School of Art Courses

Note on Course Numbers
Each Carnegie Mellon course number begins with a two-digit prefix which designates the department offering the course (76-xxx courses are offered by the Department of English, etc.). Although each department maintains its own course numbering practices, typically the first digit after the prefix indicates the class level: xx-1xx courses are freshmen-level, xx-2xx courses are sophomore level, etc. xx-6xx courses may be either undergraduate senior-level or graduate-level, depending on the department. xx-7xx courses and higher are graduate-level. Please 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.

60-101 Concept Studio: The Self and the Human Being
Fall: 10 units
Concept Studio: The Self and the Human Being is first of a sequence of five studio courses designed to develop a personal approach to generating art and to learning transferable conceptual skills. The topics of the first three Concept Studios are addressed through a sequence of structured, media-independent projects. Open to freshmen admitted to the School of Art, or by instructor permission.

60-105 Critical Theory in Art I
Spring: 9 units
Critical Studies 1 is the first part of a year-long course intended to introduce CMU’s students to key readings in the history of artistic theory, studied in relation with the concurrent development of Western art. It is devoted to the period ranging from the 1500s to the end of the 1800s and covers major artwork and theories spanning from the Renaissance to Symbolism and Primitivism. The course is structured as a seminar discussion of theoretical texts, integrated with lectures. Readings will introduce students to the historical and critical background of the themes discussed in class and familiarize them with the varied methodologies and argumentative styles proper to art criticism, critical theory and philosophy. Open to freshmen in the School of Art, or by permission of the instructor.

60-106 Critical Theory in Art II
Spring: 9 units
This is the second part of a year-long course intended to introduce CMU’s students to key readings in the history of artistic theory, studied in relation with the concurrent development of Western art. It is devoted to the period ranging from 1900 to 1960 and covers major artwork and theories spanning from Cubism and the historical avant-garde to totalitarian art and 1950s artistic research worldwide. The course is structured as a seminar discussion of theoretical texts, integrated with lectures. Readings will introduce students to the historical and critical background of the themes discussed in class and familiarize them with the varied methodologies and argumentative styles proper to art criticism, critical theory and philosophy. Open to freshmen in the School of Art, or by permission of the instructor.

60-110 Electronic Media Studio: Introduction to the Moving Image
Spring: 10 units
Electronic Media Studio: Introduction to the Moving Image is an introduction to the computer as a dynamic tool for time-based media production. In this course students develop skills in digital video and audio production through the exploration of narrative, experimental, performance, documentary and animation themes and forms. Historical and contemporary works are presented and discussed to provide a context for studio projects.

60-125 IDeATe Introduction to 3D Animation
Spring: 12 units
[IDeATe course] Introduction to 3D Animation is designed for students interested in exploring the exciting and increasingly popular world of computer animation. Using Autodesk Maya, this course will cover each concept of the animation production pipeline through a series of class demos, production assignments, and guest lectures from industry professionals. Some topics will include modeling, rigging, layout/camera work, character animation, lighting, and rendering. This course will also delve into motion capture technology for 3D animation, making use of CMU’s Vicon and Optitrack motion capture systems. Students with little or no prior animation experience are encouraged to sign up for the course.

60-126 Introduction to Performance Capture and Rendering
Intermittent: 6 units
[IDeATe course] 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: 62-150 Min. grade C or 15-104 Min. grade C

60-130 3-D Media Studio I
Fall: 5 units
An introduction to three-dimensional form. Various materials and methods are explored through projects covering a broad range of sculptural concerns. Art majors must complete one Mini-1 course and one Mini-2 course to satisfy the 3D requirement. Students are required to select two of the following four sections: Digital Fabrication; Clay Sculpture; Small Metals; and Art and Arduino: learn the basics of electrical circuits and coding to create work that senses its environment and interacts with the viewer, the space, or even the world. Materials fee may be required. Open to freshmen in the School of Art, or by instructor permission.

60-131 3D Media Studio II
Spring: 5 units
Four unique mini classes offer an introduction to basic language and approaches of sculptural practice. Multiples, Mold Making, and Casting: focus on the use of repeated objects; Art and Arduino: learn the basics of electrical circuits and coding to create work that senses its environment and interacts with the viewer, the space, or even the world; Mixed Media/Mini-installation: emphasis on mixed media to create a composition with a relationship of objects in space; and Digital Fabrication. Art majors must complete one Mini-3 course and one Mini-4 course to satisfy the 3D Media II requirement. Materials fee may be required. Open to School of Art freshmen or by instructor permission.

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 — what is unique to it and the concerns that are shared with other visual arts, such as composition, tonal values, etc. and aims to equip students with an understanding of the formal issues and the expressive potentials of the medium. Lab fee and 35mm manual camera required. Each student is responsible for the cost of paper and film.

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. Digital camera required.

60-150 2D Media Studio: Drawing
Fall: 10 units
This course focuses on the language, materials and concepts of drawing as a foundation for all the visual arts. Initial emphasis on the development of perceptual, analytical and structural drawing skills with increasing attention to idea development. Exposure to methods of creating pictorial and illusionistic space; recording the external world of light and form; and making visible the internal world of the heart, the mind, the soul. Experience with line, texture, tone, shape and mass; in a variety of wet and dry drawing media. Open to freshmen in the School of Art, or by instructor permission.
60-160 2D Media Studio: Imaging
Spring: 10 units
A continuation of Two-Dimensional Media Studio: Drawing. Includes an expansion of drawing to include multimedia approaches, painterly issues, digital input/output and work with digital image processing tools. Prerequisites: 60-157 or 60-150

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 BCSA) sophomores.

60-201 Concept Studio: Space and Time
Fall: 10 units
Concept Studio: Space and Time is a continuation of Concept Studio: The Self and the Human Being with a focus on space and time through projects of increasing complexity. Such topics as biological time, historical time, psychological time, celestial time, clock time, and public space, private space, mathematical space, and virtual space are addressed through projects. Open to sophomores in the School of Art, or by instructor permission. Prerequisite: 60-101

60-202 Concept Studio: Systems and Processes
Fall: 10 units
Concept Studio: Systems and Processes focuses on the utility, discovery, and the generation of systems and processes through projects. Open to sophomores in the School of Art, or by permission of instructor.

60-203 Concept Studio: EcoArt
Intermittent: 10 units
An interdisciplinary studio course that provides an introduction to an art practice focused primarily on ecology and the environment. Combines the exploration of the history of environmentalism and ecological art with the production of creative projects to address related issues such as sustainability. Shorter initial exercises and collaborative projects will precede and evolve into larger and more extended individual and/or collaborative projects. Considers both indoor and outdoor spaces with an emphasis on context and the use of natural and recycled materials. Open to freshman and sophomores in the School of Art and to students in other disciplines.

60-204 Concept Studio: Networked Narrative
Intermittent: 10 units
Networked Narrative is a studio class that uses social networking sites such as Facebook, Twitter and YouTube as venues to develop fictional stories. The class will explore traditional and experimental narrative forms in a variety of media. Students will develop and produce narrative events that are exhibited on their fictional character’s various social networking sites.

60-205 Critical Theory in Art III
Fall: 9 units
The Duchampian attack on traditional aesthetic categories has been the engine behind the distinctive shifts in postwar art, photography, performance, conceptual proposals, installation art, film, video, and appropriations from mass culture play an equal part in contemporary visual culture. Duchamp’s attack on art as an institution set the tone for other anti-modernist projects to follow which did not accept the “white cube of the gallery” as their sole exhibition space (or measured worth as an artist). His notions of “indifference,” (critique of aesthetic judgment), reproducibility, simulation, performativity, artist-as-curator, and interactivity between the spectator and the work of art set the stage for a host of innovative explorations by artists ranging from the Comines of Robert Rauschenberg to the Mod-Spaceships of Mariko Mori. This seminar examines a tumultuous period in contemporary art and culture from 1960 to the mid-eighties, with special excursions into the aesthetics of commodification, phenomenology, materialism, conceptualism, semiotics, abjection, and technology. The impact of social movements and American foreign policies (i.e. Vietnam, Civil Rights, The Women’s Movement, Globalism, the AIDS Crisis) on the production and reception of contemporary art will also be examined. Open to sophomores in the School of Art, or by instructor permission. Prerequisite: 60-205

60-210 Electronic Media Studio: Introduction to Interactivity
Fall: 10 units
Electronic Media Studio: Introduction to Interactivity is an introduction to software programming and physical computing within the context of the arts. In this course students develop the skills and confidence to produce interactive artworks using audiovisual, networked and tangible media. This fall, Section C (taught by Paolo Pedercini) has an emphasis on interactive game design.

60-212 Electronic Media Studio: Interactivity and Computation for Creative Practice
Intermittent: 12 units
This is an intermediate level course in “creative coding”, interactive new-media art, and computational design. 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 make art, design, architecture, and/or games — AND you're already familiar with the basics of programming, such as for() loops, if() statements, and arrays. This course satisfies the EMS-2 (60-210: Interactivity) requirement for BFA and BXA-Art majors. As with EMS-2, students in this course will develop an understanding of the contexts, tools, and idioms of software programming in the arts. Unlike EMS-2, this course additionally satisfies the computing portal requirement for CFA and Dietrich students pursuing IDEATe minors and concentrations. (Students with no prior programming experience should register instead for 15-104, 15-110, or 15-112.) This is a “studio art course in computer science,” in which the objective is art and design, but the medium is student-written software. The course develops skills and understanding of text-based, imperative programming techniques in a variety of popular open-source arts-engineering toolkits, including p5.js (JavaScript), Processing (Java), and openFrameworks (C++), with the aim of applying such skills to interactive art and design, information visualization, generative media, and other creative cultural practices. Rigorous programming exercises will develop the basic vocabulary of constructs that govern static, dynamic, and interactive form. Topics include the computational manipulation of: point, line and shape; texture, value and color; time, change and motion; reactivity, connectivity and feedback; interactive graphics, sound, and simulation; and the incorporation of various modes of input (sensors, cameras) and multimedia output. Prerequisites: 15-112 Min. grade C or 15-110 Min. grade C or 15-104 Min. grade B

60-220 IDEATe Technical Character Animation
Fall: 10 units
[IDEATe course] With an emphasis on character animation, this course will explore the whole production pipeline of 3D Animation from initial concept to rendered result through the use of Maya. Through a series of technical assignments, in class demonstrations, and guest lectures from industry professionals, students will come to learn the basic principles of animation and work up to more advanced techniques. Some specific animation areas that will be covered include locomotion, pantomime/acting, dialogue, set driven keys, and blend shapes. Students will also learn more technical/advanced approaches to other production areas such as modeling, texturing, rigging, rendering/lighting, and layout. Prerequisites: 62-150 or 15-104 or 60-212
60-223 IdeATe: Introduction to Physical Computing
Fall: 10 units
[IdeATe portal course] Physical computing refers to the design and construction of physical systems that use a mix of software and hardware in order to sense and respond to the surrounding world. Such systems include digital+physical toys and gadgets, kinetic sculpture, functional sensing and assessment tools, mobile instruments, interactive wearables, etc. This is a project-based course that deals with all aspects of conceiving, designing and developing projects with physical computing: the application, the artifact, the computer-aided design environment, and the physical prototyping facilities. The class consists of students from different disciplines who collaboratively synthesize and implement several systems in a short period of time. The course is organized around a large set of essential skills that students must gain in order to effectively tackle physical computing problems. It is then deployed through a series of quick group projects that utilize the essential skills and challenge students to not only consider how to make this design, WHEN the time is ripe, and WHY the making is worthwhile/necessary. Upon completion of this course the students will be able to: work in a mixed physical-digital environment and laboratory, make effective use of standard hardware and software tools for physical computing, approach complex physical computing problems with a systematic overview that integrates iterative research and design steps, generate systems specifications from a perceived need, partition functionality between hardware and software, produce interface specifications for a system composed of numerous subsystems, use computer-aided development tools for design, fabrication and testing and debugging, evaluate the system in the context of an end user application or experience.
Course Website: https://courses.ideate.cmu.edu/60-223

60-240 Unfolding Environments: The Intersection of Person and Place
Intermittent: 10 units
This course will use photography to explore our surrounding environments. Assignments will focus on editing and image sequencing, combining the practices of portraiture, landscape, still life and observational photography to create narrative work that explores 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, while also developing their technical abilities by working with color and black and white images and varied light sources. Students will also learn approaches to project development and digital workflow. Discussions, readings, gallery visits and critiques will provide an outline for completing assignments. The class will study work and books by notable and emerging figures in the medium, including Robert Adams, Rineke Dijkstra, Carolyn Drake, Roy DeCarava, Milton Rogovin, Judith Joy Ross, Rinko Kawauchi, Alec Soth, Larry Sultan, Carrie Mae Weems and Susan Worsham. Required readings will include essays and short stories by Wendell Berry, Rebecca Solnit, Robert Walser and Albert Camus.

60-241 Black and White Photography II
Fall and Spring: 10 units
Black and White Photography II allows you to gain experience with medium and large format film cameras that aren't available at many universities. View cameras remain the state of the art in control and quality for both analog and digital workflows; knowing how to use one is a very valuable professional skill. You can make stunning large-scale prints using either darkroom or inkjet processes; imagine the resolution of an 8x10 or 11x14 inch "sensor" and you begin to see the potential of the view camera. This course emphasizes aesthetic development and personal artistic growth through individual tutorials and group critiques. As an advanced student, you have access to an unusual assortment of panoramic and pinhole cameras that will change the way you make photographs, revealing unknown perspectives. Additional topics include digital process though negative scanning and inkjet printing, advanced monotone printing methods, and a focus on exhibition and folio presentation. Cameras will be supplied for this course. Prerequisites: As listed or consent of instructor.
Prerequisites: 60-141 or 60-142 or 62-141 or 62-142

60-242 Digital Photography II
Intermittent: 10 units
Digital Photography II is an advanced photography course that 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 that will be covered include trends in contemporary photography, professional practices, project development, narrative and serial work, and portfolio presentation. Students will be expected to conceive and 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 provide guides and references for their projects. Prereq: 62-141 or 62-142 or equivalent or consent of instructor.
Prerequisites: 60-141 or 62-142 or 60-142 or 62-141 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 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
Portrait Photography explores the emotional and visual process of collaboration between subject and photographer that creates a photograph. We use cameras of all formats and levels of sophistication to create portraits in the studio and on location. Each photographer is challenged to find and exploit available light, and create artificial light to complete his or her vision. The class will explore a wide range of digital and darkroom strategies to support and add richness to their final prints. Through film and video photographers will meet some of the masters of this form like Arbus, Newman, Avedon, and Penn. Together we will take advantage of any opportunities to visit exhibitions and photographer's studios. Lab fee required. Prerequisites: As listed or consent of instructor.

60-250 2D Media Studio: Painting
Fall and Spring: 10 units
A pragmatic introduction to the tools, materials, and techniques of painting, including instruction in the fabrication of sound painting supports and the application of permanent grounds. Students become conversant with the range of visual options unique to the vocabulary of painting. Open to sophomores in the School of Art, or by instructor permission.
Prerequisite: 60-160

60-251 2D Media Studio: Print Media
Fall and Spring: 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 practice, but will include utilization of digital images and sources through a critical lens. While primarily focused on the learning of fundamental approaches, the class will also expose students to ways that Print Media can be a tool (physically and conceptually) in contemporary practice.
Prerequisite: 60-160
60-280 Introduction to Contextual Practice
Spring: 10 units
For some time now art has moved out of gallery and museum spaces and into all facets of public life, where complex social situations and diverse audiences have become important parts of the work. In the past this might have been called Public Art, but today new strategies are being used that challenge public art’s tradition of static sculptures and embrace more dynamic forms of public engagement. As its name implies, Contextual Practice embraces the context or social conditions in which an artwork exists as part of the material of that work. Evolving out of the history of site-specific, conceptual, and performance art practices, Contextual Practice covers a range of exciting new methods to making art in the public including street art, interactive social media, environmental art, hacktivism, participatory art, guerilla performance, project-based community art, and urban interventions. Students in this field-based class will create projects that work with the social dynamics of a variety of on and off-campus and online public contexts. We will research new trends in public engagement through art, architecture, and design, as well as politics, ecology, sociology, and economics. Fundamentally, this class asks students to experiment with how their art practice can intersect directly with the real world (outside of the traditional art venues) and how they can proactively create new sites and audiences for their work.

60-333 IdeaTe: Character Rigging for Production
Fall: 10 units
In computer animation, rigging is the art of building a digital skeleton and control system to drive the animation of a character or object. This particular course will focus on the process needed to create fully articulated characters that are strong enough for film and/or video game production. We will start with rigging fundamentals to learn proper joint orientation for skeleton creation, focus on skinning techniques for attaching the skeleton to the character afterwards, and then work on building a system of controls to move the character in compelling ways. Certain topics will include kinematics, set driven keys, direct connections, space switching, corrective blendshapes, custom attributes, and deformation. Students interested in the artistic and technical sides of computer animation are encouraged to enroll. Previous experience with Autodesk Maya/3D animation is preferred.

60-350 Business Fundamentals for Creative Practices
Intermittent: 4.5 units
This course is intended to expose students to the basic business skills and functions used every day in creative practices and industries. Supporting a creative practice—whether an individual studio practice, 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. Students can expect to develop a starting knowledge of business operations, problem-solving skillsets that can be applied to their own practices, and tools for evaluating and taking advantage of new opportunities. Topics covered will include, but are not limited to: basic business structures; intellectual property and artists’ rights; agreements, contracts, and employment; generating revenue, tax implications, and cost management; and elements of business strategy development. This course assumes no prior background in business education or administration experience.

60-352 NOISE: Toward a Critical Theory of Sound and Hearing
Intermittent: 9 units
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 artists, amplifying those creative efforts that, in having explored the varied issues will go beyond assigned readings: it will include class participation, readings, and Language, Fluxus, as well as more recent iterations. This is a writing intensive seminar with experimentation at its core. Members will workshop their writing: revise, rethink, perform, and publish.

60-353 Media Performance: History, Theory, and Contemporary Practice
Intermittent: 9 units
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/music, 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 performance 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 about the “performing 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 inalterable realms of programming or the increasingly autonomous areas of Robotic Intelligence?

60-362 Art Writer
Intermittent: 9 units
ART WRITER will strive to bring together the intersecting discourses of artists use of writing as an object, art criticism, as well as experiments by both artists and critics to use theory as invention. The idea of experiment implied here emphasizes the urgency that art writing move beyond its own history, beyond the received understanding of its proper practices in order to propose new modes of critical reflection. The form and material force of language will be explored through the conceptual and critical work of Dan Graham, Lawrence Weiner, Donald Judd, Lee Lozano, Joseph Kosuth, Vito Acconci, Mel Bochner, Eleanor Antin, the international projects of Art Language, Fluxus, as well as more recent iterations. This is a writing intensive seminar with experimentation at its core. Members will workshop their writing: revise, rethink, perform, and publish.

60-366 Culture in the Public Realm
Intermittent: 9 units
The seminar offers a discerning critical overview of key concepts about culture, public space & the public sphere. We will introduce & critically explore the historical, theoretical & practical production & use of “public space” & art/culture beyond the museum or gallery. We will consider the historical evolution of the city as both an actual & theoretical entity. The class will explore urban environments in terms of economics, demographics, political, cultural production & psychology & the city of Pittsburgh will function as our site laboratory. We will inquire about the function of public art: what happens when space is required for the public realm for a means of cultural production that aims to yield some form of transformative effect for the public or citizens at large. Moreover the term “public” is an important topic to be investigated: Who is the public? Who is the audience? This interdisciplinary course will consider & examine the interplay of artists & their public & how certain belief systems of a society at a specific time are able to influence a culture’s perception of art. What is the role of the artist, critic, & urban planner in relation to the public & what is at stake in utilizing public space as a platform for art & other forms of cultural production? We will reflect on why have we become in recent times so preoccupied with public space as a platform for cultural production. Changing attitudes among artists & in museums have played a role in this cultural shift & theory. We will query a range of cultural mediums in order gain insights into the construction of public culture. The means to inspect the varied issues will go beyond assigned readings: it will include class discussions, personal reflections, writings, videos & guest speakers from the field of architecture, public policy, art, & public art. A conjoint class student project will take place to further probe this subject.

60-371 Breathless: International New Wave Cinemas
Intermittent: 9 units
What does Jean-Luc Godard’s “Breathless [A’bout de souffle]” (1959) have in common with Wong Kar-Wai’s “In the Mood for Love” (2000)? What does Satyajit Ray’s “Pather Panchali” (1955) share with Mark LaPore’s “The Glass System” (2000)? By examining an array of films from the classic days of International New Wave Cinemas, beginning with French Nouvelle Vague, Indian “Parallel Cinema,” as well as German, Italian and Japanese innovations and moving to contemporary (and experimental) film movements in Iran, Korea, Hong Kong, Eastern Europe, and the US, we will explore the ways a handful of young directors found novel ways to fund and shoot their movies in direct defiance of commercial, narrative, and cultural norms. By focusing on mise-en-scene over themes, on site locations over studios, lesser-known actors over box-office idols, and small production teams over professional crews, these directors were able to turn off aesthetics and financial shortcomings into a radical new filmic style. Especially central here will be how these filmmakers experimented with narrative form, how they were able to translate internationally—and how these approaches continue to challenge hegemonic forms of media culture.
60-376 Large Format Photography: The Antiquarian Avant-Garde
Intermittent: 10 units
This course takes part in the anti-digital movement by exploring the roots of
photography. Students will shoot with an array of large format cameras and
use 19th and 20th century processes to create "one-of-a-kind" photographic
images. Course topics include non-silver printing processes, pinhole
photography, and contemporary tin-types. Prerequisites: 60-141/62-141/
equivalent or consent of instructor.
Prerequisites: 60-141 or 62-141

60-380 Color Photography and Digital Output
Fall and Spring: 10 units
This is a course using digital photography with digital printing methods.
Students will gain an understanding of color theory and aesthetics, while
better defining their individual voices. By semester's end, students will
have a finely printed body of work using Mac OS, RAW file handling, color
management and Adobe PhotoShop.
Prerequisites: 62-141 or 51-265 or 60-141

60-397 Critical Studies: Art, Conflict, and Technology in Northern
Ireland
Spring: 12 units
Art, Conflict and Technology in Northern Ireland is a 12-unit course cross-
listed in the School of Art, the Robotics Institute, and the Department of
English. The class consists of a weekly seminar (Wednesdays) and a
required 3-unit recitation in the Robotics Institute (Fridays). Throughout
the term students will be introduced to a history of social strife in the
North of Ireland from the 1960s to the present, and efforts to reframe and
reconcile differences in the contemporary period. We will consider the influence of
advancing technology on how narratives are shared within a community
and worldwide. If you have ever considered how artists explore societal
strife through their writing or visual arts practice, if you are interested in the
social and political influences of evolving technology, or if you are a
practicing artist who uses advancing technology as a tool for individual
expression, this integrative course is for you. Throughout the semester we
will examine the practice of a range of visual artists that include Rita Duffy,
John Kindness and Willie Doherty and writers and dramatists like Dermot
Healy, Patrick McCabe and Christina Reid. Students will learn how to use
CREATE Lab's technologies as platforms for exploring the content presented in
class and for the development of final projects. We will travel to Belfast
for spring break 2018, to meet a variety of writers and artists whose work
we will study, and stakeholders in reconciliation efforts throughout the
region.

60-398 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 and web based work. Animation will be analyzed and
discussed in relation to the social movements and technological innovations
that effected animators and their work. This class will read related texts and
watch 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 Critical Studies 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
commitee. 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 zero-credit course, it is required of all Art (BFA, BHA, BSA
and BCSPA) seniors.

60-401 Senior Studio
Fall: 10 units
Students initiate a comprehensive two-semester project in the first semester
to be continued and completed in the second semester of their senior
year (60-402). 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.
Attendance at all 5pm School of Art Lecture Series events is required for this
class. Open to seniors in the School of Art, or by instructor permission.

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. Attendance at all 6:30pm
School of Art Lecture Series events is required for this class. Open to seniors
in the School of Art, or by instructor permission.

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 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 booms and crashes, colonizations and disruptions, IPOs and LOLZ,
Internet has been a spectacular laboratory of social conflict. But what can
artists do on the net beside tweaking 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 cyberculture and a trans-
media studio to develop terrible ideas for the networked society. http://
internetresistance.molleindustria.org/
Prerequisites: 60-210 or 60-110

60-408 Advanced ETB: the Manipulated Moving Image
Intermittent: 10 units
The manipulated moving image has virtually unlimited potential to visually
represent events, scenarios and forms that have little or no relation to our
experience of the tangible, extant world. In this course you will use digital
and analog tools and techniques and your imagination to create movies that
do not represent the way the world is, but how you might want it to be and/
or what you are afraid it might become (Utopian/Dystopian impulses, Eros
and Thanatos). The manipulated moving image is a somewhat awkward but
more inclusive word than "animation" for moving image forms that include:
animation, motion graphics, compositing and visual effects in various
combinations and permutations. In a way, digital tools have allowed moving
image-makers to create works that have less to do with film and more to
do with music and painting. Some of the techniques we will explore include:
object animation, cutout animation, pixilation, collage, rotoscoping, motion
tracking, and compositing. There will also be a focus on audio production
and post-production with an emphasis on audio-visual relationships. The primary software tools students will be instructed in and use include Adobe
After Effects, Photoshop, and Apple Logic Pro.
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. Is it 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 compositing, miniatures, motion tracking, rotoscoping, matte painting, puppets and motion graphics. Primary software tools are After Effects and Photoshop with forays into, Motion, Resolve, Logic and Smoke. 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, without 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: 60-112 or 51-110 or 15-112

60-414 Advanced ETB: Animation Art and Technology
Spring: 12 units
Animation Art and Technology is an interdisciplinary course cross-listed between Art and Computer Science. Faculty and teaching assistants from computer science and art teach the class as a team. It is a project-based course in which four to five interdisciplinary teams of students produce animations. 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 leading toward more advanced applications and extensions of the software such as motion capture and algorithms for animating cloth, hair, particles, and grouping behaviors. The first class will meet in CFA room 303. Prerequisite: 60-110

60-415 Advanced ETB: Animation Studio
Fall: 10 units
This studio 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. For a final project each student will construct an animated short that uses animation as a means of self-expression. The class will engage in discussion and critique of each others work along with examples of historic and contemporary animation. Prerequisites: 60-220 or 60-125 or 60-110 or 60-333

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, Enrol 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
Intermittent: 10 units
This course explores the possibilities of experimental science fiction filmmaking to critique contemporary society and to imagine possible (or impossible) futures. Experimental Science Fiction combines screenings and discussions of experimental and independently produced science fiction films from all over the world, critical and literary readings and technical instruction in creative visual effects. Students will create their own short experimental science fiction films. Prerequisites: Electronic Media Studio: The Moving Image. If you have not taken 60-110 but have basic proficiency in Adobe Premiere and After Effects please contact Professor Suzie Silver suziesilver@cmu.edu. Prerequisite: 60-110

60-419 Advanced ETB: Experimental Game Design
Intermittent: 10 units
Experimental Game Design: Storyspaces - A hands-on game design course focused on innovative and expressive forms of gameplay. In this installment of Experimental Game Design the emphasis is placed on the complex relationship between stories and games. Topics include: environmental storytelling, world building, branching narratives, Virtual Reality, visual novels, AI-driven narratives and more. The class consists in one long session per week that allows for extended prototyping exercises (mini-jams), technical tutorials, as well as frontal lectures and in-depth playtesting sessions. Projects are team-based. Coding experience is recommended but not required. Prerequisites: 15-104 or 60-212 or 15-112 or 15-110

60-421 Computing for Live Performance with Max/MSP/Jitter
Intermittent: 10 units
This hands-on and highly interdisciplinary studio course is an introduction to the use of Max/MSP/Jitter, a visual programming environment for controlling interactive music, audio, video, and many other electronic media. For more than 25 years this software has been used by artists, musicians, and stage designers to create their own custom programs for algorithmic compositions, interactive installations, live environments and real-time performances. The simple visual interface of Max/MSP/Jitter allows non-programmers to create their own software without having to learn or to write traditional “code”. Instead, users connect together pieces from a vast library of functional objects that manipulate and control sound, video, and other effects (such as DMX lighting) in response to sensors like cameras, microphones, game controllers, MIDI devices, and custom electronics. Students will be exposed to the fundamentals of multimedia programming in Max, the basic building blocks of sound and video, and techniques for integrating data from external sources, such as the popular Arduino microcontroller. They will also gain the practical knowledge and problem-solving skills to develop and design their own interactive installations, sculpts, and instruments for performance-based art or experimentation. No previous programming experience is necessary. Prerequisites: familiarity with the Mac OS. Prerequisites: 60-110 and 60-210

60-422 Advanced ETB: Experimental Animation
Spring: 12 units
[IDEAtE course] 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, puppet and non-traditional materials, manipulation of motion and performance capture data and immersive environments. Prerequisite: 60-110

60-428 Advanced ETB: Art of Robotic Special Effects
Intermittent: 10 units
Inspired by the early “trick” films of George Melies this project-oriented course brings together robotics and film production technique to create innovative physical effects and infuse cinema with the wonder of live magic. Students will learn the basics of film production using animatronics, camera motion control, and live compositing, then apply them to create short films all the way from concept to post-production. The course emphasizes real-time physical effects to explore the immediacy and interactivity of improvisation and rehearsal. The course includes a brief overview on the history of special effects and robotics to set the work in context.
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 interdisciplinary 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. Studio focus on relatively large scale works which often involve an ensemble of objects or phenomena in a particular space. Both temporary and permanent works are addressed. Emphasis on research about "place" and the proposal process for a specific context. Various strategies, methods and materials investigated through projects, readings, presentations, discussions and field trips. Exercises and projects assigned initially, but students expected to establish their own projects later in the semester.

60-433 Advanced SIS: Clay Sculpture
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 both for students who would like to specialize in clay sculpture, as well as students who work primarily in other mediums. Lectures will be presented on various approaches and techniques of clay artists, as well as other historic and contemporary artists. A notebook methodology will be employed for recording progress. 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 material fee is required.

60-435 SIS: Metals
Intermittent: 10 units
Studio focus on fabrication using light metalworking techniques including forming, joining, and finishing. Metalsmithing 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 sculpting with the environment. Includes object making, installations and site work with an emphasis on ecological materials, growing systems, environmental impact and related issues. Students required to explore and develop proposal-making skills in order to acquire permission for sites in which to implement projects. Both individual and collaborative projects are possible.

60-438 Advanced SIS: Intimate Objects
Intermittent: 10 units
The intimate object - exploring the issues of small scale sculpture. This class will deal with the creation of objects that require one on one interaction with the viewer. Unlike much heroically scaled sculpture, there is a distinctly personal and intimate connection that these objects engender. The class will look at historical examples, as well as 20th century works starting with the dada and surrealists. Problems of small scale sculpture will include topics such as the miniature versus actual size, the nature of materials, the issues of craftsmanship, the problem of preciousness. This class is open to advanced sculpture students working in any media.

60-446 Advanced SIS: Expanded Theater Fusion Studio
Intermittent: 10 units
[IDeaTe 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 (IDeATe), 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 and interventionist practices, 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.

60-450 Advanced DP3: Drawing
Intermittent: 10 units
Studio focus on drawing experiences designed to develop observational, compositional, technical, expressive, and conceptual skills. Emphasis on independent work, and on the integration of drawing with work in other media. Prerequisites: 60-160 and 60-150

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 diverse 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.

Course Website: http://artscool.cfa.cmu.edu/~merrell/colorclass/color.html
60-453 Advanced DP3: Painting
Fall and Spring: 10 units
In this course you will be encouraged to expand your skills and develop a personal vision, while maintaining a spirit of investigation into the developmental process, the magic, the illusion and the physical reality of painting. The professor will act as critic and advisor as students work independently developing self-generated ideas and setting personal goals. We will meet as a class for group critiques, discussions, presentations on the practical aspects of the profession, and slide lectures on contemporary artists.
Prerequisite: 60-250

60-458 Advanced DP3: Serigraphy
Intermittent: 10 units

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

60-463 Advanced DP3: Print/Draw
Intermittent: 10 units
This course will focus on the development of technical and conceptual strategies in drawing AND/OR print media. With students working in either or both areas, the class function as a studio workshop in which students set personal goals and strive to produce a significant body of work. Students will be expected to experiment and to create their own problems/limitations, while investigating a range of materials and considering the relationship between form and content. Individual and group critiques will help guide students; presentations on artists, readings, and field trips will contextualize the group's work.

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 have 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.

60-468 Advanced DP3: Print Media - Out of Print
Intermittent: 10 units
This fast-paced Advanced Print Media class begins with collecting out-of-print ephemera as the source inspiration for creating new images using any technical process or conceptual strategy from the Print Media tool box. This is a high output, low stakes class that emphasizes Making and Doing as the key foundation for a generative creative practice. This class will include visits to used bookstores and library special collections that utilize the role of the amateur as a critical method for expanding the breath 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.

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 CFA 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.

60-475 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. The course includes written assignments, weekly critiques and discussion, field trips to local print studios, and visiting artists. 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: 60-251 and (60-475 or 60-474 or 60-468)

60-486 The Art and Science of Color
Intermittent: 10 units
This interdisciplinary course will consist of a combination of chemistry lecture & labs with studio art & art history. The focus of the course will be on the intersection of painting practice with chemistry, particularly in the study of pigments of mineral & inorganic origin. This is a project course open to majors in chemistry & art. The course & its projects are designed to expand the expertise of students in each discipline, while exposing them to the methods, demands, & aims of the other. Historically, the craft of painting was closely linked to the practice of pigment manufacture, with painters procuring their materials in raw form directly from the chemist/apothecary, & often performing themselves the final purification & grinding of the minerals into pigments. Color has been used by both artists & alchemists as a benchmark for tracking changes while creating new materials based on minerals found in nature. With the advent of mass-produced & marketed art materials in the nineteenth century, the distance between chemist & artist increased until the two worlds have little to do with one another. This class aims to reconnect the two disciplines for a study of their common ground. Students will learn about the origins of the color of minerals with primary focus on colors that originate from electronic transitions & will work collaboratively on hands-on laboratory research projects that involve synthesis, characterization, & use of inorganic pigments. In the studio, they will make their own egg-tempura paints, & use them in painting projects designed to increase color skills as they learn about the history of pigment use. Students will collaborate & carry out final projects which combine research, experimentation & creative work. A series of researchers who work at the boundary between art & chemistry will give guest lectures, & the class will make field trips to local research labs & museums.

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 media 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 amateur institutions like sanitariums, circuses, hair salons, talk shows, and planetariums; and artists who collaborate with professional hypnotists, 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 breath 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 ???
60-499 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 CFA) which is signed by the faculty member and the Assistant Head of the School of Art. Prerequisite: Art Junior/Senior status and by instructor permission.

60-590 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.