

*Spring 2021 Elective Course Offerings*

**ARCHITECTURE**

*(Subject to change - Please check course search for up-to-date information)*

**ARCH 685-401: Environmental Readings**

**Frederick Steiner**

**Wednesday and Friday, 10:30am - 12:00pm**

**HYBRID**

A long, deep green thread exists in American literature from Ralph Waldo Emerson and Walt Whitman through Herman Melville and William Carlos Williams on to Terry Tempest Williams and Wendell Berry. This literature has influenced how we perceive our environments and, in the process, many planners, designers, and conservationists such as Frederick Law Olmsted, Jane Addams, Aldo Leopold, Lewis Mumford, Ian McHarg, and Anne Whiston Spirn. 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 the three most important theorists in environmental planning and landscape architecture: Frederick Law Olmsted Sr., Charles Eliot, and Ian McHarg. The senior Olmsted pretty much created the field of landscape architecture, adapting the English landscape aesthetic for the rapidly urbanizing North American continent to address pressing urban issues. Arguably, the planning profession in the United States also began with the senior Olmsted. Charles Eliot was a protégé of Olmsted's. Eliot pioneered the use of comprehensive, scientific landscape inventories; originated the concept of land trusts; and designed the first metropolitan regional open-space plan. Educated in landscape architecture and city planning, Ian McHarg influenced both fields in the late twentieth century. He urged us to better understand natural processes and how people use space. The second part of the course will critically explore current theories in environmental planning and landscape architecture. The topics will 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.

**ARCH 712-001: Topics in Arch Theory II: Visual Research: Architecture and Media after WWII**

**Taryn Mudge**

**Thursday, 9:00am-12:00pm**

**ONLINE**

This course will question how architects have engaged in visual research of the built environment within the process of architectural design. In particular, we will consider the media and methods architects have used to observe and to record building sites and how visual information has influenced design thinking and informed architectural proposals in the postwar period. The visual material under investigation in this course will include, but is not limited to, photography (aerial, documentary, street, etc.), film, sketches, painting, collage, mapping as well as magazines and advertisements. Additionally, we will consider the physical distance and relationship between the observer and the observed. For example, does the architect observe the site from the air, as a pedestrian, or through a windshield? Do they borrow images or make their own? Are they in search of precise information or are they hoping to uncover the mood or local character? Are they preparing for a commissioned project or are they dreaming of a utopian future? The course is organized into three parts: Part I will concentrate on approaches to visual research and observation in Europe immediately following the Second World War, Part II will focus on the American context and images of postwar consumer culture, and Part III will discuss the rapid evolution of media and architecture in the late 20th century and question the trajectory of the "post" periods – post-modern, post-post-modern, post-documentary, post-digital and beyond.

**ARCH 712-003: Topics in Arch Theory II: Architectural Envelopes: Technology and Expression**

**Ariel Genadt**

**Thursday, 9:00am-12:00pm**

**ONLINE**

Since the mid 19th century, architectural envelopes have become the prime subject of experimentations and investments, as well as theoretical conflicts. This seminar takes the revolution of steel and glass technology in the 19th century as a starting point to examine the relationship between construction technologies and architectural expression in the 20th and 21st centuries. It explores the interdependence of theory and practice in case studies located in various cultures and climates around the world, and built in a range of techniques and materials. The lectures are organized thematically, looking at the different ways by which technology can be instrumental in selectively revealing and concealing structural logic, material properties, fabrication, digital tools, climate control, sensorial perception, image-making, symbolism and atmosphere. The seminar develops students' critical thinking towards contemporary practice, where globalized technology and large capital often hinder the creation of architecture with local cultural pertinence. Understanding the reciprocities between building, technology and expression is essential for creatively tackling architecture's impact on the environment and sustaining its civic agency.

**ARCH 712-005: Topics in Arch Theory II: Architectures of Refusal: On Spatial Justice in the South Bronx**

**Eduardo Rega Calvo**

**Thursday, 9:00am-12:00pm**

**ONLINE**

A neighborhood with a remarkable history of struggle against inept municipal governments, neoliberalism and the forces behind the breeding of decay, the South Bronx is currently experiencing an aggressive wave of gentrification and policies that keep benefitting small elites. Grassroots organizations are fighting back while practicing radical imaginations for a more just future. Architectures of Refusal: On Spatial Justice in the South Bronx aims to reflect and develop collective architecture research on contemporary visionary architectural and urban activist practices in the South Bronx that refuse capitalist exploitation vis a vis New York City's economic transformation: from top-down public disinvestment and privatization to bottom-up self-provisioning and organizing. Through reading discussions, film/audiovisual analysis and mobilizing various tools of inquiry on the city, the seminar will learn from those involved in the long-term and grassroots processes that have been redrawing the limits of socio-spatial organization in the South Bronx. The seminar will study the history of radical social movements from the second half of the 20th century in NYC with a special focus on the South Bronx. Groups of students will develop research and spatial visualizations of grassroots struggles for environmental and food justice, post-capitalist economic practices, public health, prison abolitionism and anti-gentrification. Some of the work produced in the seminar will be included in the Architectures of Refusal online platform that aims to study and present the socio-spatial, territorial, urban and environmental dimensions of social movements that prefigure a world that refuses the neoliberal oligarchical status quo.

**ARCH 713-401: Ecological Thinking in Art and Architecture**

**Daniel A. Barber, Mantha Zarmakoupi**

**Thursday, 1:30pm-4:30pm**

**ONLINE**

In the past three decades, discussions about ecological impact and sustainability have come to prominence in the Arts and Sciences as well as in Architecture and Urban Planning. On the one hand, the growing priority of ecocriticism across the humanities (e.g., the recently developed Undergraduate Minor in Environmental Humanities at Penn) and the enlarged agenda of Eco Art to engage with environmental, aesthetic, social, and political relations have led Art Historians to strive at a probing and pointedly ethical integration of visual analysis, cultural interpretation, and environmental history—for an “Ecocritical Art History.” Architecture schools, on the other hand, have created MA programs, such as “Landscape Urbanism” and “Sustainable Design,” and “Environmental Building Design” and architectural theorists and ecological thinkers coin new terms – “resilience,” “adaptation,” and “mitigation”—in efforts to reframe and more effectively tackle the urgent environmental and demographic pressures of global urban developments. Many of these development aim to articulate a more earth-conscious mode of analysis for art and architecture alike. Such concerns have been intensified recently by initiatives to designate the current era of geological time as the “Anthropocene”—the epoch that began when human phenomena started to have a major influence on the Earth's appearance and ecosystems.

**ARCH 714-001: Museum as Site: Critique, Intervention, and Production**

**Andrea Hornick**

**Thursday, 1:00pm-4:00pm**

**ONLINE**

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 to this time we are living in. Students will visit (online or in person, as their place of residence during the course allows), analyze, and discuss a number of local exhibitions and produce their own intervention in individual or group projects. Exhibition design, design of museum, the process of curating, producing artworks ranging from paintings to installation, performance, and audio works, as well as attention to conservation, installation, museum education, and the logistics and economics of exhibitions will be discussed on site and in seminar. These topics and others will be open for students to engage as part of their own creative work produced for the class in the form of an online exhibition. Museums have been greatly impacted by the current pandemic and the accompanying sea change in social, racial, gender, and economic equity. We will look at how various institutions are creatively responding to the challenge. The students will be asked to respond to these issues within their projects. In the first class, we will understand the current location of each student, and which in-person resources they have access to. This discussion will shape the course of the class; students who are able to visit traditional museums in person, will document and present responses to their visits, and use them to shape a final project. Others will use online resources as well as outdoor spaces within their local environments and urban fabric, including spaces connected to institutions or responding to them. This will include public art, monuments, ruins, outdoor sculpture, graffiti, parks and gardens, arboretums, etc.

**ARCH 718-001: History and Theory of Architecture and Climate**

**Daniel A. Barber**

**Wednesday, 9:00am-12:00pm**

**ONLINE**

Climate change is upon us. This course discusses the history of thinking about climate in architecture. We confront the geographic and epistemic challenges of climate change and other environmental threats, and reconsider the forces seen to condition the development of modern architecture. The course will explore the history of buildings as mechanisms of climate management, and the theoretical and conceptual frameworks that pertain.

As many of the arguments and innovations in the climate discourse were made through visual means, the images produced by architects and others interested in understanding the relationship between “man” and “climate” will be a central arena of exploration. We will treat these images as evidence of material innovations in energy efficient architectural design technologies and also as evidence of new ways of thinking about ecological, political, cultural, and economic relationships.

These narratives, images, and methods – and the broader understanding of environmental systems that emerged since the immediate post-war period – also suggest a complex relationship to the present. Rather than examine instrumental aspects of these methods and their histories, we will explore different historiographic and conceptual means for the archival analysis of climate, technology, and architecture. Recent texts concerned with theories of historical change, of new ideas about the human, and with the cultural anxieties associated with the Anthropocene will be read to this end.

**ARCH 726-001: Furniture Design as Strategic Process**

**Mikael Avery**

**Thursday, 12:30pm-3:30pm**

**HYBRID**

Like architecture, furniture exists at the intersection of idea and physical form. Due to the specific scale that furniture occupies, however, this physical form relates not only to the environment in which the furniture is set, but also intimately to the physical bodies that interact with and around it. Additionally, as a manufactured product, often specified in large quantities, furniture must also address not only poetic considerations, but practical and economic ones as well. Instead of being seen as one-off objects, the furniture created in this seminar focuses on furniture development as a strategic design process where the designer’s role is to understand the various responsibilities to each stakeholder (client/manufacturer, market/customer, environment) and the additional considerations (materials, processes, manufacturability, etc.), and ultimately translate these points into a potentially successful product.

In order to approach furniture in this manner, the course will be structured around specific design briefs and clustered into three distinct but continuous stages. First, through focused research into stakeholder needs and potential market opportunities, students will craft tailored design proposals and development concepts accordingly. Next, students will work toward visualizing a concept, complete with sketches, small mock-ups, scale-model prototypes, technical drawings, connections and other pertinent details in order to refine their proposals and secure a real world understanding of the manufacturing processes and the potential obstacles created by their decisions. From insights gained and feedback from these steps, students will ultimately develop a final design proposal for a piece, collection, or system of furniture that successfully leverages their understanding of a thoughtful and deliberate design strategy.

**ARCH 732-001: Tech Designated Elective: Enclosures: Selection, Affinities & Integration**

**Charles Berman**

**Wednesday, 9:00am-12:00pm**

**ONLINE**

Details should be considered in the traditional sense, as assemblages of constituent elements. Not as a mere collection of parts, rather as an “assemblage”, the act of assembling under a guiding principle; the relationship to a whole. Frascari defines the detail as the union of construction – having the dual role of ruling both the construction and construing of architecture. This obligation of the relationship of the parts to the whole and the whole to the parts is the essence of the revelatory detail in service of architecture. This seminar seeks to establish a framework of understanding enclosures in this sense of the revelatory detail. We will seek to counterpoint the numerical (external) facts of what is accepted as facade design (criteria, codes, loads, forces and consumptions) with an understanding of the generative processes underlying these physical criteria. The aim of this seminar is to arm the student with a guided understanding of the materials and assemblies available to them to form enclosures. The underlying intent is twofold. In a generative role as architects, the course intends not for an encyclopedic overview of the elements and calculative methodologies of envelope design. Rather we will endeavor to investigate concepts of enclosure through assemblage of elements, mediated by details, in the service of the architectural intentions of the student. In an execution role as architects in practice, the investigation into methodologies of deployment and execution of enclosure, materials and assemblies is intended to arm the students to engage proactively in their future practices with the succession of consulting engineers, specialty facade consultants, manufacturers and facade contractors that they will encounter during the execution of their work.

**ARCH 732-002: Tech Designated Elective: Computational Composite Form**

**Ezio Blasetti**

**Monday, 9:00am-12:00pm**

**ONLINE**

This seminar will research algorithmic generative methods and the use of carbon fiber in robotics for architectural design. The research will focus on the intersection of computation, form generation, simulation and robotic fabrication. The objective is to develop and document specific computational tools and material prototypes that span across design phases, from concept to fabrication. This course investigates computation as an embodied application in the design, manufacturing and lifespan of architectural building elements. Students will use object-oriented programming to develop advanced generative and analytical algorithms. Students will explore techniques of advanced geometric operations for the design and robotic manufacturing of complex building components. The seminar will include workshops with micro-controllers for the design of prototypes with embedded informational systems. Students will be introduced to concepts and techniques of evolutionary computation and machine learning and explore their application in architectural design.

**ARCH 732-003: Tech Designated Elective: Deployable Structures**

**Mohamad Al Khayer**

**Thursday, 9:00am-12:00pm**

**HYBRID ONLINE/IN-PERSON**

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 732-004: Tech Designated Elective: Daylighting**

Jessica Zofchak

Tuesday, 6:00pm-9:00pm

ONLINE

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 732-005: Tech Designated Elective: Principles of Digital Fabrication**

Mikael Avery

Thursday, 9:00am-12:00pm

HYBRID

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 utilize a series of exercises in order to explore a hybrid approaches to digital fabrication in which multiple techniques are utilized within the same work.

With the advent of 3D printing technology in the late 1980s and the current wave of widespread adoption as a design tool—found in design schools and offices across the world—the immediate testing of complex digital models has never been quicker, clearer, or more immediate. Despite this formal freedom to test and print, the installations and buildings generated from these complex digital models rely on much more traditional building techniques for their construction. By combining various digital fabrication approaches, we seek to challenge and reframe the often reductive geometries that currently supports much of this work and bring with it a new way of approaching aesthetics, structure, and construction based on the possibilities inherent in these digital tools and techniques.

**ARCH 732-006: Tech Designated Elective: Heavy Architecture**

Philip Ryan

Thursday, 3:00pm-6:00pm

ONLINE

Heavy Architecture is a seminar that will examine buildings that, through their tectonics or formal expression, connote a feeling of weight, permanence, or “heaviness.” Analysis of these buildings and methods of construction stand in relation to the proliferation of thin, formally exuberant, and, by virtue of their use or commodified nature, transient buildings. The course is not a rejection or formal critique of “thin” architecture, but instead an analysis of the benefits and drawbacks of the “heavy” building type in terms of a building’s financial, environmental, symbolic or conceptual, and functional goals. The course will parse the alleged nostalgic or habitual reputation of “heavy” architecture within the context of architecture’s ongoing struggle to be the vanguard of the built environment even while its relevancy and voice is challenged by economic, stylistic, and social forces.

**ARCH 732-007: Tech Designated Elective: Embodied Carbon & Architecture**

Stephanie Carlisle

Thursday, 6:00pm-9:00pm

ONLINE

The environmental impacts of the built environment are staggering. Buildings are currently responsible for 40% of global carbon emissions, when both operational and embodied carbon are taken into account. Architects have a vital role to play in responding to the current climate emergency, but we can only make substantial progress when we are equipped to evaluate decarbonization strategies and the effects of design decisions.

This course brings together an introduction to Life Cycle Assessment (LCA), the industry-standard method for evaluating the environmental impacts of a building over its whole life cycle, paired with discussion on broader industry trends and technologies aimed at radically decarbonizing the built environment. In the course, students will receive hands-on experience building comparative LCA models, while also exploring material life cycles, industrial processes, supply chain dynamics, and political and economic dimensions of environmental impact data. We will also discuss current innovations in materials manufacturing and policy changes that focus on

embodied carbon, which will transform construction practices. The overall goal of the course is to increase carbon literacy and to empower students with a working understanding of climate change, life cycle assessment, and the many strategies by which designers can immediately reduce the carbon footprint of their projects. This course does not require any previous modeling or software experience.

**\*\*NEW COURSE\*\***

**ARCH 732-008: Tech Designated Elective: Inquiry into Biomaterial Architectures**

**Laia Mogas-Soldevila**

**Monday, 9:00am-12:00pm**

**ONLINE**

Traditional building materials are environmentally- and economically-expensive to extract, process, transport or recycle, their damage is non-trivial to repair, and have limited ability to respond to changes in their immediate surroundings. Biological materials like wood, coral, silk, skin or bone outperform man-made materials in that they can be grown where needed, self-repair when damaged, and respond to changes in their surroundings. Their inclusion in architectural practice could have great benefits in wellbeing and the environment defining new tools and strategies towards the future of sustainable construction. Crucial projects describing future biomaterial architectures are emerging in the field. In this seminar, students will review their potential through lectures followed by case studies and propose future developments through a guided research project with special attention to functional, industrial, environmental and aesthetic dimensions. The course is structured to foster fundamental scientific literacy, cross-disciplinary thinking, creativity, and innovation in biomaterials in design.

**ARCH 734-001: Ecological Architecture, Contemporary Practices**

**Todd Woodward**

**Tuesday, 9:00am-12:00pm**

**ONLINE**

Architecture is an inherently exploitive act – we utilize resources from the earth and produce waste and pollution to create and occupy buildings. We have learned that buildings are responsible for 40% of greenhouse gas emissions, 15% of water use and 30% of landfill debris. This growing realization has led building designers to look for ways to minimize negative environmental impacts. Green building design practices are seemingly becoming mainstream. Green building certification programs and building performance metrics are no longer considered fringe ideas. This course will investigate these trends and the underlying theory with a critical eye. Is "mainstream green" really delivering the earth-saving architecture it claims? As green building practices become more widespread, there remains something unsatisfying about a design approach that focuses on limits, checklists, negative impacts and being "less bad." Can we aspire to something more? If so, what would that be? How can or should the act of design change to accommodate an ecological approach?

**ARCH 736-001: Tech Designated Elective: Building Acoustics**

**Joe Solway**

**Tuesday, 3:00pm-6:00pm 0.5 CU – 01/20/21 – 03/09/21**

**ONLINE**

This course covers the fundamentals of architectural acoustics and the interdependence between acoustics and architectural design. The course explores the effects of building massing, room shape and form, and architectural finishes on a project site's soundscape and the user's acoustic experience. It will include fundamentals on sound, sound isolation, room acoustics and building systems noise control, a lecture on the history and future of performance space design, a virtual visit to the Arup SoundLab, and two assignments.

**ARCH 736-002: Tech Designated Elective: Virtual Construction & Detailing with BIM**

**Patrick Morgan**

**Thursday, 6:00pm-9:00pm 0.5 CU – 01/20/21 – 03/09/21**

**ONLINE**

Building Information Modeling (BIM) has become the standard of building construction, design, and operation. During the past decade significant changes have taken place in the nature of design and construction practices which has transformed the very nature of architectural representation. Architects no longer draw 2D deceptions of what they intend others to build, but they instead model, code, simulate and integrate the final built product virtually, alongside their colleagues and collaborators, architects, engineers and builders.

The production of an information rich BIM is the ground upon which all construction activities for advanced and complex buildings take place. BIM is also the origins of contemporary innovations in Integrated Design, the creation of collaborative platforms which aim to maximize the sustainable outcomes in the project delivery of buildings. Moreover, being able to collaboratively produce, share and query a BIM makes possible the global practice of design and construction. The course will familiarize students to this important field of architectural practice.

**ARCH 736-005: Tech Designated Elective: Water Shaping Architecture**

**Stuart Mardeusz & Jonathan Weiss**

**Tuesday, 3:00pm-6:00pm 0.5 CU - 03/12/21 – 04/29/21**

**HYBRID**

While efforts in sustainable design have focused on energy use, carbon footprint, light and impacts on human occupants, it could be argued that water is the ultimate test of sustainability. *Water is amongst the most compelling and significant design topics of the 21st Century. Not just a necessity of life, water has central social, cultural, and symbolic meanings and plays an essential role for all living organisms. As our planet is ever more challenged to provide for increasing populations with finite resources, our approach to water will need to evolve to meet our new and future realities. The goals of this course are to recognize the significant history of designing water, and touch upon the social, cultural, ecologic, and economic impact that designed water has had and will play in the 21st Century, and in addressing urgent global challenges linked to climate change.*

Water Shaping Architecture will challenge individuals to project possibilities for our disciplines and begin to inform students about the crucial role design plays in shaping this resource. 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?

If Sustainability is about providing for our needs while allowing for future generations to do the same, how does our outlook on water shape our decision-making process? The class includes readings, short sketch assignments and case studies, field trips (in person as possible or virtual) and a final case study report.

**ARCH 736-006: Tech Designated Elective: Architectural Workflows in the Design and Delivery of Buildings**

**Richard Garber**

**Monday, 9:00am-12:00pm 0.5 CU – 03/12/21 – 04/29/21**

**ONLINE**

This seminar in design and technology will 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 enabled by Building Information Modeling (BIM). The synthesis of these 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. Increasingly, this engagement involves object-oriented computing operations and non-human interfaces that expand architectural scope beyond buildings, allowing us to more broadly consider the complex environments in which our buildings exist. As such, 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 744-001: Digital Fabrication**

**Ferda Kolatan**

**Monday, 7:00pm-10:00pm**

**ONLINE**

This course explores the conceptual and material intersections between digital technology and contemporary aesthetics. The seminar will examine how '3D Color Printing' can expand our conceptual, historical, and material understanding of the relationship between images and objects in the context of architecture. Through the design and fabrication of a "Digital Folly", the students will advance their technical skills while also reflecting on architecture's rich tradition of manifesting cultural ideas through the combination of the pictorial with the tectonic in novel ways.

**ARCH 746-001: Cinema and Architecture in Translation**

**Danielle Willems, Nicholas Klein**

**Wednesday, 9:00am-12:00pm**

**ONLINE**

Cinema and Architecture in Translation is a course that will survey key cinematic moments and techniques within the history of film and find new intersections between architecture and dramatic situational narratives. This course is organized into a series of thematic lectures that parallel the contemporary development of the two disciplines both in theory and technique. The focus will be on the analysis of mise-en-scène, the architecture of the film scene and developing speculative architectural futures.

Current pre and post-production techniques in filmmaking are converging with architectural digital representation. This is an opportunity that provides fertile ground for architects to critically re-examine the ‘digital’ and ‘image’ making in a variety of scales in relation to impactful narratives and visualizations. There is a rich history in constructing images, speculative worlds and scenes for the film industry. These tools, specifically the technique of “matte-painting” will be explored in this course. We will examine the parallels between the tools and strategies of cinematic visualization as it relates to advanced architectural image making.

Students will engage and explore selected readings on the intersections between architecture and cinema. While an important aspect of this course will be to identify the differences between “real” and “cinematic” architecture, we will also explore the ever more porous borders between the physical, the virtual and the amorphous. The emphasis is to encourage more intellectual rigor along with more fearless and technically proficient visualization. This is an advanced representation course that produces 2D images and narrative texts.

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

**Hina Jamelle**

**Wednesday, 7:00pm-10:00pm**

**ONLINE**

The seminar will define and elaborate on the following topics for the digital discourse- diagrammatic relations, technique and aesthetic principles. 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. 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. The seminar seeks to reframe the questions facing architectural design, setting the intellectual framework for an increasingly expansive set of design solutions. The goal is to narrow the gap between aesthetics, design research and practice.

**\*\*NEW COURSE\*\***

**ARCH 758-001 Resilience: The Urgency of Climate Change**

**Joe MacDonald**

**Monday, 9:00am-12:00pm**

**ONLINE**

With sea levels rising, amidst pandemics, and struggling to find our way through race relations, this seminar explores a broad range of topics around the subject of Resilience and Sustainability. Over the last several months, the Weitzman School has participated in crafting the TerraScale Resilience Institute, a think tank focused on future-forward efforts about how we can collectively research, advance agendas and implement measures to literally save the planet. We will use a green infrastructure property development currently under construction in real time as our focus, Project Energos, a massive green field site near Nevada by Los Angeles developer TerraScale. This research seminar will support a subsequent studio offering in Fall, 2021. Students are welcome to enroll in this Seminar with or without taking the studio. The subject is relevant to all students interested in understanding how action is currently being taken by a global network of environmentalists advancing a resilience agenda. You will have the opportunity to meet and discuss seminar objectives with leaders in the field from around the world. There are several transdisciplinary approaches we will use to research and unpack some of the challenging and urgent topics of our times.



**ARCH 762-401: Design and Development**

**Alan Razak**

**Friday, 9:00am-12:00pm**

**ONLINE**

This newly reconstituted course will introduce designers and planners to practical methods of design and development for major real estate product types. Topics will include product archetypes, site selection and obtaining entitlements, basic site planning, programming, and conceptual and basic design principles. Project types will include, among others; infill and suburban office parks, all retail forms, campus and institutional projects. Two-person teams of developers and architects will present and discuss actual development projects.

**ARCH 765-001: Project Management**

**Charles Capaldi**

**Friday, 9:00am-12:00pm**

**ONLINE**

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.

**ARCH 768-401: Real Estate Development Asuka Nakahara**

**Wednesday, 3:00pm-6:00pm**

**ONLINE**

This course focuses on “ground-up” development as well as re- development, and acquisition investments. We will examine traditional real estate product types including office, R&D, retail, warehouses, lodging, single-family and multi-family residential, mixed use, and land. “Specialty” uses like golf courses, resorts, timeshares, and senior assisted living will be analyzed. You will learn the development process from market analysis, site acquisition, zoning, entitlements, approvals, site planning, building design, construction, financing, and leasing to ongoing management and disposition. Additional topics - workouts, leadership, and running an entrepreneurial company - will be discussed. Throughout, we will focus on risk management, as minimizing risk first results in maximizing long run profits and net worth accumulation.

**ARCH 812-001: Methods in Architectural Field Research**

**Franca Trubiano**

**Thursday, 2:00pm-5:00pm**

**ONLINE**

Methods in Architectural Research is an advanced research seminar aimed at PhD and MS students which introduces means, methods, types, and values typical of architectural research. This “Methods” course (which is also open to M.EBD and M. Arch students) speaks to the ‘how’ and ‘why’ of research. It investigates how one identifies a field of enquiry, what are the questions of value to the field, the various methods, strategies, and tactics of engagement representative of the field, as well as the critical knowledge needed in communicating one’s results. The architectural profession is largely predicated on studio-based practices and yet the larger discipline—as defined in post-professional programs, doctoral studies, think tanks, research centers, and labs—participates in multiple forms of enquiry whose investigative protocols and metrics of excellence are often borrowed from both the humanities and the sciences. Why therefore, do we hardly ever engage in this form of knowledge production in professional schools of architecture? Architecture’s destiny is to be a form of composite knowing, in which both qualitative and quantitative methods of enquiry are needed in delimiting its research horizons. As such, students in Methods in Architectural Research are introduced to a spectrum of methods inclusive of the arts, design, theory, history, social sciences, environmental sciences, building science, and engineering. Whether architects reflect, theorize, analyze, or test ideas; whether they construct, build artifacts, simulate environments, develop software, or cull data, they do so by implementing research processes and by communicating their results using verifiable reporting mechanisms. The seminar introduces, discusses, and reviews the full spectrum of research methods typical of the discipline with the goal of having students design the research process for their respective Dissertations.

## **CITY PLANNING**

### **CPLN 531-001: Introduction to Environmental Planning & Policy**

**Thomas Daniels**

**Tuesday and Thursday, 9am-10:30am**

**ONLINE**

Overview of federal programs for protecting air quality, water quality, and endangered species along with managing climate change, solid waste, toxics, energy, transportation, and remediating brownfields in an overall sustainability framework. State-level, local government, and NGO efforts to protect the environment are also explored as are green infrastructure and green cities.

### **CPLN 631-001 Planning for Land Conservation,**

**Thomas Daniels**

**Tuesday and Thursday, 6:30pm-8pm**

**ONLINE**

Land preservation is one of the most powerful, yet least understood planning tools for managing growth and protecting the environment. This course provides an introduction to the tools and methods for preserving private lands by government agencies and private non-profit organizations (e.g., land trusts). Topics include purchase and donation of development rights (also known as conservation easements), transfer of development rights, land acquisition, limited development, and the preservation of urban greenways, trails, and parks. Preservation examples analyzed: open space and scenic areas, farmland, forestland, battlefields, and natural areas.

### **CPLN 685-401: Environmental Readings**

**Frederick Steiner**

**Wednesday and Friday, 10:30am-12pm**

**HYBRID**

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.

### **CPN 665-001: Case Studies and Urban Design Exploration**

**David Gouveneur**

**Tuesday, 9am-12pm**

**HYBRID**

This dynamic class in which each session is centered on a particular topic (see list below), combining class discussions and also the presentation of short planning/design exercises produced by small groups without the pressure of the studios, allowing to rapidly identify design opportunities, delivering the proposals with compelling narratives, strategic moves, graphics, models and verbal communication. Participants in this course are expected to become familiarized with a diversity of urban references, while acquiring skills that will facilitate planning and design processes, appreciating the value of interdisciplinary and multi-scaler initiatives, and the transformative contributions of city design/placemaking. Course topics include: good cities offer...; from territory to site-specific; on the public realm; on the urban infill; delving on history; mobility/infrastructure and urban form; community and urban design; Landscape/Ecological/Transformative Urbanism

## FINE ARTS

### **DSGN 500: Contemporary Theories of Design**

**Maite Borjadad**

**Tuesday, 1:30pm-4:30pm**

**ONLINE**

This seminar explores a range of theories, concepts, and thought patterns that shape different disciplines of design. From critical science studies to object-oriented ontology and speculative design, it discusses how theoretical frameworks drive innovation, critique, and user experience.

### **DSGN 506: DESIGN 21: Design After the Digital**

**Orkan Telhan**

**Monday, 1:30pm-4:30pm**

**ONLINE**

Last century, the digital revolution transformed every aspect of our lives. It shaped every design discipline and defined the ways we imagine and fabricate anything from images to everyday products to clothing, cars, buildings and megacities. Today, design is going through other technical and conceptual revolutions. We design with biotechnologies, fall in love in Virtual Reality with AI bots, rent our cognitive labor through cryptocurrencies. Our creative capabilities, on the other hand, are bounded by a polluted, over-crowded, and resource-constrained planet that is suffering major income and educational inequality. Design After the Digital interrogates the role of design for this century. The seminar surveys the conceptual and technical developments in the past decade to develop an interdisciplinary understanding of design, science and technology. We will study how new design and fabrication methods shape what we eat, what we wear, how we form opinions and express ourselves. The goal will be to develop new literacies of design that will help us acclimate better to the realities of the century as creative and critical citizens who can shape its products and values.

### **DSGN 520: Pixel to Print**

**Kayla Romberger**

**Monday, Wednesday, 10am-1pm**

**ONLINE**

This studio course introduces students to the world of print media and circulation through techniques in Risograph (a high-speed digital printing system developed in Japan in the 1980s), xerography, and letterpress, focusing particularly on the format of posters and artists' ephemera. Beginning with the Adobe Creative Suite, students will create their own broadsides, flyers, announcement cards, and print-based installations throughout the course, exploring ways in which artists and designers make use of the printed form to disseminate information; initiate happenings; advertise events; or foment change. Students will learn about some of the most significant producers working within this realm--from Dada to punk bands in the '70s to contemporary hybrid publishing collectives--and develop skills in page layout, typography, and design; digital to analog pre-press and post-print production methods; and mechanized and hand-pulled press operations. The course includes a field trip to NYC.

### **FNAR 523: DRAWING I**

**Section 401 – Alexis Granwell – Tuesday and Thursday: 5pm-8pm**

**Section 402 – Roderick Jones – Monday and Wednesday: 2pm-5pm**

**ONLINE**

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. If you need assistance registering for a closed section, please email the department at [fnarug@design.upenn.edu](mailto:fnarug@design.upenn.edu)

**FNAR 524: Drawing Investigations**

**Ivanco Talevski**

**Monday and Wednesday, 10am-1pm**

**ONLINE**

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 531: Painting Practices**

**Anthony Bowers**

**Monday and Wednesday, 5pm-8pm**

**ONLINE**

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 540: Mystics and Visionaries**

**Jackie Tileston**

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

**ONLINE**

As a pioneer of abstraction in the early 1900's, Hilma Af Klint channeled a complex and highly original body of abstract symbolic work in secrecy. Using the upcoming Hilma Af Klint exhibition at the Guggenheim as a focus and departure point, this course will explore the ways in which artists have accessed alternative ways of seeing, knowing, and embodying non-visible realities as a source for their work. Accessing spiritual realms has been the subject of early European Modernisms investigations into Theosophy and Anthroposophy, as well as the primary intention of Tibetan Thangkas and Indian Tantra paintings. Postmodernism's crisis of belief and skepticism generated a cultural situation wherein the subject of spirituality was marginalized, ridiculed as anti- intellectual, and in disgrace. The Hilma Af Klint exhibition and surge of interest in her work signifies a new moment, where questions about consciousness and the nature of reality are being addressed with renewed vigor. How do we create space in a technology driven world for experiences that attempt to align the viewer/maker with the contemplative realm, heightened states of consciousness, or transcendence? We will examine a wide field of artists in an attempt to understand the possibilities of the "spiritual" in art and contemporary culture. This seminar will engage in readings, lectures, discussions, projects, and field trips. This course is appropriate for both grad and undergrad, art majors and non-majors alike.

**FNAR 541: Hand-Drawn Computer Animation**

**Joshua Mosley**

**Tuesday and Thursday, 9am-12pm**

**ONLINE**

Using software tools designed for hand-drawn animation, students will develop animation skills applicable to all forms of animation. In this course students will learn to draw with a sense of urgency and purpose as they represent motion and drama in a series of frames. Through careful study of natural movements, precedents in the history of animation, and through the completion of a series of

animation projects students will develop strategies for representing naturalistic movement, inventing meaningful transformations of form, and storytelling.

**FNAR 545: Sculpture Practices**

**Willie Udell**

**Wednesday, 10am-1pm**

**ONLINE**

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. If you need assistance registering for a closed section, please email the department at [fnarug@design.upenn.edu](mailto:fnarug@design.upenn.edu)

**DSGN 547: Environmental Animation**

**Chris Landau**

**Monday, Wednesday, 2pm-5pm**

**ONLINE**

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 cross-pollination. 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 will support from Next Engine 3D Scanner, Rhino, and Grasshopper. Scripting will be included in most assignments to enhance artistic control of the software. Prerequisite: Experience in landscape architecture, architecture, animation, programming, file, Photoshop, or graphic design is strongly encouraged but not required.

**FNAR 550: Intro to Printmaking**

**Joshua Zerangue**

**Monday and Wednesday, 5-8pm**

**ONLINE**

The course offers an introduction to several forms of printmaking including: intaglio, screen printing, relief, and monoprinting. 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 552: Screenprinting**

**Roderick Jones**

**Tuesday and Thursday, 5pm-8pm**

**ONLINE**

This course is an introduction to technical skills and investigative processes in screen printing and relief and examines methods for combining digital technology with traditional print media. The course introduces students to several contemporary applications of silkscreen and relief printmaking including techniques in multi-color printing, photo-based silkscreening, digital printing, woodcut, linocut, and letterpress. Demonstrations include photo and image manipulation, color separating and output techniques, hand carving and printing, as well as drawing and collage. Both traditional and experimental approaches are explored and encouraged and technical and conceptual skills are developed through discussions and critiques.

**DSGN 566: Graphic Design**

**Section 401 – Mark Owens – Thursday, 4:30pm-8:30pm**

**Section 402 – Jiwon Woo – Monday, 1pm-5pm**

The aim of this course is to introduce students creative ways to use color, typography, and layout across 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. 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.

**FNAR 571: Intro to Photography**

**Karen Rodewald**

**Monday, 10am-1pm**

**ONLINE**

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 580: Figure Drawing**

**Jotham Malave-Maldonado**

**Tuesday and Thursday, 9am-12pm**

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.

**FNAR 586: Performance and Politics**

**Sharon Hayes, Brooke O’Harra**

**Wednesday, 5pm-8pm**

**ONLINE**

This class addresses the meeting points inside of and between a range of resistant performance practices with a focus on artists using performance to address political and social encounters in the contemporary moment. Performance, a chaotic and unruly category that slides across music, dance, theater and visual art, has long been a container for resistant actions/activities that bring aesthetics and politics into dynamic dialogue. Embracing works, gestures, movements, sounds and embodiments that push against and beyond the conventions of a given genre, performance can't help but rub uncomfortably against the status quo. Scholars working across Performance Studies and Black Studies importantly expanded critical discourse around performance to address the entanglement of the medium with physical, psychic, spatial and temporal inhabitations of violence and power. Generating copious genealogies of embodied resistance, this scholarship instigates a complex, interdisciplinary and multidimensional perspective on intersections between art and life, performance and politics. The class hosts a series of public lectures, presentations and performances by visual artists, choreographers, theater artists, composers/musicians, performers, curators and activists engaged with the social and political moment. Presentations will be open to the public with students in the course developing in-depth research into the work of each visiting artist/performer/presenter to engage the larger context of each visitor's scholarship and/or practice through readings, discussion and in-class presentations. This course is open to all interested students. No prior prerequisites or experience with performance or the performing arts is necessary. For Spring 2021, the public lectures, presentations, performances and class meetings will be adjusted to protocols and current conditions necessitated by the COVID-19 pandemic. This means most events will be virtual with the possibility of a live outdoor event. This is a recurring course.

**FNAR 608: Portrait as Ethnography**

**Jenny Chio**

**Thursday, 3:30pm-6:30pm**

**ONLINE**

When cameras are ubiquitous and millions of people post pictures of themselves online, what counts as a portrait today? In an age of selfies, surveillance, biometric "smart" identity cards, and movements like Black Lives Matter, #MeToo, and indigenous decolonization, can the portrait do a different kind of representational work? How do visual portraits (whether photographic, painted, drawn, or sculpted) operate differently from textual portraits (such as biographies, life histories, or profiles)? This seminar aims to resituate and rethink the portrait in ethnography, and by extension, the practice of portraiture as an ethnographic method, by exploring portraiture as a culturally conditioned, socially resonant form of knowledge production. All portraits, even self-portraits, rely upon a relationship: between the portrayed and the portrayer, the sitter and the artist, the interlocutor and the ethnographer. We will interrogate how portraits have shaped identity politics, and how portraiture, as a scholarly and artistic act, can radically re-theorize forms of social engagement. Drawing on multimodal and decolonial turns in anthropology, seminar participants will produce portraits of their own, using whatever medium/media might be best suited for their interpretive work.

**FNAR 616: Art and Social Work**

**Aaron Levy, Toojo Ghose**

**Wednesday, 9am-12pm**

**ONLINE**

How can the arts help us build a more just society? How can the arts transform social structures and systems? Public health crises involving clean water (Flint), police violence (Baltimore), and a lack of economic and educational opportunity following reentry (Philadelphia) make legible the need for a new visual language that critiques these conditions and challenges entrenched structural inequalities. We will engage the work of creative practitioners who are mapping new relationships between art and social justice and directly impacting individual and communal well-being. In so doing, the course seeks to challenge traditional constructions of public health, which often isolate individual histories from their social life and their relation to families, communities, and geographies. Readings will build upon disciplinary perspectives in the arts, humanities, and social policy. Requirements include weekly readings, class participation, and a collaborative final project. The course will meet in the Health Ecologies Lab at Slought Foundation, an arts organization on campus.

**FNAR 622: Big Pictures: Mural Arts**

**Jane Golden, Shira Walinsky**

**Monday, Wednesday 2pm-5pm**

**ONLINE**

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.

**DSGN 634: Art of the Web**

**Nika Simovich Fisher**

**Monday, 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 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 conceptual skills and foster creative thinking.

### **DSGN 635: 3-D Computer Modeling**

**Scott White**

**Monday, Wednesday 10am-1pm**

**ONLINE**

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.

### **DSGN 636: Art, Design & Digital Culture**

**Section 401 – Jacob Rivkin – Monday, Wednesday 10am-1pm**

**Section 402 – Jacob Rivkin – Monday, Wednesday 2pm-5pm**

**Section 403 – Christopher Lawrence – Monday, Wednesday 5pm-8pm**

**Section 405 – Avery Lawrence – Tuesday, Thursday 3:00pm-6:00pm**

**Section 406 – Christopher Lawrence – Tuesday, Thursday 5pm-8pm**

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 a 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 registering for a closed section, please email the department at [fnarug@design.upenn.edu](mailto:fnarug@design.upenn.edu)

### **DSGN 637: Information Design & Visualization**

**Mahir Yavuz**

**Tuesday, 4:30pm-8:30pm**

**ONLINE**

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.

### **FNAR 640: Digital Photography**

**Section 401 – Sarah Stolfa – Monday 10am-1pm**

**Section 402 – Demetrius Oliver – Monday 2pm-5pm**

**Section 403 – Demetrius Oliver – Monday 5pm-8pm**

**Section 404 – Heather Phillips – Tuesday 10am-1pm**

**Section 405 – Artie Vierkant – Tuesday 2pm-5pm**

**Section 406 – Gabe Martinez – Thursday 10am-1pm**

**Section 408 – Jamie Diamond, Theo Mullen – Wednesday 2pm-5pm**

**Section 409 – Karen Rodewald – Wednesday 5pm-8pm**

**Section 410 – Brent Wahl – Wednesday 10am-1pm**

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)



**FNAR 642: Digital Photography II**

**Brent Wahl**

**Thursday, 2pm-5pm**

**ONLINE**

In this course students will continue to develop conceptual, technical, aesthetic and formal strategies in digital photography, expanding their artistic process while refining their critical approach to researched subject matter. The class will be driven initially by a series of assignments formulated to further expose students to broad possibilities related to the medium and then they will be guided towards the evolution of a personalized body of work that is culturally, theoretically and historically informed. We will be examining key issues surrounding the digital image in contemporary society, led through a combination of class lectures, readings, group discussions, film screenings, gallery visits and class critiques. Students will further their knowledge of image control and manipulation, retouching and collage, advanced color management; become familiar with high-end camera and lighting equipment and develop professional printing skills. In addition to learning these advanced imaging practices, this course will also emphasize an investigation of critical thought surrounding contemporary visual culture and the role of digital media in the creation of art.

**DSGN 643: Language of Design**

**Sharka Hyland**

**Wednesday, 12pm-4pm**

**ONLINE**

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.

**DSGN 645: Book & Publication Design**

**Sharka Hyland**

**Monday, 5pm-9pm**

**ONLINE**

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.).

**DSGN 646: Advanced 3D Modeling**

**Scott White**

**Friday, 10:00am-1:00pm**

**ONLINE**

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 653: Advanced Projects in Animation**

**Joshua Mosley**

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

**ONLINE**

This course will focus on developing and producing projects that utilize advanced approaches to 2D and 3D computer animation. We will engage emerging techniques of visualization such as data-driven animation, algorithmic animation, working in hybrid forms of stop-motion, hand-drawn and 3D computer animation, working with dynamic physical simulations, rigging animated characters, or structures. The meeting pattern of the course will enable members to complete ambitious independent or group based animation projects and share the methods that they develop along the way.

### **FNAR 661: Video I**

**Section 401 – Sosena Solomon – Monday, Wednesday, 2pm-5pm**

**Section 402 – Emory Van Cleve – Tuesday, Thursday, 9am-12pm**

**Section 403 – James Maurelle – Tuesday, Thursday, 5pm-8pm**

**Section 404 – Menkkat Dukan – Tuesday, Thursday, 1:30pm-4:30pm**

**Section 405 – Sosena Solomon – Monday, Wednesday, 5pm-8pm**

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. If you need assistance registering for a closed section, please email the department at [fnarug@design.upenn.edu](mailto:fnarug@design.upenn.edu)

### **FNAR 665: Cinema Production**

**Emory Van Cleve**

**Wednesday, 10am-1pm**

**ONLINE**

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 676: Advanced Lens Based Projects**

**David Hartt**

**Monday, 10am-12pm**

**ONLINE**

Advanced Lens Based Projects (ALBP) is structured to create an open environment for students to develop a series of self-determined projects using any variety of image capture technologies. Mobile devices and DSLRs have blended the function of moving and still image capture while computers have become ubiquitous as instruments of display and dissemination. This has consequently led to the increasingly collapsed boundaries of artistic mediums. ALBP is a studio class where students will explore different modes of production and address the expanding field of exhibition strategies. Additionally, the class will foster a transdisciplinary approach to critiquing work and emphasize the shared context of the works reception. Readings, screenings, discussions, and critiques make up the curriculum along with dedicated studio time. Each student is required to complete three self-determined projects using still or moving image capture technologies. Grades will be determined through participation, completion of assignments, and the students' formal and critical engagement with the technology. While the focus of this course is not technical, prior knowledge of camera functions and post-production techniques is expected.

**DSGN 678: Interfacing Cultures**

**Saygun Erkaraman**

**Meeting time TBA**

This course introduces advanced topics related to contemporary media technologies, ranging from social media to mobile phone 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 online-gaming, viral communication, interface culture, networked environments, internet of things and discuss their artistic, social, and cultural implications to the public domain.

**FNAR 685: Photography and Fiction**

**Jamie Diamond**

**Monday, 2pm-5pm**

**ONLINE**

In spite of photography's traditional relationship with fact, the medium has been a vehicle for fiction since the very beginning. Fiction and photography encompass a broad range of meanings, from elaborately staging and performing for the camera, to manipulations using digital technology such as Photoshop to construct the work. This class will examine and trace the history of manipulated photography while paying special attention to the complex negotiations between the decisive moment, the constructed tableau, and the digitally manipulated image. There will be a combination of class lectures, studio projects, assigned readings, visiting artists, film screenings, field trips, and class critiques.

**FNAR 687: Queer Imaginings**

**Heather Phillips, Gabe Martinez**

**Tuesday, 5pm-8pm**

**ONLINE**

Queer is a fluid, unfixd and undefinable space offering endless utopian possibilities & potentials concerning gender, sexuality, personal autonomy and agency. Queer Imaginings is a forum for the reimagining of Queer representation/s. This course provides a safe space to mine, critique and analyze Queer imagery, both historical & contemporary. We will explore the ways in which Queerness is approached, represented & manipulated in pop culture, politics, society and the media. Students enrolled in this studio/seminar course will partake in discussions and research pertaining to Queer images and their intersections with race, trans/non-binary-equity, feminism, disability & class structure. These complex subjects will inspire respectful debate throughout the course, and most importantly, generate robust discussion about the work students create. Prompted through select readings and visual presentations, students will be guided to research, analyze and create artworks, which are inspired by various topics related to Queerness. A special emphasis will be placed upon issues arising around visibility, erasure & inclusivity. This forum offers a space to reexamine, research and propose new representations of Queerness. This is primarily a lens-based course with expansive possibilities (interdisciplinary, transdisciplinary, multidisciplinary)

**HISTORIC PRESERVATION**

**HSPV 534-001: Public History: Theory and Practice**

**Aaron Wunsch**

**Thursday, 1:30pm - 4:30pm**

**HYBRID**

This graduate seminar explores ways of bringing histories of place before the public. It is required for Preservation students wishing to concentrate in this area (for whom HSPV 600 is a prerequisite) but is relevant to historians, designers, curators, and critical observers of all stripes. More than conventional public history courses, this one focuses on the built environment. It grapples with the tangible ways individuals, communities, and nations remember and forget. It acknowledges that while buildings and landscapes are in one sense simply larger forms of material culture than furniture or other objects, they also “work” differently by dint of being inhabited and

publicly encountered, forming de facto frameworks for private and public life. Our coursework foregrounds interpretation and dissemination through multiple media – everything from signage and monuments to websites and exhibits. It is not, however, an introduction to the technical deployment of those media but a chance to reflect critically on their respective strengths and weaknesses in different contexts. In addition to discussing readings in history, historic preservation, sociology, anthropology, geography, and public art, students will design and conduct original research projects involving:

- interviews with Philadelphians from diverse backgrounds about their experiences of various urban landscapes;
- archival research involving architecture, city and regional planning, urban infrastructure, civic culture, and historical commemoration; and conceptual design of monuments, installations, public events, and other forms of commemoration.
- Field trips will ground class discussions in the present-day fabric of Philadelphia while guest speakers will acquaint us with a variety of institutional and disciplinary perspectives.

### **HSPV 551-001: Building Pathology**

**Michael Henry**

**Friday 2:00 – 5:00**

**HYBRID**

This course addresses the subject of deterioration of buildings, their materials, assemblies and systems, with the emphasis on the technical aspects of the mechanisms of deterioration and their enabling factors, material durability and longevity of assemblies. Details of construction and assemblies are analyzed relative to functional and performance characteristics. Lectures cover: concepts in durability; climate; psychrometric, soils & hydrologic; conditions; physics of moisture in buildings; enclosure, wall and roof systems; structural systems; and building services systems with attention to performance, deterioration, and approaches to evaluation of remedial interventions.

The class is 100% synchronous so that group problem solving and exercises may be done. Lecture slides will be posted before class. The lecture slides are text and content rich so a video narrative is not necessary, this is time efficient for the students. In class, we review the slides with Q&A, then proceed to discussions and exercises and group progress on the final assignment. A virtual site visit may be undertaken as part of the final assignment.

### **HSPV 555-001: Conservation Science**

**George Wheeler**

**Monday, 2:00 – 5:00**

**HYBRID (ONLINE SYNCHRONOUS/IN-PERSON LABS)**

*Conservation Science* provides a fundamental understanding of architectural materials with respect to their composition, properties and performance and serves as the foundation for subsequent conservation courses such as HSPV738 – *Wood*, HSPV739 – *Masonry*, and HSPV740 – *Architectural Surface Finishes*, as well as, related courses such as HSPV551 – *Building Pathology* and HSPV552 – *Building Diagnostics and Monitoring*.

Beginning with a general discussion of mechanical properties such as strength, modulus, toughness, creep and fatigue of all architectural materials, the course moves to porous building materials such as stone, brick, terra cotta, mud brick, and concrete, cast stone and mortar and focuses on the evaluation of their properties and their identification through an exploration of composition and texture in hand specimen and polarizing light microscopy. Rounding out the discussion of inorganic architectural materials is the examination of the unique set of properties of metals including their identification using methods of elemental analysis.

The course then shifts to the important organic architectural materials such as wood and finishes and begins with an overview of basic organic chemistry and follows with a more in-depth exploration of the properties and performance of wood, adhesives and clear finishes for wood, the chemistry of pigments and paint media, and, the identification pigments, paint media and clear finishes using several analytical methods.

**HSPV 620-401: Remembering Epidemics**

**Cross Listed with LARP 771-401 & HSOC 443-401**

**Aaron Wunsch & David Barnes**

**Tuesday, 1:30 – 4:30**

**HYBRID (ONLINE/IN-PERSON SITE VISITS)**

This seminar challenges students to encounter and interpret the city around them in unconventional ways. During a deadly pandemic that has profoundly disrupted all aspects of society, just as the question of public commemoration has vigorously and sometimes violently re-entered our country's public discourse, one question has remained surprisingly neglected: How do we remember epidemics? This course confronts this question through an analysis of traumatic epidemics in Philadelphia's history, and of the broader landscape of public memory. We devote special attention to the yellow fever epidemic of 1793, but we also consider the 1918-1919 influenza, AIDS, and COVID-19, among others. Students conduct archival, documentary, site-based, and other kinds of research in the process of analyzing the origins, course, and consequences of epidemics, as well as the nature of public commemoration.

**HSPV 625-001: Preservation Economics**

**Donovan Rypkema**

**Tuesday, 9:00am – 12:00pm**

**ONLINE**

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. A second objective is to acquaint the student with measurements of the economic impact of historic preservation and to critically evaluate "economic hardship" claims made to regulatory bodies by private owners.

**HSPV 638-401: Photography & The City**

**Cross Listed CPLN 687-401**

**Francesca Ammon**

**Wednesday, 9:00am – 12:00pm**

**ONLINE**

This seminar explores the intersecting social and cultural histories of photography and the urban and suburban built environment. No prior background in photography is necessary. Since its inception in 1839, photography has provided a critical means for representing urban space. The medium has helped to celebrate the great structures of the industrial city, reform cities from the Progressive Era through urban renewal, critique expanding postwar suburbs, and document change in the post-industrial and post-disaster city. In all of these ways, the photograph has been both a reflection of the city and an agent of its transformation. Our subjects each week will include individual images and larger photographic archives. We will discuss not only the creation of these images, but also their application in design and planning discourse. Although technical training in photography is not expected, students will have a chance to construct a photo-essay of their own. Through our investigations, we will collectively explore how photography's dual documentary and aesthetic properties have shaped the city—physically, socially, and culturally.

**HSPV 705-001: Advanced Studio: Reckoning with Civil Rights Sites**

**Randall Mason & Brent Leggs**

**Wednesday, 2:00pm – 5:00pm**

**HYBRID (ONLINE/IN-PERSON WORKSHOPS)**

Our country is in the throes of a deep reckoning with racial injustice, economic precarity, legacies of discrimination and violence, and other civil rights issues. This advanced research course explores the presence of these civil rights issues, their heritage and opportunities for reckoning at the scale of the site and the landscape. How should sites of civil rights struggles, triumphs and other legacies be recognized, interpreted, preserved, managed and otherwise made visible?

The course will draw on several fields, including history, preservation, management, and design. It will balance lecture/seminar sessions (to outline and examine issues), discussions with invited guests, and practical workshops (exploring professional tools for designing/sustaining/preserving the sites themselves). The workshops will also create a space to collaborate on projects in Alabama and Philadelphia: the Armstrong School, an early 20th-century building on the grounds of a Baptist church in Macon County, Alabama,

working with colleagues at Tuskegee University's Department of Architecture; and Marian Anderson House an established heritage site in Center City Philadelphia facing a number of preservation, management challenges.

Individual student projects could be related to the Armstrong School or Marian Anderson House. Enrollment in the course will be strictly limited, and we welcome students from a variety of backgrounds, disciplines and department – apply with a short statement of intent to [rfmason@design.upenn.edu](mailto:rfmason@design.upenn.edu).

**HSPV 738-301: Conservation Seminar: Wood**

**Andrew Fearon**

**Tuesday, 6:00pm - 9:00pm**

**HYBRID (ONLINE/IN-PERSON LABS)**

Prior to the twentieth century, most structures found in the built environment relied upon wood as a primary material for both structural members and decorative features. An understanding of the physical properties as well as the historic application of this organic material provides the basis for formulating solutions for a wide spectrum of conservation issues. As the scope of preserving wooden structures and wooden architectural elements is continually broadened, new methods and technology available to the conservator together allow for an evolving program - one that is dependent upon both consistent review of treatments and more in-depth study of craft traditions. This course seeks to illustrate and address material problems typically encountered by stewards of wooden cultural heritage - among them structural assessment, bio-deterioration, stabilization and replication techniques. Through a series of lectures and hands-on workshops given by representative professionals from the fields of wood science, conservation, entomology, engineering, and archaeology, theoretical and practical approaches to retaining wooden materials will be examined with the goal to inform the decision-making process of future practicing professionals.

**HSPV 594-401 / LAW 594: Critical Multimodal Qualitative Research Across the Professions**

**Regina Austin (Law) and the Affiliated Faculty of the Center for Experimental Ethnography**

**Tuesday & Thursday, 3:00pm-4:20pm**

**ONLINE**

This course is designed to introduce professional school students to critical, multimodal, and experimental ethnographic qualitative research. The course, which includes both theoretical and applied components, is divided into five modules. The first module explores the theory of critical ethnographic qualitative research and the ethical issues that arise when undertaking collaborative research around the “everyday culture” of communities and institutions with which practitioners in the students’ chosen areas of study typically interact. The second module allows students to analyze qualitative research in professional fields of study and engage in dialogue with Penn faculty whose qualitative research addresses significant issues of importance to practitioners in law, business, education, social policy, medicine, design, and planning. The third module is devoted to qualitative data collection methods (participant observation, oral histories, and in-depth interviews) and the modes and tools used in collecting qualitative data and reporting results, with an emphasis on multimodal methods. The final module considers in greater depth the role of aesthetics, advocacy, and activism in utilizing multimodal approaches for sharing research findings with academics, collaborators, fellow professionals, and the general population. At the end of the course, students should have achieved the following: acquired an in-depth understanding of the theory of critical ethnographic qualitative research; developed a working knowledge of the ethical obligations and professional norms associated with critical ethnographic qualitative research; gained familiarity with multimodal means of data collection and dissemination of research results, such as performance, sound, photography, film, and video; and engaged with scholars whose work involves critical multimodal qualitative research that can be usefully applied to academically-based, community-engaged research in areas of professional practice.

**LARP 685 Environmental Readings**

**Frederick Steiner**

**Wednesday & Friday, 10:30am-12pm**

**HYBRID**

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 Weitzman School graduate students.

**LARP 710-001 Implementation of Urban Design**

**Candace Damon, Alex Stokes**

**Tuesday, 5:00-8:00pm**

**HYBRID**

This course is a requirement for students enrolled in the Certificate of Urban Design program.

This class focuses on the various ways in which urban design is affected by the opportunities and constraints associated with market conditions, development feasibility, political and community dynamics and the incentives and restrictions applied by the public sector to influence development. The premise of the class – and its organizing structure – is that urban development of lasting value requires all of visionary leadership, great design, a demonstration of financial feasibility, and a narrative that establishes value for diverse stakeholders. The class will walk students through the process of proposing and refining a redevelopment plan for a parking lot located in the vicinity of the University of Pennsylvania. Students will be tasked with demonstrating the feasibility of their redevelopment plan from a market, financial, community and public policy perspective. Students will further their understanding of key concepts that drive urban transformation through case studies, presentations, class debates and conversations with leading design, real estate and public sector professionals from the Philadelphia region and beyond. This course may open to other interested Weitzman School students if there is space and with the permission of the instructor.

**LARP 730-001: Topics in Professional Practice: The Practice of Landscape Architecture**

**Barbara Wilks**

**Wednesday, 9:00am-12pm**

**ONLINE**

How does a project come into being? What is a project and who defines it? Landscape architects have more power and agency than they often realize. What/where are the opportunities for the landscape architect to shape a project at each step of the process —pre to post design? How can they use this power to give it meaning as well as value for the client and others? In this class we will examine the opportunities for landscape architects to lead and shape a variety of project types and scales and their obligation to consider whose values are represented. This will be illuminated through case studies by the instructor as well as other guest professionals representing a wide range of firm leaders. This course is open to students in other departments if there is space.

**LARP 730-002: Topics in Professional Practice: Unruly Practices**

**Rebecca Popowsky, Sarai Williams**

**Friday, 10:00am-1:00pm**

**ONLINE**

The widening gap between the work that urgently needs to get done and the work that can be done in current professional practice is driving a generation of landscape architects, architects and planners to search out and create new mechanisms for purpose-driven design action. This course will follow two parallel tracks - one focused on skill-building and one focused on studying practices and practitioners who are redefining what it means to provide design services. The class is intended to set students up to carry research

and/or activist agendas into professional practice. Skills introduced will include research methods, grant writing, business and career planning. Weekly conversations with change-making practitioners will be scheduled and coordinated by instructors but led by students.

Students who have already developed their own lines of inquiry through the course Transformational Leadership or through independent studies/thesis are particularly encouraged to sign up as this course will allow you to build upon this work. The course is housed in the Landscape Architecture Department and will have a landscape focus, but will bridge into adjacent fields, including architecture, planning, fine arts and product design. Open to all Weitzman School graduate students.

### **LARP 741-401: Topics in Digital Media: Modeling Geographic Space**

**Dana Tomlin**

**Wednesday, 9:00am-12pm**

**ONLINE**

The major objective of this course is to explore the nature and use of raster-oriented geographic information systems (GIS) for the analysis and synthesis of spatial patterns and processes. In contrast to the spring semester course, CPLN 666 – Modeling Geographical Objects, LARP 741 is oriented more toward the qualities of geographical space itself (e.g. proximity, density, or interspersion) than the discrete objects that may occupy such space (e.g. water bodies, land parcels, or structures).

The course focuses on the use of GIS for “cartographic modeling,” a general but well-defined methodology that can be used to address a wide variety of analytical mapping applications in a clear and consistent manner. This is done by decomposing data, data-processing capabilities, and data-processing control techniques into elemental components that can then be recomposed with relative ease and with great flexibility. The result is what amounts to a “map algebra” in which cartographic layers for individual characteristics such as soil type, land value, or population are treated as variables that can be transformed or combined into new variables by way of specified operations. Just as conventional algebraic operations (such as adding, subtracting, multiplying, or dividing) might be combined into a complex system of simultaneous equations, these cartographic operations (such as superimposing one map onto another, measuring distances or travel times, characterizing geographic shapes, computing topographic slopes and aspects, determining visibility, or simulating flow patterns) might be combined into a model of soil erosion or land development potential. Open to all Weitzman School graduate students.

### **LARP 745-401: Topics in Digital Media: Advanced Topics in GIS**

**Dana Tomlin**

**Thursday, 9:00am-12:00pm**

**ONLINE**

This course offers students an opportunity to work closely with faculty, staff, local practitioners, and each other on independent projects that involve the development and/or application of geographic information system (GIS) technology. These projects often take advantage of resources made available through Penn’s Cartographic Modeling Lab [<http://www.cml.upenn.edu>]. The course is organized as a seminar: a series of weekly meetings and intervening assignments that ultimately lead to the implementation and presentation of student-initiated projects. Early in the semester, each student selects a term project dealing with one particular topic in the field of GIS, broadly defined. Topics may range from the basic development of geospatial tools and techniques to practical applications in any of a variety of fields. Projects may be completed working either as individuals or in small groups. Ultimately, they presented in the form of in-class briefings and a final publication. Each week’s class meeting generally involves a lecture and/or discussion engaging local GIS practitioners and relating to student projects, advanced techniques, or current GIS practice. This course is open to all students who can demonstrate sufficient experience, expertise, and/or initiative to pursue a successful term project.

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

**Abdallah Tabet**

**Tuesday, 9:00am-12:00pm**

**ONLINE**

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

**William Young**

**Online/Asynchronous**

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 Weitzman School graduate students.

**LARP 771-401: Seminar in American Architecture: Remembering Epidemics**

**Aaron Wunsch, David Barnes**

**Tuesday, 1:30-4:30pm**

**HYBRID**

This seminar challenges students to encounter and interpret the city around them in unconventional ways. During a deadly pandemic that has profoundly disrupted all aspects of society, just as the question of public commemoration has vigorously and sometimes violently re-entered our country's public discourse, one question has remained surprisingly neglected: How do we remember epidemics? This course confronts this question through an analysis of traumatic epidemics in Philadelphia's history, and of the broader landscape of public memory. We devote special attention to the yellow fever epidemic of 1793, but we also consider the 1918-1919 influenza, AIDS, and COVID-19, among others. Students conduct archival, documentary, site-based, and other kinds of research in the process of analyzing the origins, course, and consequences of epidemics, as well as the nature of public commemoration. Open to LARP and HSPV students.

**LARP 780-002: Topics in Theory & Design: Designing with Risk**

**Matthijs Bouw**

**Tuesday, 6:00-9:00pm**

**HYBRID**

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. Open to all Weitzman School graduate students.