: non-linear narrative, visual music, puppetting, non-traditional materials, manipulation of motion and performance capture data and immersive environments. Prerequisites: 60-220 or 60-333 or 60-110

60-425 Adv. ETB: (Im)Possible Worlds: 2D Animation, Motion Graphics and Visual Effects
Intermittent: 10 units
While developing proficiency in Adobe After Effects (and other tools) students will explore the experimental worldbuilding and storytelling possibilities of hybrid moving image media. This course is structured around technical tutorials and workshops, readings and screenings, the creation of collaborative and individual moving image projects, discussion and critique. Some of the themes we will explore include "The Fantastic" as expressed in the genres of horror, science fiction and fantasy. Artists whose work we will look to for inspiration include Jacoby Satterwhite, Shana Moulton, Rachel MacLean, Rachel Rose, Charles Atlas, Sondra Perry, Max Almy, Nam June Paik, Stan Van Der Beek, Zach Blas, Laurie Anderson, Cecile B. Evans, Ryan Trecartin, and many others.

60-428 Advanced ETB: Drawing with Machines
Intermittent: 12 units
This is an advanced studio course in experimental drawing, generative art, computational design, and mechatronic mishmash. Working at the boundaries of code, information, and physical materials, and gestural mark-making, we will explore personal and peculiar new approaches to digital fabrication; the development of ultra-niche workflows as a mode of creative practice; and the use of algorithms and machine collaborators as nontraditional intermediaries between mind, hand, and paper. Units in this course include: rule-based art and conditional design; chance and stochastic composition; real-time interaction and contingency; asemic cartography; synthetic automation and erasure perception; and more. Through rigorous exercises in freestyle computing, participants will develop skills in the control of machines by (e.g.) Axidraw, Line-U, Scribit, Rotrics, and Universal Robots to govern line, texture, tone, shape and mass in a variety of wet and dry drawing media. Interested students should have a portfolio of creative visual work, and programming experience equivalent to an introductory course such as 15-104, ’110 or ’112. Enrollment by permission of instructor.
60-429 Advanced CP/ETB: Digital Worlds: Making and Performing in Digital Contexts
Intermittent: 10 units
In this class students will look at digital spaces including social media, chatrooms, online galleries, phone applications, YouTube, 3D renderings, massively multi player online games, and more to produce works that respond to the specificity of these terrains. There is a rich history of site specificity and contextual practice in the physical world; this class will consider parallels in computer-based environments. In addition to theory and research components, students will develop a variety of technological skills in video production, webcasting, audio editing, gif animation, 3D modeling, and more in this course.
Prerequisite: 60-110

60-430 Advanced SIS: Open Sculpture
Intermittent: 10 units
Sculpture is perhaps the broadest field among the contemporary visual arts. Through its privileged relationship to the physical world and the viewer’s body, sculpture is the glue that connects the interactive practices of object, installation, interactive art and performance. In this class we build on skills and concepts learned in 3D media 1 and 2 to develop students’ individual approach. Students define independent responses to topics proposed through discussion of contemporary sculptors. Emphasis is placed on individual development. Students are encouraged to explore interdisciplinary approaches.

60-431 Advanced SIS: Installation
Intermittent: 10 units
This course explores a broad range of sculptural issues concerning the practice of Installation Art. This Studio course will primarily emphasize immersive environments (but not necessarily), given the circumstances of remote learning and one’s bedroom as studio, or a similar venue, small and intimate may be more appropriate. Students expected to involve an ensemble of objects: found, purchased, reused, appropriated), made from an array of any kind of materials including natural materials; combined with time-based media; video, audio, performance, light etc. to create relationships within a particular space possibly as a ‘site specific’ venue in order to immerse the viewer within. Consider the notion of an immersive stage set, and the importance of documentation, ‘Fabricated To Be Photographed, Video graphed. Digitally Imaged and/or Performed In’. Emphasis is on research about “place” and the proposal process for a specific context. Various artists, strategies, methods and materials will be investigated through projects, readings, lectures, visiting artists and discussions. Exercises and gestures are assigned initially, then students are expected to propose and establish their own projects/practice later in the semester.

60-433 Advanced SIS: Ceramics
Intermittent: 10 units
Clay is a primary building block of sculpture. This supple, responsive and versatile material is being incorporated into the work of many contemporary artists today. This class will ask students to create projects that explore the use of clay as a medium in the context of their own work. It is intended for students who would like to specialize in clay sculpture, as well as students who work primarily in other mediums. Projects will originate from self-generated ideas. Class critiques will stress group participation to broaden viewpoints and sharpen critical abilities. The majority of class time will be for studio projects. The use of mixed media is allowed. A materials fee is required.

60-435 SIS: Metals
Intermittent: 10 units
Studio focus on fabrication using light metalworking techniques including forming, joining, and finishing. Metallsmithing and jewelry techniques will be explored in the context of sculptural issues. Metal stretching, forging, brazing, texturing, small scale casting and coloring are also presented. Slides looking at small scale metalwork, as well contemporary sculpture using metal techniques will be presented periodically. Metals provided include copper ,brass, and bronze sheet and wire. Materials fee will also cover silver solder and other expendables. This is a repeatable class that will add to the tools and techniques acquired in earlier metals classes while expanding individual growth within the concept and context of sculpture.

60-437 Advanced CP/SIS: Environmental Sculpture
Intermittent: 10 units
Studio focus on sculpture with the environment. Includes object making, installations and site work with an emphasis on ecological themes: eco-material use and reuse, growing systems, environmental impact and a variety of other related issues. The semester is structured with initial exercises and a series of small gestures that lead to a major project. Students are required to explore and to develop proposals for making in order to implement a site-specific project; either real or virtual. Students to produce a project complete with a well-documented outcome to include: visual representation, research and written descriptions.

60-440 Advanced SIS: Sculpture After the Internet
Intermittent: 10 units
Hato Steyerl asked, “Is the internet dead?…[it] is completely surveilled, monopolized, and sanitized by common sense, copyright, control, and conformism… what happened to the internet after it stopped being possibility?” This course assumes it is the artist’s role to find and create possibilities in all contexts, and investigates what it means to create new possibilities by making physical objects, experiences, sculptures, installations, and systems in an era post-internet. As a project-based experimental lab, this class asks students to navigate back and forth between digital and physical creative tool sets to create new works. We will take inspiration from the history, theory, ideologies and technologies surrounding the internet, as well as from artists, animators, and engineers working on and around the internet today. We will explore issues surrounding automation, digital fabrication, and online maker/fabricator culture as tools to be used, but also as socio-political forces. Other concepts we will explore as a group include the relationship between body and technology; cybernetics, robotics, AI, and the cyber valley; the relevancy of hand-making and physical construction post-autimation; “image-objects;” scripted spaces; the producer-consumer continuum; the divisiveness and productiveness of online subcultures; anonymity; accessibility of information and production tools; and the spatial and temporal effects of inhabiting both digital and physical worlds. If we understand our current epoch as an era dominated by onscreen and networked experiences, this course investigates what it means to embrace, explore, explode, celebrate, negate, critique, reverse, or oppose that through the making of sculpture, broadly defined. This course assumes knowledge of at least very basic 3D modeling, and/or physical computing, and/or coding, and/or 3D fabrication/construction techniques.
Prerequisites: 60-130 or 60-131 or 60-210 or 60-134 or 60-212 or 60-133 or 60-132

60-446 Advanced SIS: Expanded Theater Fusion Studio
Intermittent: 10 units
[DeAte collaborative course] As the boundaries between theater, art, entertainment and everyday life continue to expand through engagement with new technologies, it is critical that emerging artists and technologists be provided with the tools, language, and vision to thrive in the new millennium. Expanded Theater will reanimate classical modes of performance with media, networks, robotics, locative applications, and mobile systems. Considering theater as an ancient technology of mass participation and social cohesion, this fusion studio explores how emerging technologies can expand upon the basic theatrical relationships in new and culturally relevant ways. Collaboration and integration of design, media and storytelling is critical to this approach. Experimentation with new forms can reanimate the basic values of theater; the essential nature of a live event, the possibility of visionary spectacle, and the creation of meaning in dialogue with an audience. Expanded Theater is an opportunity to explore avenues outside of traditional theatrical production modes and beyond each student’s individual discipline. The curriculum combines resources from Carnegie Mellon’s Schools of Art and Drama, Integrative Design, Arts, and Technology (DeAte), the Emerging Media Masters (EM2), Computer Science, the Robotics Institute, and their collaborators across the university in a new configuration. Expanded Theater will explore domains ranging from site specific and networked-based performance, to pervasive social media technologies and their influence on interpersonal communication. The goal is to investigate contemporary languages that allow authors, actors and technologists to collaborate in ways that push beyond our present understanding of theatrical production and reception. This course alternates between two modes of research and design.

60-447 Advanced CP: Art at the End of the World
Intermittent: 10 units
The world is awash today in stories that anticipate an end to the world as we know it. These daunting narratives often anticipate techno-apocalypse, global pandemics, runaway climate change and mass extinctions. Their scale can appear to dwarf the actions of individual humans, and yet this is exactly where the work of the artist is proportionally most significant. Artists write the myths that help us understand the present, and create the monuments that explain the present to the future. They sound the alarm anew when sympathetic ears have grown deaf, and most importantly, they invent hopeful futures that were previously beyond imagination. Students in this course will learn significant historical and contemporary “end times” narratives, both utopian and dystopian, as well as the cultural responses to them. We will be using these as launching points for creatively engaging with our present apocalyptic predicaments. Students will visit regional locations that provide real-world grounding for these stories. They will use joy, introspection, humor, and courage, to create works using the full range of artistic expression from the highly ephemeral to the timeless. This course may never be offered again.

60-450 Advanced DP3: Drawing
Intermittent: 10 units
Figurative art retains aspects of the ‘real’ world as its subject matter. It has recognizable forms; it shapes, makes likenesses, and represents. Typically, 2D figurative work creates illusionistic depth to create spaces in which narratives occur and are portrayed. Within this realm, our course is unrestrained. All of our observations are valid, stories equal, feelings freed, fears unleashed and proclamations proposed. Projects across painting and drawing are drawn from both utopian and dystopian, as well as the cultural responses to them. We will be using these as launching points for creatively engaging with our present apocalyptic predicaments. Students will visit regional locations that provide real-world grounding for these stories. They will use joy, introspection, humor, and courage, to create works using the full range of artistic expression from the highly ephemeral to the timeless. This course may never be offered again.
60-451 Advanced DP3: Concepts of Figuration
Intermittent: 10 units
This course encourages creative exploration of the human image beyond observational figure drawing. We will be thinking of the figure as a symbol to explore narrative, anthropological, cultural, sociopolitical, gender, and dream-life imaging. Through these lenses the figure becomes primary to the understanding of personal or group identity, place, sexuality and gender identification. Figure drawing is open to the use of traditional and extreme image making methods including observational and fictional representations or other conceptual premises relevant to the successful presentation of privately held concerns. Emphasis will be on experimentation with both material and image. The class will consist of studio time, critique, readings, and discussion.

60-452 Advanced DP3: Color
Intermittent: 10 units
In this advanced course, students will learn to employ a wide range of color theories and color systems through hands-on exercises and studies. Studies will be done primarily in paint, with some use of collage and digital media. These exercises will be aimed at mastering a variety of color approaches that will be applicable to each student’s own artistic practice. Students will develop, based on their own interests, a cohesive body of work in which to practice and expand on the skills learned through the directed exercises. Studio work will be augmented by lectures, demonstrations, critiques, readings and critical discussion of writings about color. Prerequisites: 60-157 or 60-160 or 60-160A
Course Website: https://sites.google.com/andrew.cmu.edu/colorcourseclaytonmerrell/home (https://sites.google.com/andrew.cmu.edu/colorcourseclaytonmerrell/home/)

60-453 Advanced DP3: Painting
Fall and Spring: 10 units
This course is designed to help promote a painter's development, both conceptually and technically. It encourages students to expand their ideas through a diverse set of projects. Through research and studio experimentation, students will explore issues of scale, surface, materiality, process and performativity in painting. They will also consider notions of the "picturesque" and how non-artisanic disciplines can inform painting. Lectures and assignments are designed to enrich the painter's conceptual and technical base and to promote creative growth. Prerequisite: 60-250

60-454 Adv Studio: Small Things: Quiet interventions, Miniatures & the Power of Everyday
All Semesters: 10 units
This advanced studio class allows for the interdisciplinary exploration of historical, critical, craftbased, and conceptual issues surrounding the Small. The course will look at global and historical examples of small objects and the impulse for humans to make miniatures. It will consider site specific installations and interventions that are often not easily visible. It is very easy for a large object, an expensive object, to make a big visual and/or social impact. What does it mean to work on a humble scale and with ephemeral and/or accessible materials? How does working small allow for generosity, play and adaptability? This is an interdisciplinary advanced studio course. Students will predominantly work in their own studios and bring their own practice/techniques and research to our conversations.

60-460 Advanced DP3: Paint/Print
Intermittent: 10 units
Paint/Print encourages creative exploration of the boundaries between print media and painting through material investigation, thereby eliminating any assumed hierarchy between the two modes of working. Painting and printmaking are open to the use of traditional and extreme image making methods including observational and fictional representations, abstraction, collage, installation, digital drawing/painting or other conceptual premises relevant to the successful presentation of privately held concerns in image-making. Emphasis will be on experimentation with both material and image. The class will consist of studio time, critique, readings, and discussion. Prerequisites: 60-250 and 60-251

60-461 Advanced ETB: Experimental Capture
Intermittent: 12 units
This is an interdisciplinary studio course in expanded media practices that arise from using devices and algorithms to “capture” the world. We will explore experimental workflows, ranging from no-tech and low-tech to emerging and state-of-the-art techniques, in order to capture, model, and share new representations of people, objects, places and events. Through self-directed research projects, students will develop systems to capture a wide variety of phenomena, and creatively share the media they collect. We will cover a wide range of techniques and artistic practices that incorporate immersive, panoramic, high-speed, multispectral, and multispiel imaging; depth sensors and 3D scanners; motion capture systems for gestures of the face, body, hand, and eye; computer vision and machine learning techniques for detection, tracking, recognition and classification; and other unusual, forgotten, and nascent technologies for transcoding the unseen, ephemeral, and otherwise undetectable.

60-462 Advanced DP3: Painting Matter & Substance
Intermittent: 10 units
This course will be a hands-on investigation of the material, tangible, and physical aspects of painting. Students will learn how to make and use various paints, supports and grounds including oil paint, egg tempera, encaustic, watercolor/gouache, distemper, casein and fresco (in addition to other materials based on student interest). The working properties of various additives to and combinations of these media will be examined and experimented with. Technical issues affecting longevity will be addressed and experimental demonstrations will be encouraged. Students will investigate the work of other artists with a forensic “How did they do that?” approach. The second half of the semester will be devoted to studio work focusing on the ways in which each student’s personal vision can be embodied and expanded in one or more of the above media. Prerequisites: 60-150 and 60-250

60-464 Advanced DP3: Expanding the Graphic Novel
Intermittent: 10 units
In this course, students will critically and creatively engage with the medium of comics to learn how to better communicate their ideas in this format as well as challenge its boundaries. A substantial portion of the course will focus on familiarizing students with the basics of storytelling in a sequential narrative format and creating opportunities for students to discover, hone and explore their own voice and style. In addition to creating new work, students will also explore the history of comics and the origins of the “modern” graphic novel. Students will also be exposed to both graphic and non-graphic artists whose works has challenged and redefined the genre. We will explore these artists in order to understand how our own work borrows from and draws upon a rich lineage. Students will also be expected to think beyond the commonly accepted notions of comics and to question the relevancy of their work in this medium. Finally, each student will produce a new body of work that will culminate in the production of a 4-5 “page” “sequential” narrative.

60-466 Advanced DP3: Publishing as Artistic Practice
Intermittent: 10 units
This course will look at the history of artist multiples from artist books and zines, mail and subscription based practices, and editioned objects. Students will be introduced to techniques in traditional bookbinding, zine making as well as design and layout an artist book for mass publication. Studio work will focus on materials and processes that can be found and done at home as well as designing projects that utilize print-on-demand product services. We will be looking at contemporary artist's multiples that exist over a wide range of media, from fine art prints, sculptural and digital editions, and even performance and participatory work conceptualized as a multiple. We will discuss the economy and business structure behind independent publishing, looking into contemporary artists who are running their own presses, an emergence of art book and zine fairs, and envisioning alternative distribution opportunities for our artworks.

60-468 Advanced DP3: Print Media - Sculpture, Installation Screen Intensive
Intermittent: 10 units
This advanced print media course is a screen-printing intensive that moves print out of editioned works on paper. Students will utilize the multiple to create immersive wall installations, participatory social sculpture, objects that act as interventions, and hand-printed yardage that can be used in soft sculpture and/or wearable forms. Students will challenge their screen printing techniques and the scale and reach of their printed matter. Projects will concern the role of ornamental design within socio-political-cultural frameworks and the role of “hand-made” within exchange and gift economies. Projects will problematize artworks in relationship to the human body: as wearers, as laborers, and as consumer.

60-471 Advanced DP3: Photography/Print Workshop
Intermittent: 10 units
In this course in Photography and Print, students will develop semester-long individual projects in contemporary photography, printmaking, artists' books and/or multiples. Students will work in photography and amp/or print media, with an invitation to use either studio-based processes (intaglio, lithography, screenprint, photography lab) or work with hand-printing, digital or nontraditional approaches (monotype, stamps, stencils, rubbings, relief, digital photography). This will culminate in a capstone book, supported by the School of Art. Readings, discussion, critique, and visiting artists will enhance our conversation and research. As a workshop, this course is for students who are ready to explore their work more deeply and create ambitious self-driven projects.

60-472 Advanced DP3: Mutable Landscape
Intermittent: 10 units
With camera in hand, students will explore, document and invent a sense of place in Pittsburgh. Informed by photographic history and landscape studies, students will develop their own portfolios of digital prints. As a CPA Interdisciplinary Photography course, students will be encouraged to consider their photographs in the medium of their home department, and in some cases as a starting point for projects in other materials. No prerequisites.
60-474 Advanced DP3: Imaging Liveliness: photography and performance
Intermittent: 10 units
Performance art, or the live event, has been a continuous element of art practice throughout most of the 20th century but our evolving technologies of digital recording devices have radically impacted our understanding of performance as a medium of disappearance. With the increased expectation to engage remotely the role of documentation in relationship to the live event has become an inevitability rather than a conscious construction. We are expected to be both a warm flesh body and simultaneously our own image. Considering the proliferation of cameras, the value of photographic representation, it's meaning and potential are critical from within the glut of image culture it becomes crucial to re-examine our corporeal existence and the repercussions of both having a body and being represented as a body. We will discuss the writing of Andre Lepecki, Hito Steyerl, Philip Auslander, Catherine Wood and Rebecca Solnit to deepen our understanding of various historical genres of image construction as they relate to performance and notions of liveliness. In this course you will have the opportunity to develop live performances and consider how its documentation can be a transformation of the live event into a work unto itself. We will work collaboratively during in-class workshops; exploring the physical and social aspects of photographic processes in the development of unique event-based photographic methods. Participation in this course will grant you access to a professional digital SLR camera; lens kit, and tripod for the duration of the semester. This course will offer you the time and space to produce new work, take part in advanced critique and research current issues surrounding contemporary photography and performance as they pertain to your individual work.

60-475 Advanced DP3: Open Print
Intermittent: 10 units
This advanced Print Media course focuses on student-driven development of a studio practice focused on contemporary print, multiples and distributed art. In this class, individuals will continue to build on technical skills and concepts, and the interdisciplinary applications of both, through self-directed, individual approaches. This course is for advanced students of art, ready to focus on larger-scaled, conceptually and formally ambitious projects that are formed from long-term investigations. Prerequisites: 60-475 or 60-476 or 60-474 or 60-468 or 60-473

60-476 Advanced DP3: Serigraphy (Screenprinting)
Intermittent: 10 units
This course is a comprehensive and intensive study of Serigraphy (screenprinting), one of the most versatile and contemporary of printmaking techniques. The course is focused upon the mastery of this process. Students will explore multiple methods of image making (from hand-drawn to digital imaging) and will be introduced to CMYK printing. The emphasis of this course is on artistic work on paper, but will also be exposed to the ways that screenprint can work across a wide range of different media: from 2D (paper, canvas, cloth) to 3D (book forms, sculpture, installations) and utilizing printed multiples in participatory and exchange based artworks.

60-478 Advanced DP3: Photography Stands Up
Intermittent: 10 units
The value of a photograph is most often centered on the work it takes to construct an image but the work of photography does not stop there - printing out an image may also be the first step in building something else entirely. Photography Stands Up will treat the photographic print as a necessity, explore the photographic print as an object and most importantly consider the photographic print as a starting point for creating a significant work. After the past year of remote learning this course has a clear goal of getting students out of their seats, off the computer and away from the screen. This course will demand that we be active with our bodies and driven both conceptually and materially with an emphasis on experimentation as we vavicate between both digital and analog methodologies. We will explore printed photographs as objects that we may bend, fold, scratch, weave, dye, reconfigure and incorporate into future photographs. This course will introduce students to non-traditional methods of working in the Black and White Darkroom and will require students to print their images out on a regular basis using both the darkroom and digital print facilities. We will also explore the vast resource of the shooting studio, which we will use collectively during in class workshops - focused on putting our theories into practice. Participation in this course will grant students access to a digital camera and tripod to use for the duration of the semester and this tool will be a key component to in class workshops.

60-487 Advanced CP: The Amateur
Intermittent: 10 units
If a contemporary artist can truly do and be anything, how come so much art looks the same? More and more contemporary artists are pushing beyond the conventional models and methods of the art world by strategically operating as “professional” amateurs. The term amateur reflects a voluntary motivation to create as a result of personal passion for a particular activity, regardless of expertise or authority. For the artist, embracing the role of the amateur allows for the use of any profession, institution, or social activity as a possible material within their creative practice. This includes artists who “perform” as amateur preachers, psychologists, geneticists, politicians, and exotic dancers; artists who create museum institutions like sanitariums, circuses, hair salons, talk shows, and planetariums; and artists who collaborate with professional hypnottists, ornithologists, stunt coordinators, ventriloquists, and diplomats in order to manifest their work. Students in this class will work on self-defined projects that utilize the role of the amateur as a critical method for expanding the breadth and reach of their art practice into new forms and venues. With faculty mentorship, each student will be responsible for developing their projects through independent research, apprenticeships, and collaborations with experts in fields relevant to their work. Workshops, lectures, and in class critique of ongoing work will look at contemporary trends related to amateurism in art practice, theory, and the world at large. This class is not about being an amateur artist, but about being a serious artist who uses amateurism as a tool. Thus, the class is only open to students with ???

60-491 Advanced CP/ETB: Art AFTER The End Of The World
All Semesters: 10 units
Taught by Prof. Rich Pell (School of Art BSA Faculty Advisor and founder of the Center for PostNatural History). This course will take students on a deep dive into our mythological, scientific and artistic understanding of world-changing catastrophic events, from the earliest human stories up to the present moment. Film and writings, fiction and non-fiction will inform a critical conversation about the important role of artists in these times. Contemporary research in science and critical theory will inform the development of unique self-defined creative practices that embrace our most durable human qualities of joy, empathy, humor, and courage. Field-trips (virtual and/or RL) will fuel group discussion and the development of new artistic works open to any media.

60-493 Advanced CP: Out There - Post-Studio Practice
Intermittent: 10 units
Since the Dada movement began to erode the importance of institutional validation, artists have consciously chosen to operate outside of a studio context in a variety of ways. The eighties saw the emergence of movements and artist-run organizations intent on removing institutional barriers for art practice, enabling performance, civic engagement, social and political intervention, and myriad other approaches to feed the dialogues surrounding art and culture. This class will consider the philosophical, ideological, aesthetic, and political motivations, which influence such artists and organizations and will look at writers who have provided a corresponding critical framework. Students will engage in research and reading to develop their own project(s), using the class as a space for dialog and development, and the time outside of the class as the space for execution and manifestation.

60-497 Advanced Studio: Science Fiction
Intermittent: 10 units
"There is nothing new under the sun, but there are new suns." - Octavia E. Butler "As the industrialized world undergoes daily transformations through the application of technology science to every aspect of life, science fiction has become an essential mode of imagining the horizons of possibility." - Istvan Csicsery-Ronay In this course students explore science fiction as expressed across media including film, television, music, contemporary art, literature, comics and games. Students will work in the medium(s) of their choice using the tactics of science fiction to investigate themes and topics including but not limited to: Utopia/Dystopia, Robots and A.I., Extraterrestrial Life, Speculative Design, Afrofuturism, Genomics, Transhumanism, Indigenous Futures, Posthumanism, Ecology, Climate Change, Space Travel, Time Travel and Alternative Histories.

60-499 Studio Independent Study
Fall and Spring
A tutorial studio in which an Art student works individually on a self-generated project under the supervision of a School of Art faculty member. Prior to enrolling in Independent Study, the student must complete an "Independent Study Proposal" form (available in the bins on the 3rd floor of CPA) which is signed by the faculty member and the Assistant Head of Academic Affairs of the School of Art. Prerequisite: Art Junior/Senior status and by instructor permission.
School of Art Courses

60-90 Internship
Fall and Spring
Art Internships are open to all BFA, BHA, BSA and BCSA Art students. Internships may take place with appropriate individuals or organizations within or outside of Carnegie Mellon University. The requirements for an internship are in the School of Art Handbook (available at the School of Art website). Prior to being enrolled for an internship, students must complete an Internship Proposal Form, which defines the goals of the internship. This form must be signed by their site supervisor and approved by the Assistant Head of the School of Art. Forms are available in the bins on the 3rd floor of CFA. Junior and Senior Art majors only.