



## Spring 2017 Elective Course Offerings ~ as of 12/14/2016

### LANDSCAPE ARCHITECTURE

LARP 720-401: Topics in Representation: Design in the Terrain of Water 2: A workshop in printmaking and making landscape

Anuradha Mathur/Matthew Neff

Mondays, 9 – 12 pm

*Cross-listed with FNAR-720-401*

This seminar/ workshop will explore techniques in printmaking (intaglio in particular) as well as alternative printing techniques to engage time and materiality in landscapes. Rather than pictorial depiction, our interest will be in observing processes of transformation in the field and engaging processes of printmaking in the studio in an analogous relationship. We will move towards the iterative and serial, rather than produce singular pieces of work.

Besides class time students would be expected to advance their work in the printmaking studios at other designated times. Each student will also need to pay a nominal lab fee for certain materials and supplies provided.

Enrollment will be by the permission of the instructors only.

LARP 750-001: Topics in Construction, Horticulture and Planting Design: Detailing in Landscape Design

Lindsay Falck/Abdallah Tabet

Thursdays, 9 am – 12 pm

What is the role of the detail in landscape architecture? What makes a good detail, technically and conceptually? How do we understand "detailing" as a process? The detail is the moment of intersection between the conceptual and the practical, born out of the designer's effort to merge an idealized vision with a set of imposed – and often conflicting – parameters and constraints. For some, the detail may contain the essence of a project, a representation of the idea made manifest. Yet it may also be the reason the whole thing falls apart.

Through case studies of exemplary projects, lectures, discussions, and design exercises involving drawing, modeling, and fabrication at a range of scales, this seminar course will explore detailing as an idea, as a process, and as a vital component of design practice and construction methodology. This course offers students the opportunity to develop a strong grounding in the logic and language of details, supporting continued inquiry and critical engagement with design over the course of a career. This course is open to students in other departments if there is space.

LARP 756-001: Arboretum Management II: Evaluating Public Gardens

Cynthia Skema

Tuesday, 1:30 – 4:30pm, Held at the Morris Arboretum

This interdisciplinary course looks at public gardens as a whole, studying these public institutions and their performance in the four major services they undertake: research, horticultural display, conservation and education/outreach. Students, of any level or discipline, begin the course by learning what arboreta and botanic gardens are, how they function, and what role they fill in our society through a series of lecture sessions at the Morris Arboretum. For the remainder of the semester, the students take that knowledge into the field to apply what they have learned and evaluate some of the many public gardens in 'America's Garden Capital,' the Philadelphia region, with expert instructors from the Morris Arboretum as guides. Course assessment will be based on one exam, and a series of essays pertaining to their garden evaluations. Garden evaluations and the written work can be tailored to a particular subject of interest to a student, if pertinent within the public garden realm. Please note that this course takes place at the Morris Arboretum in the Chestnut Hill section of Philadelphia and students are responsible for transporting themselves to and from the arboretum on their own or to other Philadelphia area public gardens as required, for class each week. For further information about the course, students may contact Cynthia Skema ([cskema@upenn.edu](mailto:cskema@upenn.edu)).

## LARP 760-001: Topics in Ecological Design: Large-Scale Landscape Reclamation Projects

William Young

Fridays, 10 am – 1 pm

This course will present practical techniques for the restoration of large tracts of disturbed lands. The course will emphasize techniques used to evaluate sites before a landscape design or restoration plan is prepared. Case studies will be employed to illustrate real world, practical application of course principles. Topics will include examples of how to evaluate and assess health and ecological (toxicity) condition of sites, remediation using sustainable practices, and how to add real economic value to clients' projects and portfolios of properties through ecological restoration. The class promotes sustainable design through the application of "the triple bottom line": Ecology-Economy-Culture, and a template approach on how to achieve that on every project. *Open to all PennDesign graduate students.*

## LARP 770-001: Topics in LA History &amp; Theory: Ethics &amp; Aesthetics of the Cultural Landscape

Raffaella Fabiani-Giannetto

Friday 2 – 5 pm

*Ethics and Aesthetics of the Cultural Landscape* is a seminar that will address the relationship between landscape design and the productive or working landscape. The course will present and discuss primary texts and projects by contemporary and past authors and practitioners, who have explored the relationship and interaction between design and agriculture to achieve goals as broad and diverse as food production—particularly in urban context—ecological restoration, the improvement of biodiversity and conservation. The seminar will also explore the dialectic of the good and the beautiful from a historical and theoretical perspective, taking into consideration examples of designed and written work in which the two philosophical lenses were seen as faces of the same coin and why their consonance is being rediscovered today. The course will include talks by the instructor and invited landscape architects and academics and 1 trip to New York City to visit the office of one relevant practice.

## LARP 770-401: Topics in LA History &amp; Theory: Weimar Landscapes

John Dixon Hunt/Liliane Weissberg, Professor

Tuesday 2 – 4 pm

*Cross listed with GRMN 614-401, ARTH 782-401, COML 615-401, ENGL 584-401, URBS 614-401*

This course is designed for students of literature, landscape architecture and urban planning, and cultural history in general. It will explore the ideas of, and attitudes towards, landscape in selected works by Johann Wolfgang Goethe, and consider his own considerable practical involvement in reshaping the town and gardens of Weimar. The course will provide the larger context of German literature, aesthetics and landscape taste, and politics of the later 18th and early 19th centuries. We will consider the development of new gardens and parks in a "new" style (e.g. Wörlitz); they were regarded to be less formal and more "natural" than their French predecessors. We will study the English models for this movement, and offer particular attention to the major German theorist, C.C.L. Hirschfeld, who would soon become famous outside Germany as well. Readings and discussion will be in English.

*Open to all PennDesign graduate students.*

## LARP 780-001: Topics in Theory &amp; Design: WORK - Aspects and Topics in Landscape Architecture

Laurie Olin

Mondays, 9 am – 12 noon

What landscape architects actually do: this course will examine the nature of professional practice, its projects and typologies in the past century and today. It will examine a diversity and particular issues of a number of project types, their genesis and production from the instructor's experience if the past 50 years of practical experience: the clients, the politics, the design and craft, and their production and construction. It will also examine the nature of collaboration with clients and allied professionals, largely architects and engineers.

This is not a "How to" pro-practice course, nor a history, but rather an investigation of the nature of work as it has been evolving in the field as applied to a number of problem types, and aspects that are common or particular to each. Specific project typologies presented will include: private gardens and estates; public parks – large and small; campus planning and design; civic spaces and plazas; community planning and development, redevelopment, and design; institutional grounds and settings; memorials and monuments; corporate and commercial facilities; infrastructure (highways, roads,

streets, trails, harbors, water systems, etc); regional and large district plans for resources, development, resilience; miscellaneous such as tourist, recreational, agricultural facilities. Enrollment is limited to 24, and will be open to MLA students only.

#### LARP 780-002

Topics in Theory & Design: Designing with Risk

Instructor: Matthijs Bouw, One Architecture, Amsterdam and New York

Tuesdays, 1:30 – 4:30 pm, Room TBA

This research seminar investigates designing with risk, particularly as it relates to the problem of climate adaptation and resilience. The role design can have in managing risk is to a large extent uncharted territory. Our aim is to explore the potential roles and tools of design as a means of responding to risk in spatial, infrastructural and policy projects for resilience at a variety of scales.

In collaboration with faculty, students and thinkers in other disciplines, we will develop a body of knowledge about risk and how it relates to streams of intellectual energy around resilience, and we will identify design tools and strategies to manage both climate risks and project risks. We will use the research seminar to collectively scope the openings where design can have the greatest agency (in either reducing risk or leveraging the potential for change that risk and instability create). These will be opportunities for further research, design projects, studios, investment or other intervention.

Parallel to the seminar, a symposium and a workshop will be organized in conjunction with Rebuild by Design, NYU/Institute for Public Knowledge and Columbia University. Open to all PennDesign graduate students.

#### LARP 780-401: Topics in Theory & Design: Environmental Readings

Frederick Steiner

Tuesdays, 9 am – 12 noon

*Cross listed with CPLN 685-401*

In this seminar, we will explore this green thread and analyze its influence on how we shape our environments through design and planning. The course has three parts. Throughout, the influence of literature on design and planning theory will be explored. The first part will focus on three most important theorists in environmental planning and landscape architecture: Frederick Law Olmstead Sr., Charles Eliot and Ian McHarg. The second part of the course will critically explore current theories in environmental planning and landscape architecture. The topics include: frameworks for cultural landscape studies, the future of the vernacular, ecological design and planning, sustainable and regenerative design, the languages of landscapes, and evolving views of landscape aesthetics and ethics. In the third part of the course, students will build on the readings to develop their own theory for ecological planning or, alternatively, landscape architecture. While literacy and critical inquiry are addressed throughout the course, critical thinking is especially important for this final section. Open to all PennDesign graduate students.

## FINE ARTS

#### FNAR 661: Video I

- Section 401 – Michael Crane – Monday and Wednesday: 2:00pm – 5:00pm
- Section 402 – Emory Van Cleve – Tuesday and Thursday: 9:00am – 12:00 pm
- Section 403 – James Howzell – Tuesday and Thursday: 5:00pm – 8:00pm
- Section 404 – James Howzell – Tuesday and Thursday: 1:30pm – 4:30pm
- Section 405 – Staff – Tuesday and Thursday: 5:00pm – 8:00pm

In this studio based course, students are introduced to video production and postproduction as well as to selected historical and theoretical texts addressing the medium of video. Students will be taught basic camera operation, sound recording and lighting, as well as basic video and sound editing and exporting using various screening and installation formats. In addition to a range of short assignment based exercises, students will be expected to complete three short projects over the course of the semester. Critiques of these projects are crucial to the course as students are expected to speak at length about the formal, technical, critical and historical dimensions of their works. Weekly readings in philosophy, critical

theory, artist statements and literature are assigned. The course will also include weekly screenings of films and videos, introducing students to the history of video art as well as to other contemporary practices.

#### FNAR 665-401: Cinema Production

Emory Van Cleve

Wednesday, 10:00am – 1:00pm

This course focuses on the practices and theory of producing narrative based cinema. Members of the course will become the film crew and produce a short digital film. Workshops on producing, directing, lighting, camera, sound and editing will build skills necessary for the hands-on production shoots. Visiting lecturers will critically discuss the individual roles of production in the context of the history of film.

#### FNAR 673-401: Machine for Seeing: Architecture and the Moving Image

David Hartt

Monday, 10:00am – 1:00pm

Architecture's relationship with cinema was established with the very first motion picture. In *Sortie de l'usine Lumiere de Lyon* by Auguste and Louis Lumiere we see a didactic presentation of film titles as workers from the Lumiere brother's factory stream forth from its interior at days end. In many ways the context of the film is its subject as well. The title of the class plays on Le Corbusier's maxim that architecture is machine for living and perhaps cinema is simply a machine for helping us understand the vast construct of our built environment. A device, which allows us to imagine even greater follies or more importantly to think critically about architecture's relationship with and impact on society. Readings, screenings, discussions and critiques make up the curriculum along with studio time. Students will produce their own film and we will look at films produced by a range of practitioners: From architects speculating on the nature of and use of public space and urban development to documentarians researching the pathologies of neo-liberalism and its effect on the privatization of space. We will also look at the work of artists who engage with the poetics of space and who unpack the conflicted legacies of the built environment FINE ARTS (FA) {FNAR} Page 3 of 38 074. (FNAR674) A Virus in the Culture: Social Critique in Media Arts. (A)

#### FNAR 675-401: Image and Sound Editing

David Novack

Monday, 5:00pm – 8pm

This course presents an in-depth look at the storytelling power of image and sound in both narrative and documentary motion pictures. Students apply a theoretical framework in ongoing workshops, exploring practical approaches to picture editing and sound design. Students edit scenes with a variety of aesthetic approaches, and create story-driven soundtracks with the use of sound FX, dialogue replacement, foleys, music and mixing. Students not only learn critical skills that expand creative possibilities, but also broaden their understanding of the critical relationship between image and sound.

#### FNAR 585-401: Performance Studio

Sharon Hayes

Friday, 10:00am – 4:00pm

This course supports the individual and collaborative production of performance works. As the medium of performance consists of diverse forms, actions, activities, practices and methodologies, the course allows for an open exploration in terms of material and form. Students are invited to utilize technologies, materials and methodologies from other mediums and/or disciplines such as video, photography, writing and sound. In addition to the production component, the course will examine multiple histories of performance through readings, screenings and directed research.

#### FNAR 523: Drawing I

- Section 401 – Marc Blumthal – Tuesday and Thursday: 5:00pm – 8:00pm
- Section 402 – Andrea Hornick – Tuesday and Thursday: 9:00am – 12:00pm
- Section 403 – Deirdre Murphy – Tuesday and Thursday: 1:30pm – 4:30pm
- Section 404 – Pernot Hudson – Monday and Wednesday: 2:00pm – 5:00pm

This course is designed to develop visual awareness and perceptual acuity through the process of drawing. Students learn to sharpen perceptual skills through observational drawing, and to explore the expressive potential of drawing. A variety

of problems and media will be presented in order to familiarize students with various methods of working and ways of communicating ideas visually. Subject matter will include object study, still life, interior and exterior space, self-portrait and the figure. Different techniques and materials (charcoal, graphite, ink, collage) are explored in order to understand the relationship between means, material and concept. Critical thinking skills are developed through frequent class critiques and through the presentation of and research into historical and contemporary precedent in drawing.

#### FNAR 524-401: Drawing Investigations

Ivanco Talevski

Monday and Wednesday, 10:00am – 1:00pm

Drawing is a fundamental means of visualization and a hub for thinking, constructing, and engaging in a wide variety of creative activities and problem solving. This studio class explores drawing in both its traditional and contemporary forms. The projects are designed to help students in all disciplines find ways express and clarify their ideas through the process of drawing. The semester begins with the refinement of perceptual skills acquired in Drawing I, while encouraging experimentation through the introduction of color, abstract agendas, conceptual problem solving, and collaborative exercises, as well as new materials, techniques and large format drawings. Particular attention is given to ways to conduct visual research in the development of personal imagery. Assignments are thematic or conceptually based with ample opportunity for individual approaches to media, subject, scale and process. The goal is to strengthen facility, develop clarity in intent and expand expression. Attention is paid to the development of perceptual sensitivity, methods of image construction, and the processes of synthesis and transformation in order to communicate ideas through visual means. Recommended for students in all areas.

#### FNAR 575-201: Drawing Seminar

Matthew Freedman

Monday, 2:00pm-5:00pm

This seminar examines the essential nature drawing has in an artist's process. Direct visual perception, self-referential mark making, the viability of space and understanding it, and drawing from one's own work are some of the drawing experiences encountered in the course. There are regular critiques and discussions based on the work and readings.

#### FNAR 545-401: Sculpture Practices

Michelle Lopez

Friday, 10:00am 4:00pm

As an introduction to traditional and contemporary three-dimensional practice, this course is concerned with the concepts and methodologies surrounding three-dimensional art making in our time. Students experiment with a variety of modes of production, and develop some of the fundamental techniques used in sculpture. In addition to these investigations, assignments relative to the history and social impact of these practices are reinforced through readings and group discussion. Processes covered include use of the Fab Lab, wood construction, clay, paper, mixed media, and more.

#### FNAR 546-401: Sculpture II: Object and Installation

Tom Bendtsen

Monday and Wednesday, 10:00am – 1:00pm

This course expands upon the skills and concepts developed in FNAR 145 Sculpture Practices. Students experiment with a variety of modes of production, while concentrating on the historical space between the art object and installation. In addition to these investigations, assignments relative to the history and social impact of these practices are reinforced through readings and group discussion.

#### FNAR 622-401: Big Pictures: Mural Arts

Heriza Golden and Shira Walinsky

Monday and Wednesday, 2:00pm – 5:00pm

The history and practice of the contemporary mural movement couples step by step analysis of the process of designing with painting a mural. In addition, students will learn to see mural art as a tool for social change. This course combines theory with practice. Students will design and paint a large outdoor mural in West Philadelphia in collaboration with Philadelphia high school students and community groups. The class is co-taught by Jane Golden, director of the Mural

Arts Program in Philadelphia, and Shira Walinsky, a mural arts painter and founder of Southeast by Southeast project, a community center for Burmese refugees in South Philadelphia.

#### FNAR 531: Painting Practices

- Section 401 – Ivanco Telavski – Monday and Wednesday: 2:00pm – 5:00pm
- Section 402 – Deirdre Murphy – Tuesday and Thursday: 9:00am – 12:00pm

Painting practices is an introduction to the methods and materials of oil painting. This course begins with an investigation of color and color relationships. The beginning of the semester will cover technical issues and develop the student's ability to create a convincing sense of form in space using mass, color, light and composition. The majority of work is from direct observation including object study, still life, landscape, interior and exterior space, and the self-portrait. Class problems advance sequentially with attention paid to perceptual clarity, the selection and development of imagery, the process of synthesis and translation, color, structure and composition, content and personal expression. Students will become familiar with contemporary and art historical precedent in order to familiarize them with the history of visual ideas and find appropriate solutions to their painting problems.

#### FNAR 633-401: Digital Illustration

Scotty Reifsnyder

Monday and Wednesday, 1:00pm – 4:00pm

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

#### FNAR 634-401: Art of the Web

Sebastien Derenoncourt

Monday and Wednesday, 6:00pm – 9:00pm

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

#### FNAR 635-401: 3-D Computer Modeling

Scott White

Monday and Wednesday 10:00am – 1:00pm

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

#### FNAR 645-401: Book & Publication Design

Sharka Hyland

Monday, 5:00pm – 9:00pm

Book and Publication Design will focus on the theory and professional practice of designing multi-page publications. Students will analyze formal structures of different types of books-literature and poetry, fiction and non-fiction compilations, illustrated volumes such as art catalogues, monographs and textbooks, and serial editions-discussing both traditional and experimental approaches. The format of the course will be split between theoretical and historical evaluations of book formats by drawing on the Van Pelt Rare Book Collection-and studio time where students will design books with attention to the format's conceptual relationship to the material at hand with a focus on typography and page

layout, as well as on understanding production methods of printing and binding. In addition to the conventions of page layout students will examine paratextual elements (title page, practices of pagination and other internal structuring, content lists and indexes, colophons, notes and marginalia, end-leaves, binding, etc.).

#### FNAR 547-401: Environmental Animation

Brent Landau

Tuesdays and Thursdays, 9:00am – 12:00pm

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

#### FNAR 550-401: Intro to Printmaking

Marc Blumthal

Tuesday and Thursday, 1:30pm - 4:30pm

The course offers an introduction to several forms of printmaking including: intaglio, screen printing, relief, and mono-printing. Through in-class demonstrations students are introduced to various approaches to making and printing in each medium. The course enhances a student's capacity for developing images through two-dimensional design and conceptual processes. Technical and conceptual skills are developed through discussions and critiques.

#### FNAR 553-401: Adv. Project Printmaking

Virgil Marti

Wednesday, 10:00am – 1:00pm

This course will concentrate on expanding imagery in print media. The course requires the proposal of a directed final project to be developed during the semester. Three initial exploratory projects will culminate in the final. Projects are open to all print media, but there will be an emphasis on screen printing. Techniques will be addressed as they serve the needs of ideas rather than a set technical procedure. Through individual consultation, scheduled class critiques, and field trips, attention will be given to studio work in and out of printmaking so that the technical and conceptual strengths of print media can serve as a worthwhile adjunct to an overall studio practice. Prerequisite(s): FNAR 551 and FNAR 552 or FNAR 557. Course Fee \$75.00

#### FNAR 654-401: Printmaking Publications

Kayla Romberger

Tuesday and Thursday, 9:00am – 12:00pm

This course introduces students to independent publishing and artists' publications through print methods in letterpress, Risograph, and Xerox. The class will focus on the self-published artists' zine/ book as an affordable, accessible, and easily reproducible format for exploring ideas, disseminating artists' work, and collaborating across disciplines. Students will learn a range of skills, including techniques in both mechanized and hand-pulled forms of printed media (Risograph, copy machine, Vandercook letterpress); short-run editions and binding; design and layout; pre-press and print production; and the web as it relates to and supports independent and democratic modes of distribution. Students will learn about and become acquainted with some of the most significant independent publishers working today and throughout history. Students will leave class having completed three individual projects: a 16-page booklet/zine; a carefully considered online publication, and a final collaborative book designed, developed and published as a class. The course commences with a field trip to New York City's Printed Matter, one of the oldest and most important nonprofit facilities dedicated to the promotion of artists' books, where students will be encouraged to submit a publication by semester's end.

### FNAR 558-401: Introduction to Clay

- Section 401 – Matthew Courtney – Monday and Wednesday: 5:00pm – 8:00pm
- Section 402 – Sumi Maeshima – Tuesday and Thursday: 1:30pm – 4:30pm
- Section 403 – Ryan Greenheck – Monday and Wednesday: 2:00pm – 5:00pm

In this introductory clay class, students will learn all the fundamental skills needed to create three-dimensional forms in clay using a variety of methods: wheel throwing, hand building (such as coil building and slab construction), and press molding. Whether creating utilitarian forms or creating sculpture, projects are designed to strengthen both craftsmanship and individual creativity. In addition to developing a working knowledge of the ceramic process, including surface treatments and glazing, students will also be introduced to design issues as well as contemporary art/ceramics topics that influence our aesthetic sensibilities.

### FNAR 559-401: Beginning Clay

Sumi Maeshima

Tuesday and Thursday, 5:00pm – 8:00pm

Modeling and casting are fundamental methods of object-making. Students will learn basic hand building techniques such as coil building, slab construction, and mold making through assignments that incorporate conceptual and technical issues. Through experimentation with these methods, this course promotes an understanding of materials, processes, visual concepts, and techniques for creating three-dimensional forms in space. In addition to using different water-based clays and plaster, other materials such as wax, plastiline, paper pulp, cardboard, and tar paper will be explored.

### FNAR 563-401: Advanced Wheel Studio

Ryan Greenheck

Monday and Wednesday, 5:00pm – 8:00pm

This course teaches students more advanced wheel throwing techniques while helping to develop their critical skills in other areas of ceramic work. Students will learn to throw, employing larger masses of clay, and to increase the complexity of their work by combining and altering thrown parts. There will be an emphasis on experimentation in surface treatment and design, the goal of which is to expand a student's ability to create more complicated and personalized clay works. In addition to learning the technical knowledge, there will be critical discussions.

### FNAR 636: Art, Design, & Digital Culture

- Section 401 – Scotty Reifsnnyder – Monday and Wednesday: 10:00am – 1:00pm
- Section 402 – Jacob Rivkin – Monday and Wednesday: 4:00pm – 7:00pm
- Section 403 – Keith Fledderman – Tuesday and Thursday: 4:30pm – 7:30pm
- Section 404 – Jacob Rivkin – Monday and Wednesday: 7:00pm – 10:00pm

This course is an introduction to the fundamental perception, representation, aesthetics, and design that shape today's visual culture. It addresses the way artists and designers create images; design with analog and digital tools; communicate, exchange, and express meaning over broad range of media; and find their voices within the fabric of contemporary art, design, and visual culture. Emphasis is placed on building an extended form of visual literacy by studying and making images using a variety of representation techniques; learning to organize and structure two-dimensional and three dimensional space, and designing with time-based and procedural media. Students learn to develop an individual style of idea-generation, experimentation, iteration, and critique as part of their creative and critical responses to visual culture. If you need assistance registering for a closed section, please email the department at [fnarug@design.upenn.edu](mailto:fnarug@design.upenn.edu). Course Fee \$75.00

### FNAR 566-401: Graphic Design

Mahir Yavuz

Thursday, 4:30pm – 8:30pm

The aim of this course is to introduce students to creative ways to use color, typography, and layout across new materials and media, ranging from print to physical objects. Students will explore visual design through a set of assignments and projects that are geared towards exploring the role of design in visual arts, interaction design, media design and architecture. The course introduces a number of design concepts such as content organization, navigation, interaction and



data-driven design and show ways to develop new design metaphors, presentation techniques, and imagery using old and new technologies. This course is structured as a combination of lectures and hands on workshops where students will have the chance to work both individually and collaboratively to realize their projects. Prerequisite(s): FNAR 636. Course Fee \$75.00

#### FNAR 570-401: Graphic Design Practicum

David Comberg

Tuesday and Thursday, 1:30pm – 4:30pm

Practicum provides a real world experience for students interested in solving design problems for nonprofit and community organizations. The studio works with two clients each semester, and previous projects have included print design, web design, interpretive signage and exhibit interactives. All projects are real and will result in a portfolio-ready finished product. Students will participate in a full design experience including design, client interaction, presentations, production, and project management. In addition, students will take field trips, meet professionals and go on studio visits. Prerequisite(s): FNAR 566 or FNAR 569. Course Fee \$75.00

#### FNAR 571: Intro to Photography

- Section 401 – Karen Rodewald – Tuesday, 1:30pm – 4:30pm
- Section 403 – Gabriel Martinez – Tuesday, 9:00am – 12:00pm

This course is an introduction to the basic processes and techniques of black & white photography. Students will learn how to expose and process 35mm film, SLR camera operation, darkroom procedures & printing, basic lighting and controlled applications. It begins with an emphasis on understanding and mastering technical procedures and evolves into an investigation of the creative and expressive possibilities of making images. This is a project-based course, where students will begin to develop their personal vision, their understanding of aesthetic issues and photographic history. Assignments, ideas and important examples of contemporary art will be presented via a series of slide lectures, critiques and discussion. No previous experience necessary. 35mm SLR cameras will be available throughout the semester for reservation and checkout from the photography equipment room. If you need assistance registering for a closed section, please email the department at [fnarug@design.upenn.edu](mailto:fnarug@design.upenn.edu)

#### FNAR 572-401: Advanced Photography

Karen Rodewald

Wednesday, 2:00pm – 5:00pm

This studio course seeks to broaden each student's skills by experimenting with a wide range of photographic media. Advanced analog, digital and experimental lens-based techniques will be covered, as well as larger camera formats to expand their vocabulary as image-makers. Emphasis will be on an integrated experience of the photographic medium and the development of a body of work that is both theoretically and historically informed. The course will be a means to view and discuss various strategies of important contemporary photographers. Focused assignments, readings, slide lectures and gallery visits will supplement each student's artistic practice and research. Prerequisite(s): FNAR 571 or Permission of Instructor. Course Fee \$75.00

#### FNAR 580: Figure Drawing I

- Section 401 – Douglas Martenson – Monday and Wednesday: 5:00pm – 8:00pm
- Section 402 – Marjorie Edgerton – Friday: 10:00am – 4:00pm

Students work directly from the nude model and focus on its articulation through an understanding of anatomical structure and function. Students will investigate a broad variety of drawing techniques and materials. The model will be used as the sole element in a composition and as a contextualized element. Prerequisite(s): FNAR 523. Course Fee \$75.00

#### FNAR 589-401: Mixed Media Animation

Staff

Tuesday and Thursday, 1:30pm – 4:30pm

Mixed Media Animation is a contemporary survey of stop-motion animation concepts and techniques. Students use digital SLR cameras, scanners and digital compositing software to produce works in hand-drawn animation, puppet and clay animation, sand animation, and multiplane collage animation. Screenings and discussions in the course introduce key

historical examples of animation demonstrating how these techniques have been used in meaningful ways. Students then learn how to composite two or more of these methods with matte painting, computer animation or video. Prerequisite(s): FNAR 523 and FNAR 636. Course Fee \$75.00

#### FNAR 518-401: Paris Modern: Spiral City

Ken Lum and Jean-Michel Rabate

Wednesday, 9:00am – 12:00p

Paris has been shaped by a mixture of organic development, which is still today perceptible in the "snail" pattern of its arrondissements whose numbers, from 1 to 20, coil around a central island several times so as to exemplify a "spiral city," and of the violent cuts, interruptions and sudden transformations that again and again forced it to catch up with modern times, the most visible of which was Baron Haussmann's destruction of medieval sections of the city to make room for huge boulevards. Thus Parisian modernism has always consisted in a negotiation between the old and the new, and a specific meaning of modernity allegorized for Louis Aragon, the Surrealists and Walter Benjamin consisted in old-fashioned arcades built in the middle of the 19th century and obsolete by the time they turned into icons of Paris. The aim of the class will be to provide conceptual and pragmatic (visual, experiential) links between a number of texts, theories and films deploying various concepts of the modern in Paris, with a guided tour of the main places discussed. The course that Professors Jean Michel Rabate (English) and Ken Lum (Fine Arts) will lead studies Paris as a work of science-fiction where its many futures are embedded in its many pasts, where discontinuity is a continuous process and where the curving line of the snail's shell is a line of ceaseless curling resulting in a perennial oscillation where an outside converts into an inside and an inside then converts to an outside. The course will travel to Paris over spring break to get an in-depth look at the topics discussed in class.

#### FNAR 631-401: Interdisciplinary Studio

Jackie Tileston

Monday and Wednesday, 5:00pm – 8:00pm

This course takes an experimental multimedia approach to investigating some of the boundaries in contemporary art making practices. Painting, photography, video, design and sculpture intersect, overlap, and converge in complicated ways. Projects will be designed to explore hybrid forms, collage, space/ installation, and color through a variety of strategic and conceptual proposals as students work towards unique ways of expanding their own work. Weekly readings, critiques, and presentations will be integrated with studio projects. This studio/seminar is appropriate for students at all levels and from all areas of Fine Arts and Design. Prerequisite(s): One previous studio course (such as FNAR 523, FNAR145, FNAR640, FNAR 531 or FNAR 636 or Penn Design course) or permission from the instructor.

#### FNAR 637-401: Information Design and Visualization

David Comberg

Tuesday and Thursday, 9:00am – 12:00pm

Information design and visualization is an introductory course that explores the structure of information (text, numbers, images, sounds, video, etc.) and presents strategies for designing effective visual communication appropriate for various users and audiences. The course seeks to articulate a vocabulary of information visualization and find new design forms for an increasingly complex culture. Prerequisite(s): FNAR 636. Course Fee \$75.00

#### FNAR 640: Digital Photography

- Section 401 – Michael Bryant – Monday: 10:00am – 1:00pm
- Section 402 – Anna Neighbor – Monday: 2:00pm – 5:00pm
- Section 403 – Karen Rodewald – Tuesday: 5:00pm – 8:00pm
- Section 404 – Sarah Stolfa – Tuesday: 10:00am – 1:00pm
- Section 405 – Gabriel Martinez – Tuesday: 1:30pm – 4:30pm
- Section 406 – Jamie Diamond – Wednesday: 2:00pm – 5:00pm
- Section 407 – Jamie Diamond – Wednesday: 5:00pm – 8:00pm
- Section 408 – Heather Phillips – Thursday: 1:30pm – 4:30pm
- Section 409 – Nancy Davenport – Wednesday: 10:00am – 1:00pm

- Section 410 – Tony Ward – Friday – Friday: 1:00pm – 4:00pm

This class offers an in-depth technical and conceptual foundation in digital imagery and the opportunity to explore the creative, expressive possibilities of photography. Students will become proficient with the basic use of the camera, techniques of digital capture, color management and color correction. They will also develop competency in scanning, retouching, printing and a variety of manipulation techniques in Photoshop. Through weekly lectures and critiques, students will become familiar with some of the most critical issues of representation, consider examples from photo history, and analyze the impact of new technologies and social media. With an emphasis on structured shooting assignments, students are encouraged to experiment, expand their visual vocabulary while refining their technical skills. No previous experience is necessary. Although it is beneficial for students to have their own Digital SLR camera, registered students may reserve and checkout Digital SLR cameras and other high-end equipment from the department. If you need assistance registering for a closed section, please email the department at [fnarug@design.upenn.edu](mailto:fnarug@design.upenn.edu). Course Fee \$75.00

#### FNAR 643-401: Language of Design

Sharka Hyland

Wednesday, 4:00pm – 8:00pm

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

#### FNAR 647-401: Expanded Documentary

Nancy Davenport

Thursday, 10:00am – 2:00pm

The sites and situations of documentary in our culture have exploded exponentially - from standardized formulas (like reality TV), to social media and cross-platform journalism. In contemporary art, documentary practice has also significantly expanded and diversified. Since the early 2000's, with several influential exhibitions following Documenta XI, a new generation of artists have taken up the ambition of depicting our social reality, and have done so by re-engaging and re-inventing the documentary mode. This intermediate course will examine this vital contemporary field and will also offer students a comprehensive introduction to the history of documentary practice. We will investigate a series of key questions regarding the relation between politics and aesthetics, mediums and mobility, how documents function to both approximate and deny a sense of 'reality' and perhaps most importantly- what kinds of social, political or personal realities you want to propose in your artwork. The class will be driven by a series of studio assignments and practical experimentation. Although there will be an emphasis on photography and video, students will also explore a multiplicity of strategies and forms (including archival display, essayistic installation, image-text relationships, and the documentation of performance.)

#### FNAR 649-401: Advanced Digital Photography

Brent Wahl

Wednesday 10:00am – 1:00pm

In this studio course, students will become proficient in advanced techniques of image production while expanding their artistic process and refining their photographic work. With an emphasis on self-directed projects and research, students will further their knowledge of image control and manipulation, retouching and collage, advanced color management; become familiar with high-end equipment and develop professional printing skills. Class discussion, lectures and assigned readings will address the critical issues in contemporary art, media and photographic culture. Emphasis will be on integrating practice and critical dialogue.

#### FNAR 646-401: Advanced 3D Modeling

Scott White

Friday 9:00am – 12:00pm

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

FNAR 678-401: Interfacing Cultures

Sebastien Derenoncourt

Friday, 9:00am – 1:00pm

This course introduces advanced topics related to contemporary media technologies, ranging from social media to mobile phones applications and urban interfaces. Students learn how to use new methods from interaction design, service design, and social media and work towards prototyping their ideas using new platforms and media. The class will cover a range of topics such as such as online gaming, viral communication, interface culture, networked environments, internet of things and discuss their artistic, social, and cultural implications to the public domain. Prerequisite (s): FNAR 634. Course Fee \$75.00

FNAR-515-201: Abroad Studio

Brent Wahl and Gabriel Martinez

Thursday, 2:00pm – 6:00pm

This Traveling Studio is offered every other spring term to upper level photography & related media students. It is a cross-cultural visual investigation, exploring the contradictions and significance of the chosen city. This course incorporates multi-disciplinary research in preparation for the trip; exploring various fields of knowledge production such as art, history, social sciences, markets and governance. Class discussion, readings and individual research will be focused towards the development of each student's photo/media project, which will be realized while abroad. After returning to Philadelphia, students will develop and refine their work; the remaining classes will emphasize critique, editing, printing and presentation options. The final projects will be included in a group exhibition at the end of the semester. Admission to the course is on a competitive basis.

FNAR 712-201: Visual Epistemologies

Orkan Telhan

Friday, 10:00am – 1:00pm

In this joint seminar between Architecture and Fine Arts, we investigate the alternative modes of diagrammatic thinking that are influencing art and design disciplines. The course provides a historical perspective on the evolution of visual epistemologies from late 1950s and reviews its current state from the lens of contemporary representation theory, computation, fabrication and information technologies. The goal is to gain both theoretical and hands-on experience with the contemporary diagramming techniques in order to advance both designs and the thinking behind them. 201 SEM F 10-

FNAR 720-401: Topics in Representation

Monday, 9:00am – 12:00pm

Anu Mather and Matt Neff

In these advanced representation courses the work extends to new ways of documenting and seeing landscape. These courses are open to all interested School of Design students who have previous drawing experience or have taken foundation studios. Recent topics have been: Traces and Inscriptions (spring 2013), instructors: Anuradha Mathur, Matthew Neff; Landscape Representation (fall annually), instructors: Valerio Morabito; Landscape Drawing (spring annually), instructor: Laurie Olin; Landscape Drawing (spring 2008), instructors: David Gouverneur, Trevor Lee; Shifting Landscapes: A Workshop in Representation (spring 2005, 2004), instructor: Anuradha Mathur; and The Agile Pencil and Its Constructs (spring 2004) instructor: Mei Wu.

**CITY PLANNING****CPLN 621: Metropolitan Food Systems**

Domenic Vitiello

Friday, 9:00am-12:00pm

This course introduces students to the planning and development of community and regional food systems around the world. It focuses on strategies by which planning and allied professionals impact food systems through traditional and non-traditional planning and community economic development institutions. Major topics include foodshed planning; municipal food policy; community food security; distribution and markets; enterprise and workforce development; and urban agriculture. The class includes a mix of lectures, discussion, and field trips, some of which involve hands-on work. Graded assignments include two individual exercises, a take-home exam, and a group or individual project. The course aims to develop students' broad knowledge of food system planning, with an emphasis on community and economic development strategies for sustainable food systems and community food security.

**CPLN 624: Readings in Race, Place & Poverty**

Akira Drake-Rodriguez

Thursday, 10:30am-1:30pm

In recent years, long-disinvested cities have become the site of renewed investment, population growth, and economic development in a phenomenon often described as gentrification. Nonetheless, socioeconomic inequality between races, ethnicities, genders, and places within the larger metropolitan area continue to persist, suggesting that a rising tide does not raise all boats. Planners must grapple with these issues of inequality and inequity, particularly the implementation of plans and policies that may in theory provide benefits to all, but in practice continue to accumulate benefits for a select few. This course examines the construction of race, the making of a place, and the persistence of poverty in racialized places in the city. This course will engage in a critical discussion of the aforementioned themes, such that the normative notions of race, capitalism, urbanism, gender, power, and space are upended to privilege more marginalized perspectives of these processes

**CPLN 635: Water Policy and Planning**

Allison Lassiter

Tuesday, 1:30pm to 4:30pm

Aging infrastructure, urbanization, climate change, and limited public funds are contributing to urban water management crises in cities around the globe. This course examines the systems and policies that comprise urban water. We begin with the infrastructures that underlie drinking water, wastewater, and stormwater services. Then, we review innovative management technologies and strategies, focusing on case studies of infrastructure shifts in Philadelphia and Melbourne. Finally, we undertake a global investigation of water management challenges and opportunities.

**ARCHITECTURE****ARCH- 632-001: Deployable Structures**

Mohamad Al-Khayer

Thursday, 9:00-12:00

The objective of this course is to introduce the rapidly growing field of deployable structures through hands on experiments conducted in workshop environments. Students develop skills in making deployable structures.

**ARCH 632-002: Geometric Structural Design**

Masoud Akbarzadeh

Monday, 9:00-12:00

Geometric structural design I provides a comprehensive introduction to novel geometric methods of structural design based on 2D and 3D graphical statics (Rankine, 1864; Maxwell, 1870; Wolfe, 1921; Akbarzadeh, 2016). The main emphasis of the course will be on developing a general understanding of the relationship between structural forms in equilibrium and the geometric representation of their internal and external forces. This relationship will be used as the main apparatus in designing provocative structural forms using only geometric techniques rather than complicated

algebraic/numerical methods. Moreover, special consideration will be given to materialization of the structural geometry and the proper fabrication techniques to construct the complex geometry of the structure.

#### ARCH 632-003: Performance Based Computational Design

Mostapha Sadjepour

Thursday, 9:00-12:00

This course introduces a variety of topics on how building environmental performance can be used to generate design solutions and inform design-decisions. It introduces students to building performance simulation in the context of parametric modeling. It later explores computational methods for automation, optimization and data training. Students will pick a design problem, identify environmental performance goals and develop computational solutions that use the results of the analysis to auto-generate design options. Students will use available tools such as Grasshopper, DynamoBIM, Ladybug and Honeybee in addition to developing their own scripts as needed using Python. No prior knowledge of coding is required for this course. Basic knowledge of parametric modeling is recommended.

#### ARCH 632-004: Daylighting

Jessica Zofchak

Tuesday, 6:00-9:00

This course aims to introduce fundamental daylighting concepts and tools to analyze daylighting design. The wide range of topics to be studied includes site planning, building envelope and shading optimization, passive solar design, daylight delivery methods, daylight analysis structure and results interpretation, and a brief daylighting and lighting design integration.

#### ARCH 632-005: Principles of DigiFab

Mikael Avery

Tuesday, 9:00-12:00

Through the almost seamless ability to output digital designs to physical objects, digital fabrication has transformed the way designers work. At this point, many of the tools and techniques of digital fabrication are well established and almost taken for granted within the design professions. To begin this course we will review these ‘traditional’ digital fabrication techniques in order to establish a baseline skill set to work from. We will then explore hybrid approaches to digital fabrication in which multiple techniques are utilized within the same work. During all of these exercise we will discuss the development of 3D printing and its place in the digital fabrication dialogue.

#### ARCH 638-001: Building Acoustics

Joe Solway

Tuesday, 3:00-6:00

This course covers the fundamentals of architectural acoustics and the interdependence between acoustics and architectural design. The course explores the effects of materials and room shape on sound absorption, reflection and transmission, and demonstrates how modeling, visualization and auralization can be used to understand acoustic and aid the design process. The course includes a lecture on the history and future of performance space design, a visit to the Arup SoundLab in New York and two assignments, one practical (Boom Box) and one theoretical (Sound Space).

#### ARCH 638-003: Mechanisms for Design

Aaron Pavkov

Tuesday, 6:00-9:00

Mechanisms enable everything from scissor lifts and corkscrews to elevators and accelerator pedals. To design a properly working mechanism requires knowledge of how to achieve the desired motion and a source of power to make it happen. We will examine a variety of mechanisms to understand how they work and how to apply those concepts to solve mechanical problems.

**ARCH 638-004: Building Envelopes**

Charles Berman

Tuesday, 3:00-6:00

This seminar seeks to establish a framework of understanding enclosures as integral to the student's architectural intentions. We will seek to introduce the numerical facts of what is accepted as facade design (criteria, codes, loads, forces and consumptions) in order to seek a deeper understanding of the generative process underlying these physical criteria. The intent is to evade the mere acceptance of these external facts to the intentions of the Architect. The aim of this seminar is to arm the student with a guided understanding of the materials and assemblies available to them to form building enclosures

**ARCH 638-005: Water Shaping Architecture**

Jonathan Weiss and Stuart Mardeusz

Tuesday, 3:00-6:00

This course is an investigation of the ways that architecture is informed by the water resources and availability of each specific project region. We will cover a range of subjects including; the physics of water, the systems to gather, distribute, supply and treat potable water, grey water, waste water, including the correlation to energy and recycling that are integrated into the architecture of buildings. How do our choices as architects impact access to water, and how are those issues predetermined on a building, local, regional and continental scale? How can our projects react resiliently to changing climate and changing reality?

**ARCH 638-006: Architectural Workflows in the Design and Delivery of Buildings**

Richard Garber

Wednesday 9:00am-12:00 pm

This seminar in design and technology would focus on the concept of the architectural workflow as it pertains to both contemporary operations in design practice as well as novel project delivery methods. The synthesis of digital design platforms with simulation and increasing access to data in the form of natural phenomena, ecology, and building performance has allowed contemporary architects to engage the notion of workflows with others in design and construction practices. Beyond design intent and process, workflows occupy an expanded territory within architectural practice and merge digital design operations with construction activities, project delivery, and post-occupation scenarios in both virtual and actual formats. The implications for the architecture, engineering and construction (AEC) industry could not be greater, and these new collaborative models have become as important as the novel buildings they allow us to produce.

**ARCH 712-001: Topics in ARCH Theory: The Idea of an Avant Garde in Architecture**

Joan Ockman

Tuesday, 9:00am-12:00 pm

The seminar will undertake a close reading of one of Tafuri's richest and most complexly conceived books, *The Sphere and the Labyrinth: Avant-Gardes and Architecture from Piranesi to the 1970s*. Initially published in Italian in 1980 and translated into English in 1987, the book came at a pivotal moment in Tafuri's career and represents the first sustained effort to define and historicize the idea of an avant-garde specifically in the domain of architecture. Tafuri's narrative centers on the architecture of the first three decades of the twentieth century and traverses experimental theater designs, the American skyscraper and its impact on the European architectural imagination, and urban planning in Germany and the Soviet Union. Surprisingly, however, Tafuri begins his account in the eighteenth-century with the "wicked" architectural inventions of Piranesi, and he concludes with a critique of neo-avant-garde practices in the 1960s and '70s.

**ARCH-712-002 Topics in ARCH Theory: History of Urban Philosophy**

Manuel DeLanda

Thursday: 6:00 pm-9:00 pm

This class introduces students to the branch of the philosophy of history that specializes in cities. Cities are social entities that exist at an intermediate scale between the micro-level of individuals and the macro-level of society as a whole. Social science (economics, sociology) has tended to focus at those two extremes, while the intermediate meso-level has been neglected by the mainstream schools. The philosophy of history, in turn, has been affected by these choices, becoming a theory of the dynamics of entire societies (and the ages through which they pass, such as agricultural, industrial, and

information ages) or a theory of the decisions and actions of great individuals. The philosophy of urban history aims at remedying this situation, stressing not only the role of cities as historical actors, but also the role of other mesolevel social entities: from local communities and institutional organizations, to urban regions and provinces.

#### ARCH-712-003 Topics in ARCH Theory II: Articulate Building Envelopes: Construction and Expression

Ariel Genadt

Thursday 3:00 pm-6:00 pm

In the 20<sup>th</sup> century, building envelopes have become the prime architectural subject of experimentations and investments, as well as physical failures and theoretical conflicts. This semester examines the meaning of performance of 20<sup>th</sup>-century envelopes by unfolding their functions and behaviors in salient case studies, in practice and in theory. While the term performance is often used to denote quantifiable parameters, such as exchanges of energy, air and water, this seminar seeks to recouple these with other, simultaneous actions performed by the envelope and by the building it encloses. Albeit numbers cannot describe those performances, their consideration is key to the interpretation of quantifiable ones. Ultimately, the articulation of the polyvalence of envelopes becomes the measure of their architectural pertinence. Each class meeting includes a lecture, students' case studies presentations, and film screenings. This seminar qualifies as an elective for the Ecological Architecture Certificate and the M.E.B.D. program.

#### ARCH 712-004 Topics in Arch Theory: Architecture, Cold War Culture, and Consumer Society

Joan Ockman

Tuesday 1:00-4:00 pm

The seminar explores the intersections of postwar politics, economics, and architecture from the rise of the Iron Curtain to the fall of the Berlin Wall, focusing on the transformations of everyday life in a technologically enhanced society of spectacle and an emerging global village. Emphasis is on both historical research and theoretical inquiry. We aim to cast light on contemporary architecture through an in-depth reflection on its immediate prehistory.

#### ARCH 712-005 Topics in ARCH Theory: Detroiters Spatial Imagination. Architectural Translations of Grassroots Networks

Eduardo Rega Calvo

Thursdays, 9:00 am-12 pm

Selected as the subject matter of two recent architecture and design events (the US Pavilion at the Venice Biennale and the Ideas City Festival, both in 2016), Detroit has been a key protagonist in American architecture discourse attracting international attention both within and beyond the discipline. The Detroiters' Spatial Imagination seminar aims to reflect and develop collective architecture research on contemporary Detroiters' visionary architectural and urban activist practices vis a vis the city's economic transformation, from top-down disinvestment to bottom-up self-provisioning and organizing. Through reading discussions and mobilizing various tools of inquiry on the city, the seminar will investigate those involved in the long-term and small scale processes that have been revitalizing communities in Detroit using architecture, art and design to facilitate people's participation in the production of their built environment. The work produced in the seminar will be part of upcoming international exhibition and will be featured in UrbanNext, an online platform by Actar Publishers.

#### ARCH-712-401 Topics in ARCH Theory: Baroque Parameters

Andrew Saunders

Tuesday 1:00 pm-4:00 pm

In this course we will use computation as an instrument to reassess the geometric principles of Baroque architecture. Deep plasticity and dynamism of form, space and light are explicit signatures of the work; less obvious are the disciplined mathematical principles that generate these effects. Geometry and mathematics were integral to 17<sup>th</sup>-century science, philosophy, art, architecture and religion. They are what link Baroque architects Francesco Borromini and Guarino Guarini to other great thinkers of the period including Descartes, Galileo, Kepler, Desargues and Newton. Through the exploitation of trigonometric parameters of the arc and the chord, Baroque architects produced astonishing effects, performance and continuity. Generative analysis by parametric reconstruction and new speculative modeling will reexamine the base principles behind 17<sup>th</sup> century topology and reveal renewed relevance of the Baroque to the contemporary paradigm.



## ARCH 712-007 Topics in ARCH Theory: The Skyscraper and the Suburb

Joseph Watson

Mondays 9 am-12 pm

This course examines the unlikely pairing of the skyscraper and the suburb. While these are typically treated as discrete historical phenomena, this course will develop an understanding of them as inextricably intertwined urban artifacts. Together they have inscribed a wide range of social, cultural, and economic desires onto landscapes across the globe. By considering the diverse ways that architects, planners, developers, filmmakers, historians, and theorists have understood these sites, students will develop a critical understanding of the role that the skyscraper and the suburb have played in defining architectural and urban thought from the late-nineteenth century to the present.

## ARCH 714-401: Museum as Site: Critique, Intervention, and Production

Andrea Hornick

Thursday 1:00-4:00pm

In this course, we will take the museum as a site for critique, invention, and production. As architecture, cultural institution, and site of performance, the museum offers many relevant opportunities. Students will visit, analyze, and discuss a number of local exhibitions and produce their own intervention in individual or group projects. Exhibition design, the process of curating, producing artworks ranging from paintings to installation and performance, as well as attention to conservation, installation, and the logistics and economics of exhibitions will be discussed on site and in seminar. These topics will be open for students to engage as part of their own creative work.

## ARCH-724-001: Technology in Design: Aperiodic -The Mathematics of Tiling in Architectural Design

Joshua Freese

Tuesday 3:00-6:00 pm

Repetition and difference in geometric tiling patterns produce visual complexity, intricacy, economy and articulation. From textiles and ceramics to architectural design, the tradition of tiling has culled from mathematical systems that inscribe two- and three-dimensional geometric conditions, ultimately yielding cultural effects that are unique to their time. By examining this tradition across time and disciplines, this course will explore a range of mathematical systems, tools and media as well as how they advance contemporary architectural topics such as parametrics, optimization, fabrication, and implementation.

Through lectures, readings and workshops, the course will lead students to develop contemporary and future-oriented methods that establish new parameters for tiling systems. Students will identify particular tiling families from guest lectures, historical precedents and readings, and will establish conditions for scripting new assemblies for generating three-dimensional patterns and assemblies.

Fabrication methods will consider an economy-of-means, using minimal variation in base models and molds to achieve maximum differentiation in the aggregation of tiles into 3-dimensional volumetric models. It is through this negotiation between fixed rules and variable freedoms that tiling systems have historically asserted their cultural value – and this will be the ultimate goal of the course.

## ARCH-724-002: Technology in Design: Data and Adaptation

Mark Nicol

Tuesday 9:00 am-12noon

Data + Adaptation seeks to study emerging tools and workflows that allow designers to tap into abundant sources of data and leverage them towards crafting adaptable, dynamic constructions. Low cost sensors and simple scripting techniques will be used to collect and visualize complex data fields. Design tools within the Rhino/Grasshopper or Maya ecosystem with the capability of designing and simulating dynamic responses to shifting data fields will be explored. In the end, students will take a position with regards to how data might affect design and furthermore how architectural constructions might be designed with the capacity to dynamically adapt to those fluctuating data.

## ARCH 726-401 Contemporary Furniture Design

Katrin Mueller-Russo

Tuesday 12 noon-3:00 pm

This course provides a platform, in the form of furniture, to execute and deploy architectural and engineering principles at full scale. It will be conducted as a seminar and workshop and will introduce students to a variety of design methodologies

that are unique to product design. The course will engage in many of the considerations that are affiliated with mass production; quality control, efficient use of material, durability, and human factors. Students will conduct research into industrial design processes, both traditional and contemporary, and will adapt these processes into techniques to design a prototype for limited production. Instruction will include; model making, the full scale production of a prototype, its detailing; design for mass production and the possibility of mass customization; design for assembly, furniture case studies; design techniques, software integration, optimization studies; Computer Aided Manufacturing (CAM) and a site visit to a furniture manufacturer.

#### ARCH 727-401 Industrial Design I

Peter Bressler

Wednesday 9:00am-12noon

Industrial design (ID) is the professional service of creating and developing concepts and specifications that optimize the function, value and appearance of products and systems for the mutual benefit of both user and manufacturer. Industrial designers develop these concepts and specifications through collection, analysis and synthesis of user needs data guided by the special requirements of the client or manufacturer. They are trained to prepare clear and concise recommendations through drawings, models and verbal descriptions. The profession has evolved to take its appropriate place alongside Engineering and Marketing as one of the cornerstones of Integrated Product Design teams. The core of Industrial Design's knowledge base is a mixture of fine arts, commercial arts and applied sciences utilized with a set of priorities that are focused firstly on the needs of the end user and functionality, then the market and manufacturing criteria. This course will provide an overview and understanding of the theories, thought processes and methodologies employed in the daily practice of Industrial Design. This includes understanding of ethnographic research and methodologies, product problem solving, creative visual communication, human factors / ergonomics application and formal and surface development in product scale. This course will not enable one to become an industrial designer but will enable one to understand and appreciate what industrial design does, what it can contribute to society and why it is so much fun.

#### ARCH 728-401 Design of Contemporary Products: Smart Objects

Carla Diana

Tuesday 3:00- 6:00 pm

This course will explore product design solutions through a combination of physical and digital design methods. Beginning with an examination of case studies, students will gain a sense of the breadth of product and interaction design practice as it applies to smart objects. Through a series of lectures and hands-on studio exercises, students will explore all aspects of smart object design including expressive behaviors (light, sound and movement), interaction systems, ergonomics, data networks and contexts of use. The course will culminate in a final project that considers all aspects of smart object design within the context of a larger theme.

#### ARCH 730-001 Techniques, Morphology, and Detailing of a Pavilion

Mohamad Al-Khayer

Wednesday 6:00 pm-9:00 pm

The course will focus on the design, morphology, detailing, and construction. The course will employ hands-on workshops and will focus on acquiring knowledge through understanding the morphological transformation of a given geometric packing and building using readily available materials. Students will learn how to use lightweight construction materials to fabricate components of a pavilion. Students will also develop their practical knowledge of organizing design and fabrication teams, controlling design and production schedules, and working within a set budget which requires tracking construction costs and forecasting for required procurements, including material quantities takeoff, ordering material, and schedule deliveries and receiving.

#### ARCH 732-001 Advanced Enclosures: Tectonics, Techniques and Materials

Charles Berman

Wednesday 9:00 am-12:00 pm

This seminar seeks to expand a framework of understanding enclosures as integral to the student's architectural intentions. We will seek to move beneath the numerical facts of what is accepted as facade design (criteria, codes, loads, forces and consumptions) to seek a deeper understanding of the generative process underlying these physical criteria in order to evade the mere acceptance of these external facts to the intentions of the Architect.

The nature of enclosures will be explored through methods of analysis and interrogation of materials, their attributes, and their forms of assembly and the natures of their manufacture. The vehicle for this interrogation will be the act of drawing and assembling. Case studies of new materials, new processes and new applications will provide the basis gaining this dissecting/cutting ability (Frasconi). In addition the students will engage in generative detailing exercises, at simultaneous scales, to analyze and apply these decontextualized results to reveal their nature manifest in facade.

#### ARCH 734-001 Ecological Architecture – Contemporary Practices

Todd Woodward

Tuesday 9:00-12 noon

The first part of the course will review how the environmental concerns of resource efficiency, energy and water conservation are affecting the design of buildings. What about site impacts such as storm water, habitat disruption, and open space preservation? How do we track the ecological scale effects of architectural design?

How are we measuring progress towards more environmentally responsible design? In the second part of the course, we will explore the evolving notions of resilience, regenerative design, and related design movements that expand the notion of environmental responsibility. Moving towards ecological design will require an understanding of the ecology of “process.” How can our understanding of nature as an open, evolving system lead us to new approaches to the design of building materials, construction systems, and implementation strategies? What are the architectural implications of concepts such as biomimicry, biophilia, and integrated design? This view moves from building as exploitive of nature to an “ecological architecture” in which natural and constructed systems work together, contributing to the ongoing renewal of life.

#### ARCH 740-001 Formal Efficiencies

Erick Carcamo

Tuesday 12:00 pm-3:00 pm

The seminar is a discourse based in the use of multi-layered techniques and production processes that allow for control over intelligent geometries, calibration of parts, and behavioral taxonomies, normalizing an innovative field of predictability. Our goal is to explore innovative, potential architectural expressions of the current discourse around form through technique elaboration, material intelligence, formal logic efficiencies and precision assemblies as an ultimate condition of design.

The seminar will develop and investigate the notion of proficient geometric variations at a level of complexity, so that questions towards geometrical effectiveness, accuracy and performance can begin to be understood in a contemporary setting.

#### ARCH 742-001 Function of Fashion in Architecture

Danielle Willems

Tuesday 6:30-9:30

The Function of Fashion in Architecture will survey the history of fashion and the architectural parallels starting from Ancient Civilization to Present. The focus will be on the relevance of garment design, methods and techniques and their potential to redefine current architecture elements such as envelope, structure, seams, tectonics and details. The functional, tectonic and structural properties of garment design will be explored as generative platforms to conceptualize very specific architectural elements. One of the challenges in the course is the re---invention of a means of assessment, the development of notations and techniques that will document the forces and the production of difference in the spatial manifestations of the generative systems.

#### ARCH 744-401 Digital Fabrication: Post Digital Craft

Ferda Kolatan

Monday 6:00 pm-9:00 pm

This seminar course investigates the fabrication of digital structures through the use of rapid prototyping (RP) and computer-aided manufacturing (CAM) technologies, which offer the production of building components directly from 3D digital models. In contrast to the industrial-age paradigms of prefabrication and mass production in architecture, this course focuses on the development of repetitive non-standardized building systems (mass-customization) through digitally controlled variation and serial differentiation. Various RP and CAM technologies are introduced with examples of use in contemporary building design and construction.

**ARCH 748-001 Architecture and the New Elegance**

Hina Jamelle

Wednesday 6:00 – 9:00pm

The seminar will define and elaborate on the following topics for the digital discourse- the contemporary diagram, technique, structure, architectural systems and aesthetic projections. Technological innovations establish new status quos and updated platforms from which to operate and launch further innovations. Design research practices continually reinvent themselves and the techniques they use to stay ahead of such developments. Reinvention can come through techniques that have already been set in motion. Mastery of techniques remains important and underpins the use of digital technologies in the design and manufacturing of elegant buildings. But, ultimately, a highly sophisticated formal language propels aesthetics.

**ARCH 750-002 Parafictional Objects**

Kutan Ayata

Friday 9:00-12:00pm

This Representation/Design Seminar will start with series of lectures examining the histories of Realism in Art spanning from French Realism of 19th Century through Hyperrealism into Parafictional Art of the recent past with their aesthetic provocations at the center of this inquiry. Weekly discussions of the reading material will be followed by student presentations on assigned topics. The design portion of the seminar will commence with the regeneration and defamiliarization of objects extracted from Still Life Paintings. The process will carry through multiple mediums of image patterning, line drawing, 3D modeling and surface mapping, exploring the potentials of cross-medium translations to articulate surface characters. These objects will then be fabricated to gain physical presence in the world. The realism of these objects as things in the world will be further explored through a project in rendering and photocomposition as each object will be inserted back into the Still Life painting.

**ARCH 754-001 Performance Design Workshop**

Mostapha Sadeghipour Roudsari

Friday 9:00 am-12 noon

The workshop applies simulation and diagramming techniques to a series of discrete design projects at different scales. The emphasis is on refinement and optimization of performance based building design. Performance analysis techniques can provide enormous amounts of information to support the design process, acting as feedback mechanisms for improved performance, but careful interpretation and implementation are required to achieve better buildings. Energy, lighting, and air flow are the three main domains covered in the workshop. Students will learn how to utilize domain tools at an advanced level, and utilize them as applications to examine the environmental performance of existing buildings. Using the results of analytical techniques, the students will develop high-performance design strategies in all three domains.

**ARCH 762-401 Design and Development**

Paul Sehnert

Fridays 9:00-12:00 pm

This course provides an introduction to the relationship between architectural design and real estate development. Following a discussion of fundamentals, examples focus on commercial building types, and illustrate how architectural design can contribute to real estate development. Topics include housing design commercial buildings, adaptive reuse, downtown development, mixed-use projects, and planned communities. The course consists of lectures, reading assignments, short essays, a group project, and a mid-term test. Invited lecturers include architects and real estate developers. Readings consist of a Bulkpack available from Wharton Reprographics. There is one course text: Witold Rybczynski, "Last Harvest.

**ARCH-765-001: Project Management**

Charles Capaldi

Friday 9:00am-12 noon

This course is an introduction to techniques and tools of managing the design and construction of large, and small, construction projects. Topics include project delivery systems, management tools, cost-control and budgeting systems, professional roles. Case studies serve to illustrate applications. Cost and schedule control systems are described. Case studies illustrate the application of techniques in the field.

**HISTORIC PRESERVATION****HSPV 531-001: American Domestic Interiors**

Laura Keim

Tuesday, 1:30-4:30

This course will examine the American domestic interior from the seventeenth through the twentieth centuries with emphasis on the cultural, economic, and technological forces that determined the decoration and furnishing of the American home. Topics covered include the evolution of floor plans; changes in finish details and hardware; the decorative arts; floor, wall, and window treatments; and developments in lighting, heating, plumbing, food preparation and service, as well as communication and home entertainment technologies.

**HSPV 606-001: Historic Site Management**

David Young

Friday, 9:00-12:00

This course focuses on management, planning, and decision making for all types of heritage sites from individual buildings to historic sites to whole landscapes. Course material will draw on model approaches to management, as well as a series of domestic and international case studies, with the goal of understanding the practicalities of site management.

**HSPV 621-301: Social Justice Seminar**

Randall Mason

Wednesday, 2:00-5:00

How do historic preservation and other design professionals contribute to more equitable and just societies? How can our work be organized to result in greater equity, access and social justice? This seminar will explore connections between historic preservation (and related design, planning and artistic practices) and the pursuit of social justice.

**HSPV 625-001: Preservation Economics**

Donovan Rypkema

Tuesday, 9:00-12:00

The primary objective is to prepare the student, as a practicing preservationist, to understand the language of the development community, to make the case through feasibility analysis why a preservation project should be undertaken, and to be able to quantify the need for public/non-profit intervention in the development process.

**HSPV 620-401: Paris and Philadelphia: Landscape & Literature of the 19<sup>th</sup> Century***Cross-listed with FREN 620-401*

Aaron Wunsch &amp; Andrea Goulet

Monday, 2:00-5:00

This course explores the literal and literary landscapes of 19<sup>th</sup>-century Paris and Philadelphia, with particular attention to the ways in which the built environment is shaped by and shapes shifting ideologies in the modern age.

**HSPV 747-401: Conservation of Archaeological Sites***Cross-listed with ANTH 508-401*

Frank Matero &amp; Clark Erickson

Wednesday, 2:00-5:00

This seminar will address the history, theories, principles, and practices of the preservation and interpretation of archaeological sites and landscapes. The course will draw from a wide range of published material and experiences representing both national and international contexts. Topics will include site and landscape documentation and recording; site formation and degradation; intervention strategies including interpretation and display, legislation, policy, and contemporary issues of descendent community ownership.

**KLEINMAN CENTER FOR ENERGY POLICY**

ENMG 506-001

William Hederman

Monday, 2:00 – 5:00pm

Hydraulic fracturing technology has transformed America's energy status. Instead of running out of domestic oil and gas, an abundance scenario has reduced energy costs throughout the economy, affected the domestic jobs mix, diminished the threat of Russian strategic withholding of oil or gas supplies, and reduced the economic power of OPEC. The far-reaching effects of this energy technology breakthrough provide an opportunity to examine in detail how the interdependent energy technology and energy market systems interact to affect many other decisions and developments. For example, the success of shale gas development to the point where there being oversupplies lowered market prices for natural gas. The lower prices first led to more natural gas-fired power being dispatched because of lower price bids for the gas-fired power versus coal-fired power. This, in turn, led to lower overall prices for electric power priced in organized markets, such as PJM. As the price of electricity declined, revenues for renewable power and for base load power (both coal-fired and nuclear) declined. The decreased profitability of nuclear plants has driven the early retirement of several of these plants. This has lowered the production of zero carbon emitting power. The FERC, nuclear facility owners, and some state commissions are trying to address this challenge to keep nuclear power in the Clean Power Plan options. Other technology effects include the improved outlook for gas-dependent manufacturing. With shale oil, the rapid production growth in the non-traditional area of North Dakota out-paced pipeline capacity growth. This, in turn, affected railroad systems. Railroads expanded tanker car capacity and moved significant volumes of crude oil from ND to the east, gulf and west coasts. The oil unit trains displaced many coal unit trains - which adversely affected coal power plant operations. Internationally, the significant growth of US oil/gas production affected global prices. For both geological and policy reasons, hydraulic fracturing with horizontal drilling is quite limited elsewhere in the world. The success of hydraulic fracturing for U.S. shale development offers specific lessons for contemporary energy policy as well as more general lessons about the impact of technology innovation on policy and markets.

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**DETAILED INFORMATION ON REGISTRATION IS AVAILABLE ONLINE AT: [COURSES AND REGISTRATION](#)**

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