

Graduate School of Architecture & Urban Design

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Courses

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Architecture

ARCH 5001 Design Foundations Studio

This is an intensive three-week course that sets students up to enter the first of a two-semester studio sequence. The first-year sequence introduces students to architectural design, focusing on conceptual, theoretical, and tectonic principles. Enrollment is open to first-semester MArch 3 students only.

Credit 3 units.

Typical periods offered: Fall

ARCH 5010 Architectural Design I (March 3)

The first of a two-semester sequence that introduces students to architectural design, focusing on conceptual, theoretical, and tectonic principles.

Credit 9 units.

Typical periods offered: Fall

ARCH 5020 Architectural Design II (March 3)

The second of a three-semester sequence of core design studios, which continues the examination of issues raised in ARCH 5010.

Credit 9 units.

Typical periods offered: Spring

ARCH 5023 Visions of a Brighter Future: The History of Progressive Design At Worlds Fairs

From the time of the Crystal Palace Exposition in 1851, world's fairs have been fraught with boosterism, nationalism and the exploitation of cultures deemed lesser. But due to the infusion of political will and large amounts of money, they also involved the design and construction of enormous numbers of buildings all at once - resulting in the creation of small cities with their own infrastructure of utilities, waste disposal, police departments, hospitals and power plants. The best architects and engineers of each era were called upon, sometimes in official competitions, to design and build innovative structures that expanded the use of materials and utilized engineering solutions which affected the built environment of the world. The 1893 Chicago World's Fair alone changed the way Americans looked at cities and started the City Beautiful Movement. Many architects designed influential pavilions at world's fairs, including Eliel Saarinen, Alvar Aalto, Oscar

Niemeyer, Mies Van Der Rohe, Philip Johnson, Eero Saarinen, Frei Otto, Moshe Safdie, Kenzo Tange, Thomas Heatherwick, Norman Foster and Buckminster Fuller. Today still-standing legacies of these fairs, including the Eiffel Tower, the Seattle Space Needle, the Montreal Biosphere, Habitat '67 and Zaha Hadid's Bridge Pavilion remind us of past glories. World's Fairs are not relics of the past, but continue to be held today, involving architectural firms in master planning, pavilion design and exhibit creation on a massive scale. Students will be expected to make short 10-15 minute presentations to the class on local sites at assigned times over the course of the term. Other class requirements include regular attendance and class participation in discussions that demonstrate awareness of the required readings. There will also be a short paper at the beginning of the semester and a 15-page final research paper. For this paper students will be expected to document, critically analyze and draw conclusions about a building, structure or landscape at a world's fair.

Credit 1.5 units.

Typical periods offered: Fall, Spring

ARCH 5110 Architectural Representation I (March 3)

This course examines the history/theory and practice of representation, specifically the systems of drawing used in architecture. The objective is to develop the requisite discipline, accuracy, and visual intelligence to conceptualize and generate a relationship between space and form. The course focuses on two concurrent tasks: first to outline and analyze the historical development of representational logics and their impact on architectural ideation, and second to explain the codification and usage of specific geometries, including orthographic and isometric projection, central and parallel perspective, and architectural axonometric. We will see that, rather than a translation of reality, representation operates between perception and cognition as a transcription of reality and is thus a powerful instrument in the design and making of architecture. The relationship between the drawing forms and the tools used to produce them are brought into focus as manual, digital, photographic and physical applications driven by drawing intentions. The course is organized as a lecture/lab with emphasis on practice of manual and photographic applications.

Credit 3 units.

Typical periods offered: Fall

ARCH 5120 Architectural Representation II (M.Arch 3)

The course examines the history/theory and practice of representation, specifically the systems of drawing used in architecture. The objective is to develop the requisite discipline, accuracy, and visual intelligence to conceptualize and generate a relationship between space and form. The course focuses on two concurrent tasks: first to outline and analyze the historical development of representational logics and their impact on architectural ideation, and second to explain the codification and usage of specific geometries, including orthographic and isometric projection, central and parallel perspective, and architectural axonometric. We will see that, rather than a translation of reality, representation operates between perception and cognition as a transcription of reality and is a powerful instrument in the design and making of architecture. The relationship between the drawing forms and the tools used to produce them are brought into focus as manual, digital, photographic and physical applications driven by drawing intentions. This course is organized as a lecture/lab with emphasis on the practice of digital media and physical modeling. Emphasis is on participation and excessive absences will be noted. PLEASE NOTE: The second half of the semester will focus on computing, for which each student is required to have a laptop computer.

Credit 3 units.

Typical periods offered: Spring

ARCH 5230 Architectural History III: Advanced Theory

The third survey class focuses on architectural history and theory after modernism. It examines the rise of architectural theory as a field of inquiry and its links to both critical social theory - including the Frankfurt School - and to contemporary traits of philosophical postmodernity. From the contextual questions of meaning and memory to the examination of post-structuralism, cultural theory and identity politics - including race, gender and ethnicity - the course uses primary textual sources to illuminate drawings, buildings, and ideas that defined this seminal moment in architectural history. While the course closely examines this time period of intense search for a new visual language, it also probes contemporary complexities of architecture's continued search for visual and social purpose in an increasingly interconnected world.

Credit 3 units. Arch: GARW

Typical periods offered: Spring

ARCH 5311 Environmental Systems I: Site Planning

Environmental Systems I, site planning module, addresses the relationship between buildings and an expanded idea of context, including environmental, material and spatial realms. The class places an emphasis on each student developing his or her own attitude toward architectural sustainability, its role within the design process, and its relationship to architectural form. The theme of site expands the idea of the architectural project to examine landform, position, foundation, access and region. Two goals for the class are, first, to provide you with ways of thinking about and of working with issues of sustainability, which can inform your design practice, and second to equip you with the basic knowledge needed to continue within the technology sequence. Only students who have received a partial waiver for A46 438 Environmental Systems I may register for this course.

Credit 1 unit.

Typical periods offered: Fall, Spring

ARCH 5405 The Architecture of Le Corbusier

A seminar course examining the works of Le Corbusier (1889-1965), one of the most important architects of the modern era whose works continue to exercise enormous influence on contemporary architecture. The seminar will explore Le Corbusier's entire career, including both built works, such as the Monastery of La Tourette, and unbuilt projects, such as the Venice Hospital. Students will analyze and present twenty selected architectural works dating from 1920 to 1965. Introductory lectures by the professor, followed by two student presentations in each class, and each team of two students will be required to present two buildings (one earlier work and one later work). Analytical methods employed in the student presentations in the course will cover the full range of contextual, cultural, material, constructive, and experiential attributes of buildings, and students will employ the graphic analysis standards developed by the professor. Individual research papers, as well as hard copies and CD's of the two in-class presentations will be due at the end of the semester. Students will be credited in the professor's book, *Le Corbusier*. Fulfills Master of Architecture History and Theory Elective Distribution requirement. Enrollment limited to 20 students.

Credit 3 units.

ARCH 5406 Le Corbusier and Contemporary Architecture:

Comparative Critical Analyses

This graduate seminar employs comparative critical analyses to explore 20 works of the Swiss-French architect Le Corbusier (1887-1965), as well as works by 10 contemporary architects that share disciplinary ordering principles with the works of Le Corbusier: Guillermo Jullian de la Fuente and José Oubrerie (associates of Le Corbusier), Henri Ciriani, Michel Kagan, Sandra Barclay and Jean Pierre Crousse, Yvonne Farrell and Shelley McNamara (Grafton Architects), Luigi Snozzi, Waro Kishi, Alberto Campo Baeza, and Thomas Phifer. Le Corbusier was one of the

most important architects of the modern era, and his works continue to exercise enormous influence on contemporary architecture. This course will explore the architectural ordering principles that structure his work and the manner in which these ordering principles have been employed by contemporary architects. Analytical methods employed in the course will cover the full range of contextual, cultural, material, constructive, and experiential attributes of buildings, with particular emphasis on Le Corbusier's focus on the manner in which the spaces of a building are ordered by the patterns of occupation and the poetics of use as well as the poetics of construction (or the way in which a building is built) and of what materials the building is made, as well as how all of these factors combine to construct the experience of those who inhabit it. Following introductory lectures by the faculty, each of the subsequent 10 class meeting will consist of a presentation of selected pairings of buildings -- two by Le Corbusier (generally a public building and a private house) and one by a contemporary architect -- to be presented by a team of two or three students. Readings from the text and other sources (scanned by TA) will be assigned and then discussed during each class. Students will be evaluated on both the quality of their individual presentations and the quality of their participation in the class discussions. Summary papers and CDs of the PowerPoint presentations will be due at the end of the semester.

Credit 3 units. Arch: CAST, GACS

Typical periods offered: Spring

ARCH 5407 Frank Lloyd Wright and Contemporary Architecture

This graduate seminar employs comparative critical analyses to explore 10 works of the American architect Frank Lloyd Wright (1867-1959) and works by 10 contemporary architects that share disciplinary ordering principles with the works of Wright, selected from a list including John and Patricia Patkau, Tod Williams and Billie Tsien, Glenn Murcutt, Brian Healy, Wendell Burnette, Tom Kundig, Peter Stutchbury, Jose Luis Mateu, BAK, and Matthias Klotz. Wright's work was the inspiration for the first generation of Modern architects, including Mies van der Rohe, Jan Duiker, and others, and this course will explore the architectural ordering principles structuring his work and the manner in which these ordering principles have been employed by contemporary architects. Analytical methods employed in the course will cover the full range of contextual, cultural, material, constructive, and experiential attributes of buildings, with particular emphasis on Wright's focus on the manner in which the spaces of a building are ordered by the patterns of occupation and the poetics of use as well as by the poetics of construction (the way in which a building is built), of what materials it is made, and how all these combine to construct the experience of those who inhabit it. Following introductory lectures by the faculty, each of the subsequent 10 class meetings will consist of the presentation of a selected pairing of buildings -- two by Wright (house and public building) and one to three by a contemporary architect -- to be presented by a team of two students. Students will be evaluated on both the quality of their individual presentations and on the quality of their participation in the class discussions. Summary papers and CDs of the PowerPoint presentations will be due at the end of the semester.

Credit 3 units. Arch: CAST, GACS

Typical periods offered: Fall, Spring

ARCH 5408 The Architecture of Carlo Scarpa

A course examining the major works of the Italian architect Carlo Scarpa (1906-1978). Scarpa was a unique figure among second generation Modern architects, being at once deeply embedded in the archaic and anachronistic culture of Venice, and at the same time transforming this place by weaving the most Modern of spatial conceptions into its material fabric. This course will focus on Carlo Scarpa's redefinition of the concepts of "renovation" and "preservation," and his reinterpretation of Modern architecture as constituting an integrated part of its historical place and culture; Scarpa's re-engagement of the traditional building methods and materials of the Veneto, reviving lost arts as well as introducing

new structures, constructions, and materials into historic contexts; Scarpa's deployment of the articulate detail as a fundamental ordering idea; and Scarpa's engagement of Modern culture, including the integration within his works of concepts drawn from Modern painting and sculpture. Architectural works covered in this course include the Brion Cemetery, the Castelvecchio, the Querini Stampalia Gallery, the Olivetti Showroom, the Banco Popolare di Verona, the Canova Plaster Gallery, among others, and will include his many interior renovations, his exhibition designs, and his glass designs for Venini. The class will consist of lectures by professor and in-class presentations by students. Students will individually research and analyze selected works of architecture, preparing presentations and summary research paper. Credit 3 units.

Typical periods offered: Fall, Spring

ARCH 5409 Alvar Aalto: Critical Studies

This seminar's overall objective is the exploration and comprehension of 20th century Finnish, Nordic and world architectural culture through the significant works of Finnish architect Alvar Aalto (1898-1976). The emblematic works include the Paimio Sanatorium (1932), the Villa Mairea (1937), the Helsinki University of Technology (1948), the SÄYNÄSALO Civic Center (1953), the Finnish Pensions Institute (1956), and the Vuoksenniska Church (1958). The full range of design scales will be examined, from door handles, details and furniture, to housing, public buildings and urban designs. This larger survey will provide for focus specifically on the research, documentation and physical and digital modeling of Aalto's designs for Finland's World's Fair Pavilions in Paris (1937) and New York (1939), at the specific request of the Alvar Aalto Foundation and Museum, for inclusion in their ongoing research archive and as the basis for a future publication. Further discussions will relate Aalto's work to a growing body of critical appraisals and to contemporary architectural practices. Weekly course meetings, weekly readings, individual and group presentations, individual and group research papers/projects. Optional field trip to Finland at spring break. Fulfills History/Theory elective requirement. Credit 3 units.

ARCH 5410 Louis I. Kahn and Contemporary Architecture: Comparative Critical Analyses of Built Works

A graduate seminar employing comparative critical analyses to explore ten works of the American architect Louis Kahn (1901-1974) and works by ten contemporary architects who have been influenced in some way by the works of Kahn, selected from a list including Steven Holl, Tod Williams and Billie Tsien, Peter Zumthor, Herman Hertzberger, Grafton Architects, Brad Cloepfil/Allied Works, Wiel Arets, Stanley Saitowitz, Thomas Phifer and Nieto Sobejano. Kahn was one of the most influential of the second generation of Modern architects, and this course will explore the architectural ordering principles structuring his work, how these were often derived from Kahn's perceptions regarding the works of his predecessors, and the manner in which these ordering principles have been employed by contemporary architects. Analytical methods employed in the course will cover that full range of contextual, cultural, material, constructive, and experiential attributes of buildings, with particular emphasis on Kahn's focus on the manner in which the spaces of a building are ordered by the patterns of occupation and the poetics of use, as well as the poetics of construction, or the way in which a building is built, and of what materials it is made, and how all these combine to construct the experience of those who inhabit it. Following introductory lectures by the faculty, each of the subsequent ten class meetings will consist of a presentation of a selected pair of buildings, one by Kahn and one by a contemporary architect, to be presented by teams of two students. Each student team will present two buildings, one by Kahn and one by a contemporary architect; one presentation in the first half of the semester, and one presentation in the second half of the semester. Students will be evaluated on both the quality of their team presentations, and on the quality of their participation in the class discussions accompanying each presentation.

Credit 3 units. Arch: CAST, GACS

Typical periods offered: Spring

ARCH 5412 The Architecture of Marcel Breuer

A seminar course examining the works of Marcel Breuer (1902-1981), one of the most important, but to date largely overlooked architects and designers of the second generation of Modernism. A contemporary of Louis Kahn and Carlo Scarpa, Breuer was trained at the then newly-opened Bauhaus in Weimar, and he then became the Furniture Shop Master in the Bauhaus at Dessau. During this time he designed a number of pieces of tubular steel furniture that are still in production today, including the Wassily Chair, named after fellow Bauhaus faculty and painter, Wassily Kandinsky. After working in Berlin, Zurich, Budapest and London, Breuer emigrated to the United States in 1937, opening an office with Walter Gropius (1937-41), teaching at the GSD Harvard (1937-1947), opening his own office in 1941, and moving to New York City in 1946, where he practiced for the rest of his life. Often considered a follower of Gropius, Breuer's architecture was in fact one of the most elegant and powerful transformations and extensions of the later, primarily cast concrete works of Le Corbusier. While Breuer has been most often recalled for his furniture designs (which are important and will be examined in the class), his accomplishments as an architect are far more significant, and will be examined in depth in this course. Credit 3 units.

ARCH 5413 Urbanism Since 1850

Since the beginning of the industrial railroad era, architects have attempted to shape the form of cities in a variety of ways. Through lectures, field trips, discussions and films, this course will examine some of the most important episodes in urbanism since the urban and technological transformations of the mid-nineteenth century, including Haussmann's Paris and Cerdà's extension of Barcelona, the Vienna Ringstrasse and the critical response to it in the work of Camillo Sitte; the American City Beautiful and English Garden City movements; early modern efforts in housing and planning, such as those of CIAM, the International Congress of Modern Architecture; urbanism and regionalism under the American New Deal; the era of massive metropolitan change after the Second World War, including postwar replanning efforts in various situations; the development of the discipline of urban design under Josep Lluís Sert at Harvard and elsewhere; visionary projects of the 1960s; the ideas and influence of Kevin Lynch, Colin Rowe, and Aldo Rossi and the work of the Congress for the New Urbanism; and more recent directions in urbanism. Fulfills History/Theory elective requirement for M.Arch students. Credit 3 units. Arch: GARW, GAUI

ARCH 5414 The Architecture of Steven Holl, 1974-2014

A seminar course examining the works of Steven Holl (1947-), one of the most important architects practicing today. During his forty-year career, 1974-2014, Holl's ordering principles and designs have exercised considerable influence over contemporary developments in architecture around the world. Today Holl is rightly considered the greatest of the third generation of American modern architects, following the first generation of Louis Sullivan, and the second generation of Louis Kahn, architects whose work has served as both a source of inspiration and a standard for Holl's work. In addition to teaching continuously at Columbia University since 1981, where he developed innovative design studio projects, Holl also co-founded in 1976 the influential critical journal PAMPHLET ARCHITECTURE. The course will be structured on the five sections of the proposed book, and will examine important early works such as the Hybrid Building at Seaside, the American Library in Berlin, and the five Edge of the City proposals; mid-career works such as the Housing at Fukuoka, the Stretto House in Dallas, the Chapel of St. Ignatius in Seattle, the Kiasma Museum in Helsinki, and Higgins Hall at Pratt Institute; and later works such as the School of Art at the University of Iowa, the Nelson-Atkins Museum addition in Kansas City, the Linked Hybrid in Beijing, and the

Horizontal Skyscraper at Shenzhen. Analytical methods employed in the student presentations in the course will cover the full range of contextual, cultural, material, constructive and experiential attributes of buildings, with particular emphasis on the manner in which the spaces of a building are ordered by the patterns of occupation and the poetics of use, as well as 'the poetics of construction, or the way in which a building is built, and of what materials it is made, and how all these combine to construct the experience of those who inhabit it. Students will employ the graphic analysis standards developed by the professor. Following introductory lectures by the professor, each of the subsequent ten class meetings will consist of two student presentations of building analyses, and each team of two students will be required to present two buildings: one work from early in the career to be presented in the first half of the semester, and one work from later in the career to be presented in the second half of the semester. Students will be evaluated on both the quality of their team presentations, and on the quality of their individual participation in the class discussions accompanying each presentation. Individual research papers, as well as hard copies and CD's of the two in-class presentations, will be due at the end of the semester. Students will be credited in the professor's book; STEVEN HOLL, to be published by Phaidon Press in 2015. As an integral part of the course, the professor will lead an 'optional' field trip to the School of Art at the University of Iowa; this field trip will take place on a weekend. Fulfills History/Theory elective requirement. Credit 3 units.

ARCH 5417 Architectural Association, 1971-1990: Texts, Buildings, and Drawings

This seminar will examine the convergence of curatorial, publishing, and professional practices at the Architectural Association (AA) in London under the chairmanship of Alvin Boyarsky. Through a focused study of the international network of AA notables in the 1970s and 80s -- Zaha Hadid, OMA/Rem Koolhaas, Bernard Tschumi, Daniel Libeskind, Peter Eisenman, John Hajduk, Peter Cook, Robin Evans, and others -- the seminar will establish a broader relationship between architectural theory and practice. The course will integrate a set of primary theoretical texts with a selection of AA Publications, illuminating the relationship between architecture and theories of image production, collection, and dissemination. Course requirements include weekly reading summaries, discussions, in-class presentations, and a research paper. Open to graduate and upper-level undergraduate students. Fulfills History/Theory elective requirement. Credit 3 units.

ARCH 5418 Eero Saarinen & the Gateway Arch

Eero Saarinen's winning competition entry in the 1947 Jefferson National Expansion Memorial (JNEM) competition marked the acceptance of modern architecture for large public commissions in the United States. After its completion in 1965, the Arch became a beloved symbol of the entire St. Louis region and one of the most visited tourist sites in America. With lectures, field trips, and research exercises, this seminar will examine the design of the Arch within a wider context of the histories of St. Louis, of Eero Saarinen and of modern American architecture in the 20th century. Credit 3 units.

Typical periods offered: Fall, Spring

ARCH 5419 The Critical Evolution of Modern Architecture: CIAM, Team 10, and Other Modern Traditions

A graduate seminar exploring the critical evolution of the modern movement in architecture, from the founding of the CIAM (International Congresses of Modern Architecture) in 1928 to the emergence, within and parallel to CIAM, of what has sometimes been called the Other Tradition of modern architecture, which involved both the work of pivotal individual practitioners, as well as the emergence of collective movements, most particularly Team 10, from 1953-82; a series of

regional schools of architecture, from 1945-65; and the Neo-Rationalist movement, from 1966-90. The seminar will also explore the work of selected contemporary practices that exemplify the critical evolution of modern architecture. Each class meeting will involve lectures by the two professors regarding the critical evolution of modern architecture, as well as brief student presentations on specific post-WWII projects. The lectures and presentation will form the basis of discussions of the architectural and urbanistic ideas of Le Corbusier, Josep Lluís Sert, Alvar Aalto, Ernesto Rogers, Aldo van Eyck, Jacob Bakema, Alison and Peter Smithson, Candilis-Josic-Woods, Paul Rudolph, William Wurster, Craig Ellwood, Giancarlo de Carlo, Louis Kahn, Colin St John Wilson, Aldo Rossi, as well as contemporary practitioners such as Fumihiko Maki, Charles Correa, Herman Hertzberger, Rafael Moneo, and others. Analytical methods employed in the student presentations will address contextual, cultural, material, constructive, and experiential attributes of buildings.

Credit 3 units. Arch: GARW

Typical periods offered: Spring

ARCH 5421 New Vision: Designing for New Tools

This course is a research project between the School of Architecture and the Computer Science Department at Washington University in St. Louis. The course starts with lectures on fundamentals of architectural perception with spatial context and Computer Vision based 3D modeling methods. We will introduce state-of-the-art imaging applications on tablets and PCs, and explain the underlying technologies. The final project/research is to develop digital models and translations of an un-built architectural project through experimental visual tools that will alter 3D modeling with Computer Vision as aids. This interdisciplinary course offering will have a potential to significantly broaden the interests and knowledge of our students in both departments, and create new research and education opportunities at an interesting intersection of two different fields. Credit 3 units.

ARCH 5424 Programmatic Choreographies

A seminar exploring multiple venues to understand the program of a building as a strategy for design which operates in support of place, context, circumstance, environment, and form, etc. The formulation of programmatic strategies will be based by critically using conventional programs, but understood not as a list of room names, but rather as scenarios of human action based on protocols of use, choreographies of movement, alternatives for gathering, and their subsequent required area of occupation. Each of these scenarios will be explored as opportunities to expand the possibilities of the inhabitation of space in order to enhance the experience of architecture. As such, Program is understood as a powerful instrument of inquiry and pre-design which can make effective transitions into calibrated design operations. The course will include lectures and exercises where each of these scenarios will be presented, discussed and given as tests of analytical and strategic propositions. The deliverables will be shown as power point presentations to test the student's ability to communicate effectively through verbal, graphic and written information. Each of the exercises will be printed at the end of the course as the final deliverable. There will be readings (limited) in support of the class discussions. Students enrolled in Design Thinking are encouraged to register for this seminar since it will provide important support to Design Thinking requirements. Credit 1.5 units.

Credit 1.5 units.

Typical periods offered: Fall, Spring

ARCH 5425 From the Inside Out: Public Health & the Built Environment

The built environment has contributed to and advanced public health and safety since the era of 2200 BCE when Hammurabi, the founder of the Babylonian Empire, proclaimed the 'Code of Hammurabi.' This code called for construction of 'firm houses' that would not collapse on their owners and for the imposition of severe penalties on constructors whose buildings collapsed. The same basis of care and prudent practice is in force today in building design, construction, environmental engineering, and community and urban design in order to protect public health and safety and the natural environment. This Transdisciplinary Problem Solving course will discuss issues in the US and within a global context of housing, healthy communities, sustainable design, environmental quality, and occupational health and safety. Students will prepare a health impact assessment (HIA) for a selected building or community development site. Prerequisite or corequisite for MPH Program Students: S55-5005 or permission of instructor.

Credit 3 units.

ARCH 5426 Depth of Surface: Building Envelope More Than Skin Deep

The choice of construction systems, material selection and addressing performance requirements must be a generative act, not a reactive application. What are the possibilities for Depth of Surface to exploit the tension between internal criteria and external forces in a conceptual context? This seminar will explore how the overall form and performance of a building envelope can come together within a specific conceptual context. We will identify and address criteria for a building envelope that is to meet environmental expectations and requirements in the Twenty-First Century. Depth of Surface is divided into three distinct parts aimed at enabling design investigations. Students are actively encouraged to select an aspect of their current studio project to explore methods of developing and clarifying their conceptual intent -- we will explore generative processes, productive 'loops' of form and performance, in which there are no pre-conceptions in the investigation of the technical and the aesthetic. Prerequisites: Building Systems I/Structures I/Climate & Light. An enthusiasm for (and knowledge of) physical and digital modeling, and analysis tools: you will be asked to test some of the environmental implications of your building environment strategies by employing Ecotect software at various scales.

Credit 3 units.

Typical periods offered: Fall, Spring

ARCH 5427 Monte Carlo Seminar: Drawing the Body, Imagining the City

In 1969, Archigram released one of their most iconic, yet probably also most enigmatic projects - Features: Monte Carlo. A mixed-use proposal for a performance and recreational space, it was both a building blueprint and a discursive device that operated on the scale of the human body and the city. It wove together issues of bodily and environmental wellness and performance, critically engaging the complexities of emerging global culture: mass media, entertainment industry and various environmental issues. The seminar will revisit these questions through a combination of theoretical texts and projects, challenging the students to unpack the environment as a complex cultural, social and technological construct. The rich cultural history of Monaco will serve as a springboard for these conversations - from the projects by Charles Garnier, Le Corbusier, Archigram and Yona Friedman to the wide-reaching experiments in modern art, design and dance of the Ballet Russe, including its avant-garde choreography by Serghei Diaghilev, stage set designs by Pablo Picasso and costume designs by Leon Bakst, Monaco sustained a highly innovative level of cultural production that was often eclipsed by its socio-economic peculiarities. By unpacking these innovations within a larger historical

and theoretical context informed by the texts of Walter Benjamin, Reyner Banham, Dean MacCannell and others, the seminar will draw together bodily experiences and global cultures in modern cities. Open to graduate and upper-level undergraduate students. Fulfills History/Theory elective requirement.

Credit 3 units.

ARCH 5428 Confluences: Understanding the St. Louis Area

This three-week course will focus on visiting and documenting St. Louis area sites to assist students develop their degree projects. This region has a long and complex history of settlement by Native Americans, Europeans, and African-Americans, and many layers of urban and environmental history. The course will emphasize site-specific research methods and documentation of the built and natural environment, understood as part of historical, social, technological, and cultural phenomena. Possible areas to be examined include downtown; North St. Louis; Carondelet; the confluence of the Missouri and Mississippi rivers; Laumeier Sculpture Park and adjacent areas; and other parts of the region. There will be several lectures on regional history and architecture and a visit to the Missouri Historical Society Library and Research Center. Students will present possible sites for their degree projects for site visits and class discussion and will then develop a detailed final research paper and presentation.

Credit 3 units.

Typical periods offered: Summer

ARCH 5429 Alvar Aalto and Contemporary Architecture: Comparative Critical Analyses of Built Works

A graduate seminar employing comparative critical analyses to explore ten works of the Finnish architect Alvar Aalto (1898-1976) and works by ten contemporary architects that share disciplinary ordering principles with the works of Aalto, selected from a list including Alvaro Siza, Steven Holl, Tod Williams and Billie Tsien, John and Patricia Patkau, Juha Leiviska, Sverre Fehn, Sheila O'Donnell and John Tuomey, Jorn Utzon, Eduardo Souto da Moura and Fuensanta Nieto and Enrique Sobejano. Aalto was one of the most influential of the second generation of Modern architects, and this course will explore the architectural ordering principles structuring his work, how these were often derived both from Aalto's response to the Nordic environment and from Aalto's insights into the works of his predecessors, and the manner in which these ordering principles have been employed by contemporary architects. Analytical methods employed in the course will cover the full range of contextual, cultural, material, constructive, and experiential attributes of buildings, with particular emphasis on Aalto's focus on the manner in which the spaces of a building are ordered by the patterns of occupation and the poetics of use, as well as the poetics. A graduate seminar employing comparative critical analyses to explore ten works of the Finnish architect Alvar Aalto (1898-1976) and works by ten contemporary architects that share disciplinary ordering principles with the works of Aalto, selected from a list including Alvaro Siza, Steven Holl, Tod Williams and Billie Tsien, John and Patricia Patkau, Juha Leiviska, Sverre Fehn, Sheila O'Donnell and John Tuomey, Jorn Utzon, Rafael Moneo, and Fuensanta Nieto and Enrique Sobejano. Aalto was one of the most influential of the second generation of Modern architects, and this course will explore the architectural ordering principles structuring his work, how these were often derived both from Aalto's response to the Nordic environment and from Aalto's insights into the works of his predecessors, and the manner in which these ordering principles have been employed by contemporary architects. Analytical methods employed in the course will cover the full range of contextual, cultural, material, constructive, and experiential attributes of buildings, with particular emphasis on Aalto's focus on the manner in which the spaces of a building are ordered by the patterns of occupation and the poetics of use, as well as the poetics of construction, or the way in which a building is built, and of what materials it is made, and how all these combine to construct the experience of those who inhabit it. Following introductory lectures

by the faculty, each of the subsequent ten class meetings will consist of a presentation of a selected pairing of buildings, one by Aalto and one to three by a contemporary architect, to be presented by teams of two students. Students will be evaluated on both the quality of their individual presentations, and on the quality of their participation in the class discussions. Documentation of presentations are due at the end of the semester.

Credit 3 units. Arch: GACS

ARCH 5430 Contested Edge: River - City Couplings

This seminar will investigate the contested edge between the Mississippi River and the adjacent occupied land - between development and commerce based on our human needs and desires and a river indifferent to our presence. Over one hundred years ago, Twain warned us about the futility of our attempts to control the volatile Mississippi River: Ten thousand River Commissions cannot tame that lawless stream, cannot curb or confine it, cannot say to it, Go here or Go there, and make it obey. For reasons of river navigation, irrigation, hydropower, and flood protection, the river has been dammed, straightened, deepened, and segregated from its natural floodplain. These massive engineering feats have caused severe and perhaps irreparable ecological damage by upsetting natural flooding cycles, disrupting flows, draining wetlands, and inundating habitats. The results, while temporarily beneficial to some communities, are the progressive intensification of floods and the destruction of riparian zones. Traditional static infrastructures will continue to play a necessary role but cannot adequately handle increased floods and droughts resulting from global warming and our own intransigence. Rather than continually building harder and higher to protect communities from high waters, knowing from experience that the wild Mississippi will continually topple our efforts, this seminar will explore gentler, smoother transitions between land and water, city and river. Looking toward a more resilient condition, we will explore this ecological crisis as an opportunity for constructing a more livable, coupled, edge as a continuum between river and settlement - one requiring us to bend, accommodate, refrain, and think more creatively and strategically. The work of the seminar will be to create both a River Manual and to initiate an interactive web repository of data, strategies, maps, history, river city coupling examples, focused on the Mississippi River at the St. Louis region. Students will contribute with research, mapping, graphic design, and web construction.

Credit 3 units. Arch: GACS

Typical periods offered: Fall

ARCH 5433 The Observer & the Observed

This seminar is intended to put students in contact with the urban and architectural culture or cultures in South America. The discovery and observation of the many local ways of doing and thinking will take place through observation of the urban landscape and the appreciation of concrete works by local architects. Activities will be focused on critical observation of the urban context and architecture, including the development of graphic exploration instruments and techniques. The relation between the observer and the observed will be intensified through graphic exploration. In this way, the seminar will purposefully avoid published written criticism as a way to approach the cases and bodies of work to be studied. This will be in order to construct a vision more closely attached to the practice of design and the confrontation with concrete design issues and less 'contaminated' by pre-established historical or theoretical interpretation. The choice of case studies coincides with the array of buildings to be visited in field trips in Buenos Aires, Brazil, and Uruguay. Buildings and practices to be 'observed' will represent different scales, different degrees of intervention and the construction of different landscapes. The seminar is based in three class settings: site visits, professor and guest lectures, and in class presentations and discussion. Rather than a cold, systematized,

technical instruction on graphics, the development of personal observation/drawing tools and techniques is stressed. This includes sketching on the site and redrawing assignments based on personal sketches.

Credit 1 unit.

Typical periods offered: Fall

ARCH 5434 Tactical Urbanisms

Over half of the world's population is now living in cities. Another half of the world is living in poverty. Urban slums and informal developments account for a growing, but overlooked majority in this new paradigm. By learning how these communities organize and prosper despite overwhelming disadvantage, the seminar will seek to empower students with the ability to enable the explosive growth of the developing world on its own terms. Through a focused series of case studies and readings in cultural theory, multiple images of the city will emerge—where the built environment is responsive and representative of the people it serves, and the global economy of which it is part. The course is divided into two parts. Part I will investigate communities that act and build on their own behalf, bottom-up urbanisms that arrive with limited input from the design community. Part II will investigate responses, negotiations, and proposals from the design community, and address issues of developmental planning, scalability, and professional responsibilities when working with or in such environments. Requirements: attendance at all class sessions and participation in class discussions; each student will be responsible for summarizing and presenting concepts, conclusions, and questions for discussion from the required texts, and will conduct one such class presentation during the semester; participation in school-wide Urban Design Symposia; midterm paper discussing a 'tactical urbanism' not discussed in class, topic of the student's choice with the agreement of the instructor; final research paper with original graphic content, expanding on the themes and topics developed at midterm, and project responsible design opportunities. Fulfills Urban Issues elective requirement.

Credit 3 units.

ARCH 5435 Historic Preservation: Honoring the Past While Designing for the Future

This course will examine the historic preservation movement by looking at its history, successes and failures throughout the United States and by discussing specific examples in the St. Louis area over the past few decades. The course will examine, define and make intelligible the various types of laws, regulations, codes, and policies used in the United States that affect new construction and the rehabilitation of older structures. As more and more structures, landscapes, districts and townscape begin to fall under one or more types of historic preservation codes, it is helpful for an architect to have a basic knowledge of these regulations. Each class session will discuss a specific timeframe, chronologically examining the structures and landscapes that defined individual eras in the history of the city. Specific examples of historic preservation efforts for each era will be examined in depth. Subject-matter experts in the preservation field as well as contractors and architects will make appearances during the semester to discuss their successes and failures and to have a dialog with the class.

Credit 3 units. Arch: CAST, GACS

Typical periods offered: Spring

ARCH 5436 Reconsidering the Margin: Places of Meeting, Spaces of Transformation

The financial crisis of 2008 and subsequent recession exposed the frailty of conventional modes of practice. The freezing of credit markets set off a contraction of increasingly bureaucratized creative fields such as architecture and fine arts and led to massive layoffs and underemployment. This extreme disruption coincides with an

ongoing governmental disengagement from social assistance. The combination of the surplus of talent left by immobilized corporate practice and the vacuum created by a retreating government presents an opportunity to reconsider practice for a new generation in a way that engages a broader set of issues and problems. The seminar builds upon existing relationships and a body of previous engagement in the Pagedale community while laying the groundwork for new action. This seminar challenges traditional modes and focuses of creative effort to arrive at a radical new form for creative practice. By challenging common assumptions and using creative production to confront the challenges facing residents and decision-makers, the course seeks to break down physical and disciplinary boundaries to achieve a radical new production. The seminar will include the following: examination of entrenched assumptions by students and community members through reading and discussion; involvement in the community, including volunteer work and civic participation; research into pressing issues that will culminate in a creative project; and dissemination of information to both classmates and the community as a whole. This course is open to disciplines outside of architecture. Students in Art and Social Work are encouraged to register. The course will meet periodically in the community. This course fulfills the Urban Issues or MUD Track elective requirement.

Credit 3 units. Arch: GAMUD, GAUI Art: CPSC

ARCH 5440 Architecture and Film

The seminar course will examine the inter-relationships between architecture and film; how architecture plays a significant role in film and how thinking cinematically may influence architecture. Lecture will focus on film works by Tarkovsky, Hitchcock, Kubrick and Antonioni among others. Film analysis and presentation required.

Credit 1.5 units.

ARCH 5441 Architecture, Photography, and Film

This seminar examines the relationships between the image of architecture in photography and film, with an emphasis on film and architecture. Films studied include documentaries and dramas. Themes of the frame (camera -- window -- painting), space (actual and virtual, inhabited and narrative) and point of view, montage, composition, color, light and shadow will all be studied through critical readings and discussion, viewing of films, and formal analysis of the spatial and formal structure of filmmakers who portray or depict architecture as a primary narrative element in their work. Films studied include examples starting with the early experiments of Russian filmmakers, the Weimar era, Hitchcock, Godard and the New Wave, Tati, Kubrick, Wenders, and more recent directors.

Credit 3 units.

Typical periods offered: Fall, Spring

ARCH 5442 Surface of Affect/Effect

This course is a digital design and fabrication seminar that introduces the notion of architecture affecting human senses as well as the effects generated by the architectural entity. The affective ability will focus on tactility since it is the sense perceived by the entire body and opticality due to the visual nature of architecture. Both affect and effect focus on the surface as a plane of contact between people and their architectural environment. The class will develop digital modeling techniques that will lead to the development of physical prototypes that explore dynamic conditions responding to environmental variables that continually modify the visual and tactile boundary of the surface as division between a person and the exterior environment. In particular, the class will develop surfaces that explore physical movement, implied movement, and perceived movement. The course will involve readings and discussion along with the production of digital and physical prototypes. The class is a prelude to the digital fabrication studio in the spring 2015, but not a prerequisite for the studio. Students enrolled in this seminar will receive priority placement in the studio.

Credit 3 units.

ARCH 5443 Cite Conditions

A seminar exploring multiple venues to understand and inspire pre-design strategies based on: A critical observation of the context: The formulation of hypothesis of understanding based on the circumstantial, the factual, the interpreted, the imagined, and the edited, through a series of case studies, such as Sites with histories, unexpected Sights and philosophical, cinematographic and literary Cites. The course will include lectures and 3 exercises where each of these case studies will be presented, discussed and given as tests of analytical and poetic comprehension. Each exercise will be based on a specific location within the larger St. Louis region. The deliverables will be shown as power point presentations to test the student's ability to communicate effectively through verbal, graphic and written information. Each of the three exercises will be printed at the end of the course as the final deliverable. There will be readings (limited) in Philosophy and/or Art criticism to support the class discussions. Students enrolled in Design Thinking are encouraged to register for this seminar since it will provide important support to Design Thinking requirements.

Credit 1.5 units.

Typical periods offered: Fall, Spring

ARCH 5444 Neighborhood, City, Society: Urban Change in the American Industrial City

This course will explore the way that cities evolve in the face of changing social, economic, and political conditions. Focusing on the historical development of American industrial cities and regions, the class will examine how theoretical approaches to understanding the role of politics, social conditions, and design interventions in the ways cities change and develop. By focusing on neighborhoods in Saint Louis, the course will explore how local urban development has addressed suburbanization, urban renewal, the loss of industry, decrease in population, and recent process of investment and gentrification. The course will use fieldwork and archive-based case study research to trace the historical and contemporary forces that are shaping particular neighborhoods within Saint Louis in relationship to similar phenomena in other cities such as New York, Chicago, Detroit, and other rust belt cities. The project-based group and individual assignments will help students build research skills in historical archive research, urban statistical data processing, social apping, and case study presentation. Fulfills History/Theory elective requirement. Fulfills Urban Issues elective requirement.

Credit 3 units.

ARCH 5445 The Architecture of Medicine

This seminar will offer students in architecture and engineering an overview of issues involved in the planning and design of facilities for medicine and the problem-solving design process required in projects of this type. Medical-based building uses include: Laboratories (biomedical sciences, instrumentation, clinical, etc.); In-patient facilities (hospitals, rehabilitation centers, in-patient surgery, blood bank, pathology, etc.); and Medical facilities (out-patient surgery and procedure, radiology, etc.). The course will examine the problem-solving process and specific design issues of buildings designed for medical science and treatment. It will show the opportunities for integrating sustainable principles in the design. The problem-solving process will start with programming, follow with planning exercises, and focus on engineering issues for the design process. Students will go on 5 tours to see interesting local facilities that provide good examples of functional design for medical uses listed above. Examples of potential local tours include: WUSM's Mallinckrodt Institute of Radiology, BJC Hospital facilities, and SLU-SOM's clinical research laboratory (J. Baum designed). The course will review examples of buildings for medicine by notable national and international

architects, as well as interesting well-executed buildings of note and where sustainable design has been incorporated into the design.

The objective of reviewing existing buildings will be to investigate the technical challenges posed by the function and use of the building.

Because we will generally not be able to find much on the problem-solving process and specific design issues of these buildings, the students' investigations will be limited to what is published.

Credit 3 units.

Typical periods offered: Fall, Spring

ARCH 5446 Public Health & the Built Environment

The built environment has advanced public health and safety throughout history. Building design, engineering, and construction today require knowledge of a wide range of public health and environmental science issues. In this seminar, students will investigate impacts of public health on building design and community development with regard to U.S.A. building codes, sustainable design, environmental quality, chronic disease mitigation, infectious disease control, and U.S.A. occupational health and safety standards and specific applications to healthcare, science and education, and food production facilities. Students will write two research papers on built-environment topics of their choice.

Credit 3 units.

ARCH 5447 From the Bottom Up: A Grassroots Approach to Healthy Communities & Neighborhoods

We spend more than 90% of our lives indoors (National Research Council 1981), yet we know much more about ambient environmental factors and health than we do about the built environment and health. The built environment is defined as buildings, homes, places of business, work places, schools, food stores, public spaces, parks and recreational areas. It extends to electric transmission lines, waste disposal facilities, transit arrangements, roads, utilities, fixtures, and all other man-made entities that form the physical characteristics of a community. In sum, it includes the places where we live, work, and play, places that keep us moving, communicating and functioning, i.e., nutrition and physical activity environments, streetscapes, transportation environments, and everything in between. How we design and build where we live has changed dramatically over the past century. In the early 1900s, urban areas tended to be compact and communities were walk-able, with a central business district and a mix of housing and services. Then, connections between urban design and health and disease were more clearly recognized, and planners and public health practitioners often worked together to deal with problems related to poor sanitation and housing conditions. Increasing movement away from such urban locales over the last 50 years led to lower-density developments, segregation of land uses, and extensive roadway construction. Today, this trend, sometimes referred to as urban sprawl, is characterized by huge increases in urbanized land area and vehicle miles traveled [U.S. Environmental Protection Agency (EPA) 2001a]. These changes have both direct and indirect impacts on our environment and on public health. The major themes that will be presented and discussed are Sustainable Design, Landscape and Sustainable Sites Initiative, Passive Survivability, Universal Design and Building Codes, Engineering-Urban Infrastructure. Considerable emphasis will be given to social considerations in neighborhood development and residential design. During the entire fall term students will explore, examine, and explain the neighborhood in which the students currently live in the St. Louis region, and document their research in a comprehensive report. The course requires students to write the Where I Live report and to present their findings in class. There is no final examination.

Credit 3 units.

ARCH 5449 House and Home: Habits and Habitation

House and Home are broad categories of thought that have multiple meanings. The words encompass not only terms of building, belonging, and place, but also terms of order, action, and affection. The house has also been the site of conception and invention for the architectural projects of many significant modern master architects. In many contemporary practices, house and home have retained many ideas of these masters. However, many practices have simultaneously probed new meanings that investigate the relationship between habits and habitation with investigations of gender, sexuality, and political order. This course fulfills the History/Theory elective requirement.

Credit 3 units. Arch: CAST, GACS

ARCH 5450 Material / Practice

The seminar will provide each student a heightened understanding of material translation and detailing strategies that amplify conceptual design intent and that is sympathetic to the needs of professional practice. Content will endeavor to examine, at an advanced level, the intersections of design strategies with modes of professional practice. The semester will begin with an investigation of emerging practice trends, researching impacts on collaboration models, design approach, delivery methods and construction. The course will then shift to analysis and translation of conceptual design thought through to material, performative and experiential realization. Critical speculation of the underlying modes of practice and project delivery will parallel the analysis. The semester will conclude with material and detailing discourse in support of each student's studio work. Seminar dialogue will examine the overlap of practice and project delivery through the lens of design-thinking in lieu of the traditional lens of risk management. Where possible the course will bring-forth experts from leading practices around the United States.

Credit 3 units.

ARCH 5451 Principles of the Virtual Design and Construction (VDC) Process

Virtual Design and Construction (VDC) is the use of multidisciplinary performance assessing models of the design/construct/own-operate process to support a variety of objectives. Intended for students who wish to explore the optimization potential of the VDC process, this course investigates VDC as managers/leaders in the Built Environment. The course focuses on developing models of integrating all perspectives: Design (architects/engineers/consultants), Construction (managers, contractors, sub-contractors), Business (develop, own, operate) to overcome the technological and institutional changes and challenges of implementing VDC. Students will develop and implement fair-minded critical thinking problem solving techniques to advance contemporary decisions to improve virtual collaboration while reducing fragmentation and interoperability.

Credit 3 units.

ARCH 5452 Painting Into Architecture: Shared Speculations On the Nature of Modern Space, 1900 to Present

A graduate seminar exploring the rich tradition within the Modern arts since 1900, where shared concepts of space, order and perception have been engaged in parallel developments in the pedagogy and practice of painting and architecture. The major part of the course will consist of the examination of these shared principles through their 'educational deployment' in selected schools of art and architecture around the world, as well as in their 'practical implications and applications,' exemplified through a series of selected pairings of architects and painters, from the early Modern period and from contemporary practice. Three types of parallels between individual painters and architects are proposed to be found with the Modern tradition: 'parallels in practice,' an actual relationship of contemporary equals; 'parallels across time,' an actual albeit one-way relationship of chronologically distant practitioners; 'parallels of principle,' a purely

speculative relationship of contemporary equals on non-crossing paths. Introductory lectures and required readings will examine the pattern of shared principles through their 'critical engagement' in the writings of Jose Ortega y Gasset, Sigfried Giedion, Colin Rowe, Robert Slutzky, Yves Alain Bois, and John Berger, among others. Following the introductory lectures, each class will consist of a student presentation of 'educational deployment,' and two presentations of 'practical implications and applications' (artist/architect pairings), one by a student and one by the professor. Among the painters and architects to be examined are Le Corbusier, Paul Klee, Carlo Scarpa, Richard Diebenkorn, Steven Holl, Ben Nicholson, David Chipperfield, Richard Paul Lohse, Aldo van Eyck, Robert Slutzky, Peter Eisenman, Georges Braque, Alvar Aalto, Josef Albers, Louis Kahn, Piet Mondrian, Tod Williams and Billie Tsien, Sean Scully, Herzog and de Meuron, Mario Radice, Giuseppe Terragni, Fritz Glarner, Henri Ciriani, etc.. Students, working in teams of two, will be responsible for researching and analyzing one example of 'practical implications and applications,' and one example of 'educational deployment' (from list provided); preparing two in-class presentations, and providing summary documentation. Open to graduate students in architecture, art, and art history. Fulfills Graduate Architecture History/Theory elective requirement; enrollment limited to 20. The course, and the syllabus of examples that will be engaged in the classes, originates in the book-length study, SPATIAL SPECULATIONS, currently being written by Professor McCarter. Credit 3 units.

ARCH 5454 Dynamic Architectural Visualization

Spatial animation for architecture urban design, landscape and interior design is being used as an everyday design process. This powerful dynamic media allows designers to fully understand and comprehend the totality of natural phenomena and spatial perception within the digital environment. This course explores the basic aspects of design and producing digital animations. Students develop storyboards in terms of clarity of storyline, time curves, motion paths, and advanced rendering techniques. Key frame and interpolation techniques are developed to aid the editing process. This course also covers video editing as a creative tool combining audio and visual manipulation. Each student will engage in dynamic perception through assemblage of time, space, and emotional aspects of cinematic experience. Credit 3 units. Typical periods offered: Fall, Spring

ARCH 5455 Design At an Impasse: The Experience of Lina Bo Bardi

This seminar will address timely conceptual and practical issues about architecture by studying the design and theoretical works of Italian-born Brazilian architect, Lina Bo Bardi (1914-1992). As one of the very few prominent women architects in the twentieth-century, she articulated many important questions that remain open in contemporary architecture. Her work ranged from editorial to curatorial projects, from furniture to urban design, and from new buildings to restoration and adaptive reuse projects. The title of this course refers to a posthumous book she organized in the later years of her life, in which she addressed the dilemmas of designing in a world in which basic human needs and shared social values are often at odds with the pervasiveness of individualism, images and commodities in a globalized Western culture. The seminar will be divided in three modes: lectures, individual research, and an exhibition project. Lectures will focus on a comprehensive approach to her life, work, and ideas. Individual research will focus on analyzing specific works organized by categories with access to both secondary and primary sources. The results of the research will be incorporated into a curatorial project for a pilot exhibition investigating the significance of her legacy to contemporary architects and designers. Fulfills History/Theory elective requirement. Credit 3 units.

ARCH 5457 Carlo Scarpa and Contemporary Architecture: Comparative Critical Analyses of Built Form

A seminar course examining the works of Carlo Scarpa (1906-1978), one of the most important second generation modern architects, whose works, though designed for the unique context of the Veneto region of Italy, nevertheless continue to exercise considerable influence on contemporary architecture around the world. Student teams will present analyses of a total of ten of Carlo Scarpa's built works, as well as analyzing the relation to Scarpa's works that can be found in the works of ten contemporary practices: Tod Williams + Billie Tsien, Steven Holl, Richard Murphy, Bridget Shim + Howard Sutcliffe, John Tuomey + Sheila O'Donnell, Shin Takamatsu, John and Patricia Patkau, Kathryn Dean/Dean-Wolf, Sverre Fehn and Tom Kundig/Olson-Kundig. Analytical methods employed in the student presentations in the course will cover the full range of contextual, cultural, material, constructive, and experiential attributes of buildings, with particular emphasis on the manner in which the spaces of a building are ordered by the patterns of occupation and the poetics of use, as well as the poetics of construction, or the way in which a building is built, and of what materials it is made, and how all these combine to construct the experience of those who inhabit it. Following introductory lectures by the professor, and introduction of the analytical methods and graphic standards, each of the subsequent ten class meetings will consist of two student-team presentations of architectural analyses, one building by Carlo Scarpa and selected buildings from a contemporary practice. Each team of two students will make two presentations, one in the first half of the semester, and one in the second half of the semester. Readings from the textbook and other sources will be assigned, to be discussed during each class. Individual research papers, as well as hardcopy and CD's of the two in-class presentations will be due at the end of the semester. Fulfills Master of Architecture History and Theory Case Study Elective Distribution requirement. Credit 3 units. Arch: CAST, GACS Typical periods offered: Fall

ARCH 5459 Aldo van Eyck and Contemporary Architecture

A graduate seminar employing comparative critical analyses to explore ten works of the Dutch architect Aldo van Eyck (1918-1999) and works by ten contemporary architects that share disciplinary ordering principles with the works of van Eyck, selected from a list including Giancarlo de Carlo, Herman Hertzberger, Fumihiko Maki, Lacaton and Vassal, Tod Williams and Billie Tsien, Yvonne Farrell and Shelley McNamara (Grafton Architects), Wang Shu and Lu Wenyu (Amateur Architects), Francis Kéré, Emiliano Lopez and Monica Rivera (Lopez-Rivera), and Mauricio Pezo and Sofia von Ellrichshausen (Pezo von Ellrichshausen). Van Eyck's works and writings were fundamental to the emergence of Team 10 in the late 1950s as the center of the critical evolution of modern architecture in the second half of the 20th century. Van Eyck's concepts, the vernacular of the heart, the constant and constantly changing, the aesthetics of number, the house is a like a small city, the shape of the in-between, labyrinthian clarity, space in the image of man is place, and time in the image of man is occasion, and architecture as built homecoming will be used to structure the seminar, which will explore these architectural ordering principles characterizing van Eyck's work, and the manner in which these ordering principles have been employed by contemporary architects. Analytical methods employed in the course will address the contextual, cultural, material, constructive, and experiential attributes of buildings, with particular emphasis on the manner in which the spaces of a building are ordered by the patterns of occupation and the poetics of use, as well as the poetics of construction, or the way in which a building is built, and how these combine to construct the experience of those who inhabit it. Following introductory lectures by the faculty, each of the subsequent ten class meeting will consist of a presentation of a selected pairing of buildings, one by van Eyck and one by a contemporary architect (along

with a career overview), to be presented by a team of two students. Students will be evaluated on both the quality of their individual presentations, and on the quality of their participation in the class discussions.

Credit 3 units. Arch: CAST, GACS

Typical periods offered: Spring

ARCH 5460 Critical and Creative Algorithms

Algorithms play an essential role in contemporary creative design. They are sketches using step-by-step logic. Algorithms are also complicated, invisible components of global information systems. They are devices of surveillance and control. This course combines a historical study of computation and systems design with programming workshops and contemporary readings from critical algorithm studies. Is a computer like a brain? How is programming like using a foreign language? Students will learn about the history of computer hardware and software, how they were used by artists and architects in the twentieth century, and how algorithmic sketches can be used today in various creative design workflows. From recipes and poetry to machine learning and large language models, students will study algorithmics from the perspectives of the humanities, sciences, and creative design. Final projects will combine creative form making with research and writing.

Credit 3 units.

Typical periods offered: Spring

ARCH 5461 Women in Architecture

This research seminar will examine how women have shaped the field of architecture as practitioners, critics, researchers, and clients over the last two centuries, situating their work and their ideas within the canon of modern architecture through diverse historical and theoretical frameworks. It will trace the genealogical threads of key female figures in relation to international schools of thought, exploring the ways in which they contributed to the representation and production of space in the modern world. This seminar will also examine feminine discourses that both converged with and diverged from the dominant discourses of the field in order to shed light on the historical and cultural contexts that defined women's roles as architects and as consumers of architecture. The course will cover key female figures in the field of architecture, including: Louisa Tuthill, Louise Blanchard Bethune, Sophia Hayden, Marion Mahoney, Julia Morgan, Charlotte Perriand, Jaqueline Tyrwhitt, Catherine Bauer, Jane Drew, Minette de Silva, Cathrine Beecher, Miho Hamaguchi, Allison Smithson, Denise Scott-Brown, Adele Santos, Zaha Hadid, and others. Final project will be an exhibition.

Credit 3 units. Arch: GARW, RW

Typical periods offered: Fall, Spring

ARCH 5462 Degrowth: Theories of Design for an Abundant World

What will the world look like beyond the climate crisis? What will be the role of designers? In recent years, social theorists and economists have become increasingly convinced that the global economy cannot continue to grow forever. To live sustainably with an equitable distribution of resources, some consumption will need to be reduced -- this is the argument of the degrowth movement. What will this mean for architecture? Will adaptive reuse replace the construction of new buildings? Will architects engage in the design of global systems (geoengineering)? Will philosophies of minimalist asceticism surge in popularity? What can we learn from indigenous societies with traditions of living within relative ecological balance? This course engages directly with economic, ecological, and design theories that ought to be relevant in the years ahead, as the profession of architecture adjusts to a world beyond perpetual growth. Analysis of contemporary projects will be paired with a history of architecture that places special emphasis on modernism, counter-cultures, and systems/ecological design.

Credit 3 units. Arch: GARW, RW

Typical periods offered: Fall

ARCH 5463 Narratives in Design

This course provides tools to design students across disciplines, who would like to extend their critical thinking knowledge and curatorial studies in design by engaging topics and experts related to the Sam Fox School public lecture series. Starting from an understanding of design as a culture, the course will help students to frame their ideas and interests and learn how to unfold the work of designers in a crafted and mature way. Through a series of interactive workshops, students will collaboratively find topics of interest in the different disciplines and will find who better can exemplify those interests. This will help the lecture committee to set up the lecture series and will give more agency to the students during our lecture guests visits.

Credit 1.5 units.

ARCH 5464 The Island We Eat I: Seeding Resilience in Puerto Ricos Food Future

A recipe is more than the food it is made of: the geography of our dinner spills off of the plate. The Island We Eat seeks to explore the relationship between food systems and their geomorphology, climate, infrastructure, time and culture. During the 20th century, the transformation of global food production and its processes have homogenized most of the Earth's productive landscapes, diminishing their complexity and impoverishing their ecosystems. This transformation has been so thorough and pervasive that it is increasingly difficult to imagine how things could be any other way. This course will be divided in two parts; each part is 1.5 credit hours. Students can take The Island We Eat I or The Island We Eat II or both. Those two parts will help build the history of the past, present and future of food systems in the island of Puerto Rico. Each part will be run independently even if the work will built up at the end. Even if Puerto Rico is the perfect environment to grow food, and if the weather, soil and water make the island the perfect environment, the reality is that the island is currently importing more than 80% of the food that people consume. Since we are facing a growing uncertain future in food production and distribution, we will question why Puerto Rico cannot build a more resilient food future. The Island We Eat I will explore more global and large-scale facts that impact the island food systems. The Island We Eat II will explore which diet and its production can help to build the food sovereignty of the Caribbean island. This is a thinking through drawing course where the research will need to be criticized through the act of drawing across scales.

Credit 1.5 units.

Typical periods offered: Spring

ARCH 5465 The Island We Eat II: Seeding Resilience in Puerto Ricos Food Future

A recipe is more than the food it is made of: the geography of our dinner spills off of the plate. "The Island We Eat" seeks to explore the relationship between food systems and their geomorphology, climate, infrastructure, time and culture. During the 20th century, the transformation of global food production and its processes have homogenized most of the Earth's productive landscapes, diminishing their complexity and impoverishing their ecosystems. This transformation has been so thorough and pervasive that it is increasingly difficult to imagine how things could be any other way. This course will be divided in two parts; each part is 1.5 credit hours. Students can take "The Island We Eat I" or "The Island We Eat II" or both. Those two parts will help build the history of the past, present and future of food systems in the island of Puerto Rico. Each part will be run independently even if the work will built up at the end. Even if Puerto Rico is the perfect environment to grow food, and if the weather, soil and water make the island the perfect environment, the reality is that the island is currently importing more than 80% of the food that

people consume. Since we are facing a growing uncertain future in food production and distribution, we will question why Puerto Rico cannot build a more resilient food future. "The Island We Eat I" will explore more global and large-scale facts that impact the island food systems. "The Island We Eat II" will explore which diet and its production can help to build the food sovereignty of the Caribbean island. This is a thinking through drawing course where the research will need to be criticized through the act of drawing across scales. Prerequisite: A46 560D (The Island We Eat I)

Credit 1.5 units.

Typical periods offered: Spring

ARCH 5466 The Japan House Workshop

The Japanese house has long been the subject of considerable fascination and debate by writers and architects both in and out of Japan who found inspiration in its materials, structural systems, and aesthetics. But what are the characteristics that define a Japanese house? And how have ideas about what it should be and how it should work changed over time? This course introduces students to studies of Japanese dwellings by architects such as Bruno Taut, Heino Engel, Kon Wajiro, and Tange Kenzo, familiarizing students with the key texts that sought to define and contest the parameters of vernacular aesthetics in Japanese architecture. Through short readings and weekly discussions, students will learn about the formation of the Japanese House as an idea in the context of Japan's encounter with the West and how this idea influenced modernist design both at home and abroad in complex and sometimes contradictory ways. The workshop component of this seminar focuses on a turning point in Japanese residential design: the 1920s to 1930s, when new ideas about urban life, public hygiene, structural safety, and more reshaped how homes were designed and built in Japan. Using a Kengo Kuma's book *Kyokai: A Japanese Technique for Articulating Space* as a guide, students will identify a set of architectural elements for deeper study. In the second part of the workshop, students will examine a range of Japanese dwellings using original drawings and photographs from the 1920s and 1930s, selecting one for a final research project. The results of this research will culminate in an end-of-semester exhibition of drawings and models that showcases Japanese residential design at a point of transition.

Credit 3 units. Arch: CAST, GACS

Typical periods offered: Fall, Spring

ARCH 5467 Building a Foundation for a Career - the First 6 Months

This seminar will explore the transition from school to practice that occurs within the last 3 months of school, and the next 3 months after graduating. Much of your focus thus far has been on understanding the history and theory of architecture, and designing, drawing, and modeling individual projects for studio. So how do you translate these essential skills to professional practice and begin the process of establishing yourself as a designer and architect? How do you build a resume by leveraging the creative work you've already completed? How do you create a portfolio and resume that accurately depict not only your skills, but also your interests? And finally, how do you leverage your skills early to establish a strong foundation for the career you want? In this seminar, we will address the questions above, and you will learn how to put together award submissions, set up an NCARB record, and navigate the basic fundamentals of the licensure process. We will also discuss collaboration, work-life balance, aligning your passions and skills with potential career paths, and successfully transitioning from academia and practice.

Credit 3 units.

Typical periods offered: Fall, Spring

ARCH 5468 East Asian Urbanisms

This seminar surveys the history of East Asia's great cities through the lens of social, urban, and architectural change from pre-modern to modern times. It explores how the ever-shifting geopolitical landscape of East Asia shaped the trajectory of the region's urban morphology, with each week devoted to a specific topic. Tracing the flow of knowledge, ideas, and technologies across borders, the seminar addresses such themes as the influence of the Chinese cultural sphere on the design of pre-modern capitals outside of China; the emergence of Japanese castle towns; the social and architectural impact of semi-colonialism in treaty-port cities; and the top-down planning carried out by imperial Japan in Manchuria. At the same time, we will consider what these larger forces meant for the daily lives of the people who had to live with their consequences and for the broader ecologies that both shaped and were reshaped by urban growth. Weekly lectures will introduce students to principles and policies that shaped the built environment of major metropolitan centers from Beijing to Seoul to Tokyo, while in-class discussions will draw from a broad range of readings, stories, and visual sources that bring cities, and their inhabitants, to life. For the final project, students will write and illustrate a historical narrative of a city and time of their choice based on their own research.

Credit 3 units. Arch: GARW, RW

Typical periods offered: Spring

ARCH 5469 Challenging Cultural Assumptions Women in Architecture, 1827-1960

This course will examine the significant contributions of women as architects and designers in the decades prior to 1960. Women designers in the post-Hadid era are far better known than the pioneer architects who will be examined in this course. The first American building designed by a woman was constructed in 1827, and by 1910 there were 50 women working professionally as architects in the United States. Myths about them include that they did not have successful careers, that they got few commissions, and that they did not make lasting contributions to architecture. The truth is that although they had an uphill struggle to compete with the men who dominated the profession - and sought to exclude them - women nevertheless made significant contributions to the prairie and international styles, worked successfully within beaux-arts and various stylistic revivals, and designed everything from homes to commercial, industrial and civic buildings - even a capital city. They invented new systems for housing and more efficient materials, like the K-brick. This course will provide details regarding gendered design theory which included kitchenless houses, cooperative home clusters, and significant opinions on urban renewal and city planning. A non-gendered lens will be applied to what makes a design - and a designer - great. This includes an examination of why women's designs have often been undervalued or erased in criticism, popular perception, the media and classroom instruction. Students will be encouraged to research and write a short paper about a woman or a group of women and their contribution(s) to architecture.

Credit 1.5 units.

Typical periods offered: Spring

ARCH 5710 Special Topics: Sustainability Dialogue in Studio Design Project

Sustainable architecture is a complex system. The seminar is developed to facilitate Studio Project in thinking in problem nets for sustainability, which will challenge the student in connecting the vertical (the instrumental, in-depth, knowledge) and the horizontal (the practical, in-width, knowledge cross from multiple disciplines). This highly customized seminar will create an open dialogue for architectural design and sustainability practice. The students will learn how to integrate creativity in studio design project with sustainable practice, and learn how to evaluate the sustainability of his/her studio project throughout the design process. The seminar includes Public Lecture by

a dozen of famous professionals in sustainable practice. The seminar will develop Special Topics on Sustainability based on DP student's projects. The students in seminar will schedule individual meetings with instructor and the experts on his/her studio design project. Priority will be given to students who will be simultaneously enrolled in Degree Project.

Credit 3 units.

ARCH 5720 Special Topics in History & Theory

Special topics course

Credit 3 units. Arch: CAST, GACS

Typical periods offered: Spring

ARCH 5810 Independent Study

Prerequisite: Sponsorship by an instructor and permission of the Dean of the School of Architecture. Credit: To be determined in each case.

Maximum credit: 5 units.

Credit 5 units.

Typical periods offered: Summer

ARCH 5811 Independent Study

Prerequisite: Sponsorship by an instructor and permission of the Dean of the School of Architecture. Credit: To be determined in each case.

Maximum 5 units.

Credit 9 units.

Typical periods offered: Spring, Summer

ARCH 5920 Building Visits (Barcelona)

In this 3-credit seminar, students will experience first-hand a careful selection of exemplary contemporary architecture conceived through environmental and social considerations. The seminar is divided into two parts; the first is based on case-studies, and the second is a Spring Break architecture travel. The first part consists of a series of lectures delivered by prominent guest practitioners on a single work (in or near Barcelona), followed by a visit with the architect to the building. Through on-site drawing analysis and other exercises, students will unfold the diverse design logics embedded in the building (urban, landscape, energy, material, tectonic and social) to grasp the work holistically. The Spring Break trip will similarly engage with exemplary built works and offices outside of Spain and within Europe.

Credit 3 units. Arch: GACS

Typical periods offered: Spring

ARCH 5921 Barcelona City Seminar: History, Evolution, and Current Debates (Barcelona)

This seminar aims to familiarize students with urban concepts and themes, such as urban fabric, public space, buildability, scale, paths and streets, mixed-use, density, mobility flows, zoning, urban renewal, gentrification, etc., and provide them with basic tools to describe, analyze and articulate proposals in urban contexts. Through field visits, theoretical sessions, debates, and practical exercises, the spectrum of urban issues and themes will be examined with Barcelona as an example and a living laboratory.

Credit 3 units. Arch: GAUI

Typical periods offered: Spring

ARCH 5922 What Does the Museum Look Like? (Barcelona)

The Museum, as an architectural typology and emblematic cultural device, is undergoing an intense transformation. This seminar aims to shed light on this typology and the role that museum architecture has as a mechanism to activate present-day communities. Students will conduct research through this type of contemporary culture condenser, which keeps digitalization and globalization. It will also consider the

idea that a museum is not only a display or receptacle dedicated to established areas or disciplines such as the arts, science, sports, and industry, among others. The research methodology will analyze and deploy seminal case studies to revisit and propose alternatives for the Museum's evolution as an architectural device for contemporary culture. The course will address and discuss different topics such as the idea of destabilizing the Museum as an institution, dealing with conflict as a positive, alternative way to generate content, and thinking about this typology as a place mainly dedicated to positive interaction, discussion, service and exchange within the community. To compare and acquire a global perception of a constellation of museum types, specific graphic standards will be used to represent the analysis and deployment of case studies. These analyses, as well as the results of the discussions and pieces of work produced during the seminar, could result in a small publication.

Credit 3 units. Arch: GARW

Typical periods offered: Spring

ARCH 5990 Training and Development in Practice

Training and Development in Practice is a practicum offering students who qualify the opportunity to participate in an internship, or professional immersion experience. While the structure of the course affords student participants a great measure of autonomy as far as the scheduling and work demands associated with their internship, the course will provide a framework for every student to proactively set reasonable learning/experiential objectives and assess the completion of these objectives by the end of the course period. Over the duration of the Summer, students and the course facilitator will meet one on one, either in person or by remote webcam. Students will complete biweekly assignments to support professional development and reflection upon progress made towards goals. Students may enroll in ARCH 5990 Training and Development in Practice a maximum of three (3) times. Credits earned from ARCH 5990 will not count toward fulfilling to a students' degree requirements.

Credit 0.5 units.

Typical periods offered: Summer

ARCH 6000 Comprehensive Studio

Credit 0 units.

Typical periods offered: Fall, Spring

ARCH 6001 Design Foundations Studio

This is an intensive three-week program that introduces incoming students to the pedagogy around thinking and making through an introductory studio exercise. Enrollment is open to first-semester MArch 2 students only.

Credit 3 units.

Typical periods offered: Fall

ARCH 6010 Architectural Design III

The third of a three-semester sequence of design studios. Continues examination of issues raised in ARCH 5010 and ARCH 5020. All students initially register for section 01. The studio coordinator will assign students to sections at the start of the semester and students will change their section registration at that time.

Credit 6 units.

Typical periods offered: Fall

ARCH 6020 Architectural Design V

This is a graduate options studio. All students initially register for section 01. Studio section assignments will be made through a lottery process at the start of the semester and students will change their section registration at that time.

Credit 6 units.

Typical periods offered: Fall, Spring

ARCH 6025 Architectural Design V (Barcelona)

This is a graduate options studio.
Credit 6 units.

Typical periods offered: Spring

ARCH 6030 Architectural Design VI

This is a graduate options studio.
Credit 6 units.

Typical periods offered: Fall, Spring

ARCH 6150 Design Culture

This course will provide an overview of historical and contemporary design issues, including (but not limited to) graphic design, communication design, industrial design, furniture design, film, and animation. Lectures, films, and readings will deepen students' knowledge of how different design practices complement and enrich architecture and broaden their understanding of how history, philosophy, and technology have shaped different design movements.

Credit 1.5 units.

Typical periods offered: Fall

ARCH 6521 Theories of Modern Art and Architecture

This intensive reading, research, and writing seminar will present theories of art and architecture from the 19th to the 21st century in their historical contexts through a set of in-depth investigations of selected topics. Some knowledge of history and theory is integral to contemporary understandings of the disciplines of art, art history, and architecture. To foster a historical understanding of theories of modern art and architecture, we will discuss a selection of key texts, divided into three sections: theoretical sources of modern art and architectural history in the 19th century; theories of modernism, from the formalist of the Marxist; postmodern critiques of modernism, in such areas as feminist theory and poststructuralism. The legacy of modernism is deep, broad, and ongoing, as evidenced by the local example of the Pulitzer Foundation for the Arts in St. Louis. Such expressions of a modernist outlook are still vital today, while continuously changing environmental, social and technological challenges demand a better understanding of the history and theory of modern art and architecture. Class visits to Sullivan and Adler's Wainwright Building (1890-91), Eero Saarinen's Arch at the Jefferson National Expansion Memorial (completed 1964), Tadao Ando's Pulitzer Foundation (2001), and Fumihiko Maki's Kemper Museum of Art (2006) will be integral to the work of the course.

Credit 3 units.

Typical periods offered: Fall, Spring

ARCH 6523 Project Design Realization: From Concept to Construction

Advanced study of professional practice topics focusing particularly on project management, construction documents production, and construction phase services and responsibilities of the architect. Students will select a project, which they have produced previously in design studio and will create construction documents for this project. Likewise, the individual projects will be used to discuss project management processes and construction administration. This is not a technology course, but rather focuses on concepts and systems used by the architectural profession to describe architectural designs for the purpose of bidding the project, and creating a legally binding document on behalf of architectural clients.

Credit 3 units.

ARCH 6524 Historic Preservation/Urban Design

This class will explore the history and current practice of historic preservation in the United States and will relate them to local issues of contextual architecture, sustainable development, cultural tourism and urban design. Emphasis will be placed on the practical knowledge needed to participate professionally in historic preservation: how to evaluate the associative and architectural significance of a property or district, how to provide legal protection and redevelopment incentives for historic resources, how to appropriately restore, rehabilitate, adapt and add to historic buildings and how to incorporate historic preservation into the sometimes-contentious framework of community planning. The course will focus on readings, student discussion and case studies that draw extensively on real preservation situations in the region including trips to the innovative Cupples Warehouse and Bohemian Hill projects, the endangered Old North St. Louis neighborhood and a charrette in the Central West End.

Credit 3 units. Arch: CAST, GACS, GAMUD, GAUI

Typical periods offered: Fall

ARCH 6810 Independent Study

Prerequisite: Sponsorship by an instructor and permission of the Dean of the School of Architecture. Credit: to be determined in each case.

Maximum credit: 5 units.

Credit 5 units.

Typical periods offered: Fall

ARCH 6811 Independent Study

Prerequisite: Sponsorship by an instructor and permission of the Dean of the School of Architecture. Credit: to be determined in each case.

Credit 9 units.

Typical periods offered: Spring

ARCH 6901 Theories & Methods of Historical Research

What is architectural history? This is an advanced reading, writing and discussion seminar intended to better prepare students for research in the history and theory of architecture and urbanism. It is based on the premise that since contemporary design practices are not only data-driven, neutral and ahistorical, the ways that designers' conceptualize their work can benefit from a historically-informed understanding of how various approaches to architectural history have emerged over time. It seeks to consider how architecture and architectural history have been understood in the past, and how the development of the discipline informs contemporary research in architectural history by examining how recent and contemporary historians of the built environment do their work.

Credit 3 units. Arch: GARW, RW

Typical periods offered: Fall

ARCH 7010 Architectural Design VII

This is a graduate options studio. All students initially register for section 01. Studio section assignments will be made through a lottery process at the start of the semester and students will change their section registration at that time.

Credit 6 units.

Typical periods offered: Fall, Spring

ARCH 7015 Architectural Design VII (Barcelona)

This is a graduate options studio.

Credit 6 units.

Typical periods offered: Spring

ARCH 7120 Design Thinking: Research and Design Methods

Covers the fundamentals of project planning, proposal writing and alternative research and design methods. All students initially register for section 01. The studio coordinator will assign students to sections at the start of the semester and students will change their section registration at that time.

Credit 3 units.

Typical periods offered: Fall, Spring

ARCH 7130 Pre-Design Seminar

This course will cover issues related to the critical examination of pre-design, providing students with an understanding of the steps and strategies behind the initiation of an architectural project. Topics include site condition analysis, zoning and code regulations, typological research, programming and fiscal management.

Credit 1.5 units.

Typical periods offered: Fall, Spring

ARCH 7220 Professional Practice I

Develops awareness and understanding of architectural practice including the relation of the profession to society as well as the organization, management and documentation of the process of providing professional services. Covers the areas of 1) project process & economics, 2) business practice & management, and 3) laws and regulations.

Credit 3 units.

Typical periods offered: Spring

ARCH 7340 Advanced Building Systems

The capstone course in the technology sequence. The course is comprised of a series of lectures related to technical theory, an analysis of technical precedent and an integration exercise. The lectures focus on structure and enclosure systems, active and passive climate control systems, natural and artificial lighting systems, mechanical and electrical services for buildings. During the first half of the course, students conduct the analysis of technical precedent in architecture exercise. Technical precedents will be analyzed relative to their performance characteristics and their relationship to other technologies in the building. During the second half of the semester, students conduct an integration exercise. Students will identify with the help of the instructor, a schematic design suitable for development. Technical systems will be selected based on architectural issues, performance characteristics and systems integration.

Credit 3 units.

Typical periods offered: Fall

ARCH 7401 Advanced Professional Practice

Advanced study of professional practice topics focusing particularly on firm management and project management. Firm-related topics will include starting a practice, financial management, marketing, staffing and risk management. Project-related topics will include fee negotiation, project structures and participants, scheduling, use of AIA contracts and management documents, and construction document systems. Prerequisite: A46 646 Professional Practice I.

Credit 3 units.

ARCH 7520 Degree Project

Independently initiated design and research projects based on Design Thinking (ARCH 7120) Proposal to fulfill final requirements for degree award. All students initially register for section 01. The studio coordinator will assign students to sections at the start of the semester and students will change their section registration at that time.

Credit 6 units.

Typical periods offered: Fall, Spring

ARCH 7610 Thesis Research

Thesis research course for the Master of Science in Architectural Studies.

Credit 3 units.

Typical periods offered: Fall, Spring

ARCH 7611 Thesis Research

Thesis research course for the Master of Science in Architectural Studies.

Credit 3 units.

Typical periods offered: Fall, Spring

ARCH 7615 Thesis

Credit 6 units.

Typical periods offered: Fall, Spring

Landscape Architecture

LANDARCH 5110 Landscape Architecture Design Studio I

This core studio explores design principles common to architecture and landscape architecture as well as their own specificity. A series of problems will focus on the relation of component to space through conceptual, analytical, formal, and perceptual investigations.

Credit 6 units.

Typical periods offered: Fall

LANDARCH 5111 Landscape Representation I: Hand Drafting, Drawing, & Sketching

The beginning course in the representation sequence will introduce students to freehand and mechanical representation as a means for developing and communicating design ideas. Students will build a basic understanding of orthographic drawing typologies and traditional drawing materials. Emphasis is placed on development of observational skills, building a design vocabulary, basic drawing skills, and the techniques of landscape architecture and architectural representation.

Credit 3 units.

Typical periods offered: Fall

LANDARCH 5120 Landscape Architecture Design Studio II

In this core studio, students will develop a spatial understanding of landscape architecture through a series of exercises of varying scale and complexity. Building design skills incrementally, students will acquire facility with the manipulation of ground plane and the elaboration of vegetation and material strategies at both site and urban scales. The studio will foster an appreciation of landscape architecture as a systemic construct with formal, ecological and social implications.

Credit 6 units.

Typical periods offered: Spring

LANDARCH 5121 Landscape Representation II: Digital Tools

In the second course of the MLA representation series, students will be introduced to digital landscape illustration with a focus on representation of the phenomenological. This course will explore hybrid representation combining hand-drawing and digital techniques, diagramming as dynamic process (using tools such as Adobe After Effects), landscape entourage techniques, and their implementation within traditional architectural drawings, such as plan, section,

elevation, and perspective. Focus will be placed on exquisite craft, intelligent methods of creation and clarity of conveyance. Open to all graduate and undergraduate students interested in representing site and landscape, with the permission of the instructor. Master of Landscape Architecture students and Landscape Architecture minors have priority.

Credit 3 units.

Typical periods offered: Spring

LANDARCH 5221 Plants & Environment

Students will learn to identify plants found in the natural communities and built environments of Missouri and the Midwest, both exotic and native, in order to form a base palette of landscape plants for the region. In addition to learning the plants' spatial characteristics, students will gain a basic understanding of the biological factors and horticultural practices influencing plant growth. While addressing the roles of individual species and selections, plants are also examined as parts of an interdependent community. The final goal will be to assess, and begin to practice, the appropriate use of plants in landscape design.

Credit 1.5 units.

Typical periods offered: Fall

LANDARCH 5222 Grading + Landform

This introductory course in earthwork and grading combines the study of historical and contemporary landforms in designed landscapes and artworks with the technical aspects of surveying, contours, formulas, drainage and graphic representation. Students will gain a basic understanding of three-dimensional form, contour manipulation, the concept of drainage, and the relationship between planting and landform. The observation, measuring, and experience of landform in case studies will demonstrate how topography shapes our perception and use of space.

Credit 1.5 units.

Typical periods offered: Fall

LANDARCH 5231 GIS for Site Design

This course module will introduce GIS mapping software and its application to methods used in site planning and design. The focus of this half-semester course is to understand the potential of GIS to visualize, analyze and utilize complex data. Students will learn techniques and tools in ArcGIS software, and explore how these can be applied to projects specific to individual sites. This course will introduce new skills and analytical complexity while building upon previously learned representation techniques. Master of Landscape Architecture students and Landscape Architecture minors have priority.

Credit 1.5 units.

Typical periods offered: Spring

LANDARCH 5232 Planting Design

The Planting Design module builds upon the Plants and Environment class, applying and expanding the vocabulary of plant material to understand the definition and construction of landscapes. Students will gain an awareness of planting typologies and strategies through function (micro-climate control, water consumption, hardness) and perception (shade, color, density, texture). A series of design exercises will inform strategic plants specification in order to suit, define, or reinvent landscape typologies--from parks and gardens to green roofs and restorative landscapes. Conceptual thinking and an understanding of management and sustainability are emphasized. Master of Landscape Architecture students and Landscape Architecture minors have priority.

Credit 1.5 units.

Typical periods offered: Spring

LANDARCH 5330 Landscape Ecology

Effective and sustainable design requires knowledge of the unique combination of systems, processes, and organisms that define specific regions, as well as the basic principles governing ecosystems. Applied ecology and design must also consider the role of human cultural interactions in shaping these systems. This course provides a broad understanding of ecological concepts focused through the genesis, character, and cultural relationships of contemporary ecosystems. Students will learn to use concepts of ecology, conservation biology, evolutionary theory, and natural and cultural history to determine the factors and system constraints influencing the design of landscapes. The course focuses on local ecosystems: their origins, composition, process regimes, and historic and contemporary cultural interactions. Through this immersion in local landscapes and habitats, students will gain an understanding of biological systems and ecological concepts, and acquire the tools to inform ecologically relevant and sustainable design anywhere in the world. The class incorporates lectures, guest presentations, field trips, and extensive readings and class discussions, along with assignments combining research and analysis in a design context. Master of Landscape Architecture students and Landscape Architecture minors have priority.

Credit 3 units.

Typical periods offered: Spring

LANDARCH 5340 Landscape Technology

Throughout the world of spatial design, there has been a strong resurgence of interest in landscape methods as a comprehensive and innovative approach towards defining and engineering sites. Techniques of working the land engage dynamic processes, molding conditions and creating forms in order to control erosion, conserve water, and minimize human impacts. As such, landscape methods have created new standards of performance for sites of all sizes and circumstances. Accordingly, this course, intended for students across disciplines, presents an integrated approach to site planning through the intensive study of applied landscape systems. The material covers the spatial and functional systems of designed landscapes and their associated computational and technical aspects: micro- and macrograding, path alignment, and drainage calculation. Through studying these techniques, students will learn to implement and quantify water management, microclimate manipulation, and low-impact circulation, parking, and servicing. The principles and methods are presented through short lectures and supported by case studies, class workshops and design exercises, tying theory to practical applications.

Credit 3 units.

Typical periods offered: Fall, Spring

LANDARCH 5401 Videography for Designers

This seminar course will examine the practice of capturing, producing and analyzing moving images as a method of inquiry for design. We will focus on the analytical and communicative qualities of time-based media [recorded sequences, video, slideshows, animation, simulation, remote sensing, etc.] as a human-landscape intermediary that has the ability to alter understanding and evaluation of the environment. We will explore techniques from a range of disciplines - art, design, sociology, anthropology, etc. The course will meet weekly for brief lectures/presentations to direct our inquiries, discussion of foundational readings and ideas, media workshops, screenings, local field trips, and/or student presentations of work. Throughout the semester, students will generate brief, exploratory work that focuses on methods and techniques, and a larger, final project that engages the themes of the course. Open to all graduate and upper level undergraduate students, a goal of the course is to blur boundaries

between art and design, and to capitalize on their various approaches. No experience with video, animation, or other software is required - only the desire to explore and incorporate time-based methods into individual processes.

Credit 3 units.

LANDARCH 5402 Cinematic Landscapes: The Making of

Watch movies. Talk about movies. Analyze the making of movies. Make a movie. Climate-themed movies. Post-apocalyptic movies. Meet in technology. Learn to scientifically use drones. Learn to scientifically use LIDAR. Use these tools in your climate-themed movie. Sculpt stories in time, supported by sound. This course will focus on the analysis of landscapes and cities as portrayed by popular cinema. How eidetic portrayals of nature and cities are circulated by popular cinema. Stories through which the values, common referents, public concepts, and memes of a culture materialize through the construction of movies. Interior to the semester there is an interdisciplinary workshop. Four-day fieldwork with Geology Assistant Professor Alex Bradley. Map and produce digital representations at 2-cm resolution of a mountainside scoured by a burst reservoir. This class is divided into three parts: watch, learn, and make. Watch: Each week, students will be asked to watch one movie and one director's commentary, often referred to in the bonus features as the making of. Learn: Students will study the methods and techniques used to create settings, props, and storyboards in the service of a sound vision. Make: Students will synthesize digital and analogue time-based media tools (sound and video) to make a movie thematically based on climate change.

Credit 3 units.

Typical periods offered: Spring

LANDARCH 5403 Landscape On Structure

This course will examine materials and technologies for landscapes on Structure--green roofs and vertical gardens, among others. Through a series of case studies, students will gain an understanding of the relationships between structure (architecture and infrastructure) and substrate, soil, water, and plants. Topics covered include innovative planting and urban streetscape systems, and infrastructural adaptation and re-use. Exercises will range from analytical diagrams of construction methods to design concepts for living systems adapted to a variety of structural and environmental conditions. Open to students in architecture, landscape architecture, and urban design.

Credit 3 units.

LANDARCH 5406 Spatial Practices I: Productive Landscapes

SPATIAL PRACTICES is a traveling, field-based seminar that asks questions of the meaning, economy, and politics of the built environment. This summer's inaugural seminar will be organized around the productive landscapes of the midwest, with a critical eye toward the changing natures, cultures, and infrastructures of the countryside. We will visit a range of sites that reveal the tensions within agriculture and conservation--from the last unturned remnant prairie of Dunn Ranch to the genetic laboratories of Monsanto; from heirloom seed savers to agromanagement institutions. The orientation of this seminar is to frame the countryside not as idyll or antidote to an urban condition, but as a constituent part in its production. Participants will be introduced to a range of interpretive methods with an eye toward rendering the landscape--its meanings, textures, and processes--more legible. Readings from natural history, geography, art, ecology, and economics will help frame an historical understanding of the changes on the land, while cartographic and field surveys provide insight into how these changes inhere and accumulate in the landscape of the present. We will be on the road the entire duration of the seminar--discussing readings, staying in small towns, and producing field-recordings as we go. This experimental seminar is ultimately an effort in reading the landscape we inhabit and interpreting the cultural geography of our milieu. Fulfills Natural Systems elective requirement for Master of Landscape Architecture students.

Credit 3 units.

LANDARCH 5407 Case, Trace, Displace: Dialogue Between River and City

This seminar will explore methods of sensing, recording, interpreting, translating, and visualizing environment data with particular emphasis on experience at the human scale. The focus topic will be on the relationship between river and city. In the first phase of the seminar, students will begin by researching precedent projects, technologies, and techniques for sensing and gathering data from the environment. These may include, but are not limited to, GIS techniques, DIY devices, and processing methods. A combination of analog/digital and traditional/innovative explorations is encouraged. In the second phase, students will develop a strategy to record, interpret and translate environment data for the purpose of analyzing relationships between the landscape and human experience. In the final stage, students will test their ideas and develop a method to express these relationships through prototypes that can be deployed into the landscape. The course will consist of lecture/discussion sessions, field research, and working sessions. Students will be expected to conduct and document research based on the information presented in class, to create theoretical proposals, develop simulations and visual documentation, and craft prototypes inspired by a site at the St. Louis riverfront.

Credit 3 units.

Typical periods offered: Fall, Spring

LANDARCH 5408 Mapping the Metropolitan Mississippi

This seminar explores the relationship of city to river through reading, recording, and mapping. Students will document their research, create proposals, and develop simulations and/or prototypes for a site on the St. Louis riverfront. Methods of inquiry will combine hand-recording, photography, GIS techniques and DIY devices. The course will alternate discussion sessions, field research, and lab. Open to all graduate students; undergraduates require the instructor's approval.

Credit 3 units.

LANDARCH 5409 Emergence in Landscape Architecture

This course investigates the roles of emergence theory in landscape architectural discourse. For the purposes of the course, emergence is considered as the development of new and/or different conditions as a result of disturbance. Disturbance can take many forms, and the phenomena that are subject to disturbance are many and varied. Landscapes are continually disturbed by social, economic, and physical irruptions, but cognitive structures, perceptual frameworks and cultural values are also subject to turbulence that, as with landscape disturbance, often leads to innovation, novelty and resilience. The course will explain what emergence theory is, where it comes from, how it relates to environmental design in general, and how it has - or could - change the way we design human and nonhuman inhabitations. Through readings, presentations and discussions, students will be able to connect the rise of emergence theory in cultures of contemporary thought to its application in practice. The main theme of the course is the potential for emergence theory to enable us to relate qualitatively different modes of existence (human; nonhuman) to each other and through the connections thus established improve the lifeworlds of all. The structure of the course is based around ten key concepts of emergence, as follows: open systems, situation, initial conditions, assemblage, nature cultures, difference, field theories, disturbance, morphogenesis, formless. Each student will investigate one of these concepts and present their findings to the class.

Credit 3 units. Arch: ECOL

LANDARCH 5411 Critical Spatial Practice: Art / Architecture / Landscape / Urbanism

Critical Spatial Practice reads the history of art, architecture, landscape, and urbanism across the grain in an effort to tease out latent affinities and to heighten meaningful antagonisms. In particular, this class takes a critical look at the ways in which creative practice has situated itself in relation to politics, power, society, and space, while maintaining a certain autonomy from each of these registers. Themes such as historic and collective memory; empire and war; publics and counterpublics; city and countryside; institutions and the everyday; will all be central tropes as we ask questions of what, exactly, provokes one to make. Each of these disciplines shares a certain projective and critical orientation to the world-but what is it that makes their methods so distinct? What might we learn from knowledge of these differences? Where do shared passions break down? As critical practitioners, we look to make sense of the world-while our search for meaning may take radically different forms. Throughout the term, we will be focusing on a range of projects, movements, artists/practitioners, and groups that take seriously the situatedness of their work. We will cover practices that might fall under more recognized categories, such as performance, land art, ecology, social practice, everyday urbanism, pedagogy, curation, and installation. We will interrogate the modes of production as well as modes of distribution that creative practitioners work within and against. We will look at the history of artists and designers engaging the built and natural worlds in ways that exceed the disciplinary frameworks of their time. From the Dada excursions to the Situationist Derives, from the urban representation of the CIAM grille to the urban choreography of Daniel Buren, and from the Romantic geography of Humboldt to the displaced geography of the Atlas Group. Throughout, we will be reading foundational texts-theoretical, historical, and methodological-that help situate these projects and movements within their contemporary milieu. By focusing on the context of these practices, this course has its eye on the many conceptual elisions and canonical lacunas that emerge in disciplinary-specific histories from the early 20th century to the present-while also operating as a retroactive genealogy of the aspirations of the Sam Fox School. Weekly meetings will be structured around an organizing theme with related readings, screenings, and viewings. Each class will consist of a short lecture by the instructor framing the topic, a student presentation weaving a network of thought around a single specific work/project and subsequent discussion. Final projects will critically engage the themes of the course as students produce a publication, installation, video, or performance that takes a position.

Credit 3 units.

LANDARCH 5412 American Cultural Landscapes

Whether we are designing buildings, landscapes or neighborhoods, we are working on a cultural landscape - a place built from customs, memories, histories and associations as much as visual design itself. This course provides an overview of American cultural landscapes and their alteration, through readings, visual art, site visits and field surveys. Symbolic, utilitarian, architectural, scenographic or personal meanings will be explored alongside site histories. Throughout the semester, the course will interrogate the concept of vernacular landscapes, more broadly defined as landscapes of everyday life. From roadsides to homesteads to tourist attractions to landfills to urban neighborhoods, vernacular landscapes define the image of America to large extent. Readings will unpack the contingencies between design, economics, cultural politics, agriculture, consumption and technology that inscribe culture across the land. Course work will be informed by the work of geographers, historians, writers, preservationists, filmmakers and visual artists. J.B. Jackson and Lucy Lippard's theories about the cultural uses of land will be anchors. Along the way, course readings and experiences (including field work) will make stops along the way to examine local landscapes including a radioactive landfill, the neighborhoods of Detroit, the wild west, Appalachian terrain, the Mississippi River, the

Sunset Strip, the Buffalo Bayou in Houston and more. The course will pose a taxonomy of the types of cultural landscapes while presenting various methods for decoding, recording, interpreting, preserving and altering these places.

Credit 3 units. Arch: GARW, RW

LANDARCH 5413 Rethinking Design Standards: Materials, Details, and Maintenance

How does the design process account for the temporal nature of constructed landscapes? How should landscape architects practice with the future of their project sites and designs in mind? With the increasingly urgent need to minimize carbon emissions and extraction processes, landscape architects must reevaluate standard practice to consider how their designs are weathering and engaging with local environments over time. Key to this review are material selection, detail design, and maintenance processes, all of which determine a project's sustainability five, 10, or 50 years from when it is originally constructed. In this course, students will be pushed to question the current standards of landscape practice to design for the current moment in climate change and environmental justice. Through lectures, readings and research, students will first gain an understanding of what these standards are and their ultimate weathering processes to then develop their own design proposals and modifications to these standards. Ultimately, design standards become the design project. The course is exploratory and experimental in nature, so students are encouraged to bring their own questions of the profession and research ideas. Master of Landscape Architecture students and Landscape Architecture minors have priority. Students will be registered for the course from the waitlist by the Registrar's Office.

Credit 3 units. Arch: ECOL

Typical periods offered: Spring

LANDARCH 5414 The Unruly City

The history of the American city is the history of conquering the unruly: real estate parcels, neighborhoods, buildings, and even people that represent decay, obstacles to capital, unlawfulness or disorder. Designers denigrated unruliness in the pursuit of modernization in the 20th century, but today seem more conflicted on the constitution and remedies for disorder. Is disorder in the eye of the beholder? What disrupts urban life more, the broken windows of vacant houses or the arrival of an upscale grocery in a poor neighborhood? Neighborhoods that have lost most of their population and buildings, or new football stadiums offered as economic and architectural solutions to blight? Programs of housing, urban planning, infrastructural urbanism, zoning, policing, historic preservation and mass transportation have impacts that can either squelch or protect the unruly. No design is not political. This course examines the divergent definitions of order and disorder that are shaping contemporary approaches to urban planning, governance and cultural production. This seminar digs into these questions, using the classic debate between Robert Moses and Jane Jacobs over the future of New York City as an entry point into urban political and economic ideas that engage concepts of order and disorder. We will cover readings by Sennett, Agamben, Mouffe, Negri & Hardt, Baldwin, Fanon, Certeau, Harvey, Zukin and others. This course will be place-based at Sumner High School in The Ville neighborhood of St. Louis, a historically Black neighborhood. The class will arrange a carpool to the teaching location and engage the community with real-world examination of course themes throughout the semester.

Credit 3 units.

Typical periods offered: Spring

LANDARCH 5415 Integrated Planting Design

This course focuses on both the cultural, environmental, scientific and the technical aspects of planting design. The course will be taught in 3 modular sessions: Horticulture and the Science of plants; Typologies and design such as bosque, grove, glade, allee, meadow, wetlands,

hedgerow, etc., and their origins in productive landscapes, application to contemporary landscape architecture; and the Practical hands-on experience in the field with both design documentation to installation techniques. The course will offer several field trips to experience urban revitalization, various design typologies, sustainable land use, reclamation, and restoration.

Credit 3 units. Arch: ECOL

Typical periods offered: Spring

LANDARCH 5416 Vacant/Wild/Ruined: Feral Urbanism

What urban design practices are needed in areas that have declined, that are in decline, or that simply are not growing? What if we let the city decline or go wild? What if we look at decay, ruin, wilderness and depopulation as something other than a crisis? This seminar examines experimental urban land management and preservation practices that embrace systems of emergent, wild and unexpected urbanism but that also raise questions of austerity and democratic rights to the land. With foundational readings as a guide, students will explore topics of state landbanking and autonomous land trusts, managed depletion (including St. Louis' infamous Team Four memorandum), wilderness conservation and greenway creation, agricultural land reclamation, homesteading in and deconstruction of vacant buildings, tactics for fighting absentee owners, and experimental preservation practices. Starting with grounding readings in principles of the American orientation to wilderness, ecological vitality and urbanism, the seminar explores the modern history of efforts to harness decline, vacancy, depletion and no-growth as productive forces. The seminar will root itself in Old North St. Louis, a neighborhood in St. Louis that has lost more than 60% of its peak population but that has continued to thrive. Students will work on projects serving Old North's ongoing efforts to harness urban conditions for a sustainable, just and vibrant future.

Credit 3 units. Arch: CAST, ECOL, GACS, GAUI Art: CPSC

Typical periods offered: Spring

LANDARCH 5417 Introduction to Arboriculture

Trees play a significant role in the overall ecosystem of our planet. They function both globally as well as microscopically. By better understanding the anatomy, physiology, growth habits and needs of trees, we can make more informed decisions as designers. There are finite, quantifiable aspects to how a tree develops, yet there are also environmental and human factors that can disturb or interrupt normal functions and patterns. It is the charge of the designer to delve into the science of trees in order to better inform our design solutions and make appropriate sustainable choices.

Credit 3 units.

LANDARCH 5418 Trees, Soils, & Systems: Introduction to Arboriculture

Trees play a significant role in the overall ecosystem of our planet. They function both globally as well as microscopically. There are finite, quantifiable aspects to how a tree develops, yet there are also environmental and human factors that can disturb or interrupt normal functions and patterns. It is the charge of the designer to delve into the science of trees in order to better inform our design solutions and make appropriate sustainable choices. The course objectives are to make the student familiar with the anatomy of trees, to understand soils and their effects on trees and vice versa, to increase their abilities to identify trees, especially during the winter months, to understand the business of how trees are managed, whether it be growing, maintenance or specification of appropriate local nursery stock and to gather knowledge of trees and their relationship in our sustainable environment. Each class will have an informal lecture component that will present the latest in technologies of arboriculture practices. The class readings and assignments will correspond with the lecture topics and a subsequent discussion will follow or be intertwined into the lecture presentation itself. The application of the information will be in

clear, concise weekly exercises. There will be several field trips to the Missouri Botanical Garden, a trip to Forest Park to look at the varied tree habitats and what worked and what is not working, as well as a trip to a local tree nursery.

Credit 3 units. Arch: ECOL

Typical periods offered: Fall

LANDARCH 5419 Borders, Boundaries, Nations

Lines on the land can determine our political rights, our ethnic identities, and our inhabitation abilities. Landscapes become the records of the powers of statecraft, the instruments of territorial division, the customs of inhabitants, the contests of politics, and the symbols of society. This course examines the development of landscape as the record of the political subject against the nation state and the ways in which ordinary inhabitation of land entangles each of us with large political structures. This entanglement is productive; cultural agency can change, topple or expand nations. The course will track borders and boundaries from the Delmar Divide to the Iron Curtain to the U.S./Mexico border. Students will review interpretive practices, including cultural geography, historic preservation, political economy, critical landscape study, and artistic production. Field outings will draw out the power structures that create, sustain, erase, and alter landscapes with national identities. Student work will include response writing, visual analysis, and a final project illustrating the state power play occurring in what could look like a very ordinary landscape.

Credit 3 units. Art: CPSC

Typical periods offered: Fall

LANDARCH 5420 Weathering, Maintenance, and Care in Public Landscapes

How does the design process account for the temporal nature of constructed landscapes? How should landscape architects practice with the future of their project sites and designs in mind? With the increasingly urgent need to create communal spaces that are both ecologically beneficial and socially just, landscape architects must reevaluate standard practice to consider how their designs are engaging with local environments and communities over time. In this elective course, students will look closely at the materials and details of local community spaces to understand how such spaces are weathering in St. Louis and then to imagine how they could be cared for in the future. Rather than the temporary, Instagram activations popular in the public realm, students will evaluate the longevity and permanence of a space and ask how this reflects the level of investment in our communities. Through site drawings, conversations, readings, and a final design project, students will connect intimately with their surroundings in St. Louis as well as with the effects of time on our public landscapes.

Credit 3 units. Arch: ECOL Art: CPSC

Typical periods offered: Spring

LANDARCH 5421 History of Regional & Urban Planning

As the culmination of the landscape history/theory sequence, this class traces the progress of urban and regional planning since the 19th century, paying particular attention to the emergence of landscape and ecology as means of generating and structuring large-scale plans. Over this period, planning has developed as much through ideological argument as through successive built forms. Accordingly, we will examine approaches to the physical and conceptual ordering of the city and region ranging from critical texts to finished projects, and from design culture to official practices.

Credit 3 units.

Typical periods offered: Fall, Spring

LANDARCH 5422 Territorial Contexts

The scope of planning operations has steadily widened over the course of the twentieth century, from metropolitan areas to expansive natural and cultural regions. At the same time, designers have increasingly aimed to synthesize vastly complex data in order to analyze project sites and their wider contexts. This course examines the ongoing intersection of geography and design, through analytical methods combining spatial measure with demographic, environmental, and economic data. Students will build on the lineage of geographical inquiry in planning, from Cerda and Haussmann to the theories of Patrick Geddes; from Lewis Mumford, Benton MacKaye, and Clarence Steins' Regional Planning Association of America to CIAM; and from the experiments of Buckminster Fuller to the ecological determinism of Ian McHarg. In addition to responding to weekly readings, students will revisit large-scale analytical works through new methods of mapping and modelling.
Credit 3 units.

LANDARCH 5423 Mapping: Infrastructural Environments

The seminar focuses on two components that play a critical role in the spatial organization of the built environment: maps and infrastructure. One visual and two-dimensional, the other operational and three-dimensional, both address the complex relationship among nature, culture and technology. The first part of the course concentrates on the cultural history of mapping space to gain a better understanding of current spatial practices. We will closely study maps produced by geographers, planners and architects (such as Alexander von Humboldt, Guy Debord, Kevin Lynch, Ian McHarg) to trace the historic relations between representation, map making, iconography and the modern city. The second part of the seminar will explore the projective possibilities of mapping as a strategy to decode and visualize often hidden infrastructural networks that, over the past two centuries, have become a backbone of the modern metropolis. With the aim of developing a geospatial understanding of complex interactions among infrastructural systems, socio-economic relationships and ecological flows, students will individually work on creating original cartographic information. Through speculation and experimentation, we will explore new forms of mapping that both assist the design process and serve as a tool for communicating spatial concepts with broader audiences. Taken as a whole, the seminar will examine the discourse on mapping and its relations to power, agency, vision, ideology, and creativity.
Credit 3 units.

LANDARCH 5424 Seeds

Seeds have much to teach us as metaphor and material to explore ecologies, landscapes, biodiversity, biomimicry, technology, engineering, climate change and food systems. Through selective breeding, seeds and plants have been bred to produce desired characteristics since the dawn of humanity. This has been so successful that the codependency between seeds and humans has grown and never been more evident than in agribusiness today. From the Svalbard Global Seed vault to Bayer/Monsanto this course will use seeds to investigate historic and contemporary ideas about food and life on this planet.
Credit 3 units. Arch: ECOL
Typical periods offered: Fall

LANDARCH 5701 Special Topics in Landscape Architecture

Special topics in Landscape Architecture.
Credit 3 units. Art: CPSC
Typical periods offered: Spring

LANDARCH 5810 Independent Study

Independent Study in Landscape Architecture.
Credit 3 units.

Typical periods offered: Fall, Spring

LANDARCH 6110 Landscape Architecture Design Studio III

This studio investigates the planning and design of a post-industrial site in Saint Louis city, through reclamation strategies and an understanding of the site's ecological, historical, and cultural underpinnings. Students will propose a design that addresses both the specificity of site and the larger environment through conceptual and analytical research. Examination of program, infrastructure, natural processes and reclamation will lead to a generative process to shape the landscape at multiple scales -- from urban context to site concepts to personal experience.
Credit 6 units.
Typical periods offered: Fall

LANDARCH 6111 Visualizing Ecological Processes

This course focuses on building skills in 3D modeling, animation and simulation to add 4D (time) processes into analysis, experimentation and presentation. Following the introduction and basic skills preparation, the course will focus on aspects important to creating animations and illustrations that depict landscape environments and dynamic processes. Projects will explore graphics techniques from various visual arts industries in order to expand the repertoire of skills. Techniques incorporating 3ds Max, After Effects, ArcGIS, Photoshop and/or Illustrator will be examined to illustrate chronological, phenomenological, experiential and conceptual ideas in design. Course projects will focus on development of narrative and emphasize the art of storytelling as they pertain to representation and illustration of design intent.
Credit 3 units.
Typical periods offered: Fall

LANDARCH 6120 Landscape Architecture Design Studio IV

The final studio in the core sequence operates within an expanded spatial and conceptual framework. Students will engage the complexities of the large-scale site to explore, critique, and re-engineer ecological, architectural, socio-economic, and ideological systems. A studio site characterized by environmentally sensitive conditions, culturally significant features, and encroaching urbanization will lead to choices between the management of existing resources and development. To achieve this, students will progress from the analysis and mapping of the site to the generation of innovative program strategies. Finally they will develop those strategies into schematic design proposals. Throughout, landscape is treated as figure instead of ground, serving as a agent to structure and mediate between natural and human communities.
Credit 6 units.
Typical periods offered: Spring

LANDARCH 6360 Landscape Architecture History & Theory

Current work in landscape architecture draws from a wider range of references than conventional landscape gardening, engaging the deeper roots of urban design, planning, and infrastructure in order to create spaces that fully integrate with and inform the surrounding context. Accordingly, this course broadens the field of historical inquiry, taking in topics ranging from cultural understandings of space to the design of sacred sites, military installations, and water systems. The survey begins with prehistoric settlements and ends with the dawn of professionalized landscape design in the 19th century. Students will work through class discussion and writing projects to trace the cultural currents linking the first endeavors in land-making to today's practice.
Credit 3 units. Arch: CAST, GACS
Typical periods offered: Fall

LANDARCH 6370 Modern and Contemporary Landscape Architecture

This course examines significant theories and discourses in modern landscape architecture that have informed contemporary modes of practice. Organized around specific topics and lenses (such as site, ecology, art, and sustainability), the course aims to provide a number of critical perspectives on the relevance of landscape architecture as a cultural practice. Readings and discussions will supplement lectures to trace back contemporary ideas to the late 19th and early 20th centuries. We will look at how broader transformations in social, environmental, economic and technological realms have affected discourse in landscape. To this end, students will be introduced to definitions that distinguish between landscape as a medium, landscape as an ideology, and landscape as a profession. Through weekly reviews of seminal projects and built works, we will examine significant styles, movements and design principles in landscape architecture. The course incorporates field trips and presentations by visitors, as well as applied research. It is open to both undergraduate and graduate students in the disciplines of landscape architecture, urban design and architecture. Priority is given to MLA students and undergraduate Landscape Architecture minors.

Credit 3 units. Arch: CAST, GACS

Typical periods offered: Fall, Spring

LANDARCH 6810 Independent Study

Independent Study in Landscape Architecture
Credit 0 units.

Typical periods offered: Fall, Spring

LANDARCH 7110 Landscape Architecture Design Studio V

The first comprehensive landscape architecture studio concentrates on the development of students' own capacities for project design and elaboration. A situation is selected for strategic development reasons and the question of potential is opened, formulated and critiqued. Students develop flexible scenarios for project development, and alternative projections are investigated. Interactive thresholds between ecological design, environmental justice and individual imaginaries are proposed and negotiated.

Credit 6 units.

Typical periods offered: Fall

LANDARCH 7120 Landscape Architecture Design Studio VI

The second comprehensive studio investigates a specific design problem to a high level of articulation and resolution. The problem is identified by the studio instructor, and students are empowered to develop generative processes based on a conceptual framework of their own devising. Emphasis is on the inculcation of novel, energetic, and rigorous design inquiries that defy pragmatic constraints at the same time as establishing new forms of landscape architectural practice.

Credit 6 units.

Typical periods offered: Spring

LANDARCH 7380 Research in the Landscape: Methods and Practices

This course is intended to cultivate the research methods essential to practice and study in the landscape today. As the culmination of the landscape history/theory sequence, we will build on prior curricular study and experience in research to create coherent frameworks for the theory and practice of research. In such a way, we will form an overview of the varied ways by which useful information can be derived from existing sources in order to advance the design and study of landscapes. Students will engage and practice a variety of research activities including archival research, textual and visual interpretation,

on-site environmental analysis, and social survey. Working with a high degree of independence and initiative, students will engage scholarly works both as objects of critical reflection and as potential models for their own explorations. Though open to all design students, this course will optimize prior experience with ecology, GIS, and the discipline of landscape architecture.

Credit 3 units.

Typical periods offered: Fall

LANDARCH 7390 Professional Practice for Landscape Architecture: Business, Practice & Management

Advanced study of professional practice topics focusing on firm management and project management for landscape architecture projects. Firm-related topics will include starting a practice, financial management, legal structures, marketing, staffing, professional ethics and risk management. Project-related topics will include fee negotiation, project structures and participants, scheduling, use of contracts and management documents, and construction document systems. Course activities will include project site visits and visits to local firms with landscape architecture design services.

Credit 3 units.

Typical periods offered: Spring

LANDARCH 7391 Professional Practice for Landscape Architecture Workshop

Students receiving dual degrees in the Master of Landscape Architecture and the Master of Architecture programs will be required to complete A46 646 Professional Practice in the Architecture curriculum. Additionally, dual-degree students will be required to complete A48 6451 Professional Practice for Landscape Architecture Workshop. This 6-part workshop includes several of the sessions presented in A48 645 Professional Practice for Landscape Architecture, in particular, visits and sessions held at local Landscape Architecture firm offices. Study of professional practice topics focuses on firm management and project management for landscape architecture projects. Firm-related topics will include starting a practice, marketing, staffing, professional ethics and risk management. Project related topics will include fee negotiation, project structures and participants, scheduling, use of contracts and management documents, and construction document systems.

Credit 1 unit.

Typical periods offered: Spring

Urban Design

URBDES 5402 Confronting Urbanization: The Interactive Tissue of Urban Life

This course invites architecture and urban design students to explore the urban condition through the lenses of its interactive tissue -- a tissue that includes smartphones, the World Wide Web, credit cards, highway systems, airports, sidewalks, and indoor plumbing. Within this frame of reference, students are encouraged to investigate, unearth, and document with surgical precision the emergent interrelationships between actors, the agency through which actors engage with the interactive tissue, and the ways in which these actors and relationships shape and influence one another. With the understanding that ideas are generated through speculation, projection, and experimentation, we will use the third dimension as a point of departure toward the fourth dimension of time, and we will aspire to the fifth dimension of lived experience. It is most welcomed that students bring their curiosity to the course, that they are interested in being investigative, and that they are open to various mediums ranging from reading theories of urbanization, drawing, and experimenting with physical/interactive

objects to using projection as a tool to document their research in both analog and digital formats. The final product of this course will be a presentation during which students will present their research through multiple media outlets, which may include drawings, installation work, or moving images.

Credit 3 units. Arch: GAMUD, GAUI Art: CPSC

Typical periods offered: Fall, Spring

URBDES 5403 Public Space and City Life: Contemporary Discourses On Public Space

The redefinition of the role and form of public space is fundamental to contemporary architecture and urbanism. The current debate ranges from the need to re-establish public space based upon historic precedent or sociological principles to the notion that public space is dead. This course will explore this debate through readings from philosophy, social and architectural theory, and the investigation of select public spaces. This course fulfills the MUD Track and Urban Issues elective requirement. Master of Urban Design students and Urban Design minors receive priority. Students will be registered for the course from the waitlist by the Registrar's Office.

Credit 3 units. Arch: GAMUD, GAUI Art: CPSC

Typical periods offered: Fall, Spring

URBDES 5405 Emergent Urbanisms

This course surveys emergent models of urbanization in globalizing cities that thus far defy categorization or exist peripherally in studies of urban form. The goal of the course is to equip students with the theoretical and historical background, the analytical tactics, and the critical awareness necessary to reposition themselves as designers in these increasingly challenging contexts. Through case study examples and supporting readings, the course will decipher the formal, social, and environmental effects of particular processes defining new urban spatial configurations in city-regions around the globe. Most of these processes are driven by discourses of 'efficiency,' such that urban forms are increasingly inflected by economic operating systems, as they are subsequently detached from traditional concerns of livability and public interest. Emerging urban assemblages include: massive manufacturing warehouse landscapes or logistical distribution centers and 'aerotropolis' transit hubs as well as those spaces left behind by regional restructuring: de-urbanizing (or deliberately erased) environments which contradictorily 'enable growth' in other areas (or over the same areas); and the informal settlements that emerge more spontaneously on the margins of mainstream urban policy. Students will use their understanding of these spatial and logistical configurations to project creative models for re-direction or engagement. Sources and analytical tactics will be drawn from across fields including design, sociology, geography and history. Fulfills Urban Issues elective requirement., MUD-Track elective requirement.

Credit 3 units.

URBDES 5407 City Life and Urban Worlds: An Introduction to the Urban Humanities

The urban humanities is an inter-/anti-disciplinary project that brings together theory, practice, and methods from fields in architecture, urban design, and the humanities to interrogate the urban condition. In this core course, we will delve into key theorists, texts, and methods that inform the urban humanities through seminars, site visits, and design projects. We will debate emerging perspectives in critical urban theory and then explore the applicability of these positions in St. Louis through mapping, street ethnography, and subtraction. In addition, this seminar is designed to introduce urban scholars from across the humanities and design fields to each other. Participants will be encouraged to experiment, trade, and engage in dialogue across their

fields. What, we will ask, is the status of the urban commons in an era of enclosures and privatization? What can postapocalyptic cyberpunk from Lagos teach us about smart cities? How do built environments get their politics? Can these politics be redirected or subverted?

Credit 3 units. Arch: GAMUD, GAUI Art: CPSC

Typical periods offered: Spring

URBDES 5408 Developing Sustainable Urban Communities

Across the country, there is a drive to develop high-quality, economically and racially diverse, vibrant and sustainable urban communities. St. Louis is no exception to this trend. For reasons of sustainability, poverty alleviation and city building, community leaders and public officials in St. Louis are working to develop neighborhoods and communities that incorporate these factors. Developing Sustainable Urban Communities is a project-based course for graduate students and advanced undergraduates which asks interdisciplinary groups of students to contribute solutions to substantively and politically challenging place-based urban redevelopment challenges in St. Louis. Students will work in small teams to develop their projects over the course of the semester through research, dialogue with a team of interdisciplinary faculty, examination of relevant case studies, and engagement with client organizations in the community. Course participants will choose one of three semester-long projects, the subject of which will be developed by course instructors and client organizations in advance of the semester. The course will meet both on-campus and at various community sites. For MSW Program SED Concentration students, this course fulfills the SED concentration Practice Methods requirement. Enrollment is limited to 24 students with prior coursework in community development, urban design or related fields. Preference is given to graduate architecture and social work students; other students will be admitted by permission of the instructors. Upon registering in the course, please send a brief statement (1-2 paragraphs) about your interest in the course and previous coursework or experience that has prepared you for participation. Statements should be emailed to ljenks@wustl.edu.

Credit 3 units. Arch: GAMUD, GAUI Art: CPSC

URBDES 5410 Ordinance: Territorial Rules & Urban Administration

What is the link between rules and form? What is the relationship between form and politics? This course will essay an administrative history of the built environment, taking as its starting point the rules, codes, ordinances, laws, and guidelines that shape the landscape. We will turn a critical yet curious eye towards historic and contemporary case studies that shape or are shaped by a robust regulatory framework—from the French Forest Ordinance of 1669 to the work of MVRDV and contemporaries. We will examine both the built results and the theories and philosophies of design by which they are animated. In the arc of our readings, we will seek to link our territorial, urban, and architectural understanding with broader historical and economic moments. In addition to carrying out readings, discussions, and analyses, students will work towards ORDONNANCE, a collective publication that will historicize and diagram this administrative impulse.

Credit 3 units.

URBDES 5411 Land Arch Urb: Landscapearchitectureurbanism

New Disciplinary Dynamics: Blurs and Exchanges. Over the past decade, the various professions engaged in the construction of the built environment have been investigating (both in theory and practice) a specific and deliberate blurring, hybridization, and expansion of the traditional semantic and historical categories of landscape, architecture, and urbanism in an attempt to confront changing situations, environments, and cultures. Across geographical and cultural boundaries, the proliferation of projects (speculative and built) and essays appearing in recent years makes this phenomenon

more than a passing trend or the product of individual reflection. Architecture, for example, as a conventional discipline with its own tasks, internal logic, and *modus operandi* has become so heterogeneous that it can no longer adequately authenticate its products from within the limits of its historical category. The same holds true of the allied fields of landscape and urbanism. Strict disciplinary boundaries are no longer capable of attending to the complexity of contemporary demands produced by mobility, density, de-urbanization, hybrid programs, changing uses, and ecological concerns. The contemporary world forcibly imposes the need for greater flexibility and indeterminacy and for new techniques of practice that are anticipatory, receptive to change, and capable of opening an aperture to the future. This course will explore these disciplinary slippages and hybrid contacts between until now distinct categories through essays and built or speculative works.

Credit 3 units. Arch: CAST, GACS, GAMUD, GAUI

Typical periods offered: Fall, Spring

URBDES 5412 Everyday Urbanism: Global and Local Practices

This course explores how qualities of urbanism are shaped through the aggregation of consistent, repetitive building typologies which subsequently gain difference and character over time through occupation by varied cultures, rituals, and behaviors. Among the relevant methodologies to study the relationship between built form and urban quality are those developed by John Stilgoe, who reads the history and culture of a place in terms of repeated features of development, and Tsukamoto Yoshiharu, founder of Atelier Bow-Wow, who notes how changes in the building typologies of Tokyo have had significant impacts of the public realm of the city. Observations derived from this form of research have a direct impact on how we understand the temporal and experiential qualities of the city, and subsequently, design. Open to upper-level undergraduate students and graduate students. Master of Urban Design students and Urban Design minors receive priority.

Credit 3 units. Arch: GAMUD, GAUI

Typical periods offered: Spring

URBDES 5415 European/Contemporary/Urban Public Spaces

The aim of this seminar is to describe and understand contemporary urban public space in Europe from the late 20th century to the present, as well as to anticipate possible future developments. The seminar will examine this complex subject by investigating the following complementary topics: historical considerations of elements of public space generation; the continually evolving definition of public space; possible boundaries between urban, non-urban, and landscape; scale and other parameters (density, urban fabric); physical and geometrical magnitudes of urban public space; social and political parameters; and other non-apparent/non-physical conditions. Barcelona, Amsterdam and Berlin will be used as examples of cities able to produce celebrated qualified and diverse public spaces. In addition, a series of 12 relevant case studies will be examined. The possibility of mutual interactions with American cities will be considered, using St. Louis as a reference. The educational objectives of the course are to provide some tools and basic knowledge to understand, analyze, and propose a contemporary public space. We will learn how to distill the various elements that compose 'urbanity,' and to recognize the interactions between them. Fulfills Urban Issues elective requirement.

Credit 3 units. Arch: GAMUD, GAUI

URBDES 5417 Advanced Seminar in Urban Sustainability II

This seminar will investigate the practices and measures by which sustainable urbanism is produced, substantiated, and evaluated, both projectively and retrospectively. Cities, where the majority of our resources are both spent and conserved, are sites of great contestation and negotiation where competing interests between status quo solutions and those that reinvent the urban paradigm are critical

battlegrounds for a healthy, equitable and lasting future. In recent years, efforts have been made to quantify the "success" of individual buildings, neighborhoods and systems, but a holistic framework for deep evaluation evades those attempting to design, lead, and invest in cities. This course will consider: competing factors at play in the efforts towards sustainable urban production; existing evaluation metrics of sustainable cities and their dire shortcomings; emerging practices of cross-silo, cross-agency, and interdisciplinary urban work attempting to produce new, model paradigms; competing and complementary objectives and evaluations of sustainable, successful, and resilient cities, among other models. Consideration of firms, agencies, non-profits and quasi-public interest groups as well as scholarly, research-based efforts proposing evaluative and projective alternatives will be studied with a particular focus on contrasting contexts. The objective is not to develop a quantitative scoring system for cities, which results in superficial and reductionary grades, but to empower design and research students to understand the value added propositions of holistic urban thinking as a new paradigm for 21st century cities.

Credit 3 units. Arch: GAMUD, GAUI

Typical periods offered: Fall, Spring

URBDES 5419 Urban Morphology & Metabolism

This research seminar investigates the art and science of the city as a complex self-organized system using the urban morphology and metabolism methodology to create design conditions for the sustainable, resilient and regenerative city. Urban morphology focuses on the physical form and use of the built environment, the processes and actors shaping cities, as well as the experiential, social, economic and human health consequences of urban form. Urban metabolism investigates the networked levels and flows of resource and material consumption and use within the urban environment and the impacts on finite global resources. This seminar will discuss the history, conceptual framework and current standards of practice within each of the methods, and the key interrelationships to reveal the fundamental links between urban form and flow and the social, economic and environmental performance of cities. This course is required for the Doctor of Sustainable Urbanism students and is open to all MArch, MLA and MUD students. Fulfills an Urban Issues and MUD elective requirement. Permission from the instructor required for undergraduates.

Credit 3 units. Arch: GAMUD, GAUI

URBDES 5420 Ideas in Urbanism

Although the form of cities has reflected the planned and unplanned patterns of human habitation for thousands of years, the origin of the Western urban design discourse officially starts with the 1956 conference intended to discuss the fate of architects in the formation of cities. That fate is still negotiated across the disciplines of architecture, landscape architecture, urban design and planning, as is the very role and definition of what urban design is and what urban designers do. This course explores the critical ideas and seminal texts that define this urban design discourse with a particular emphasis on the proliferation of numerous urbanisms grappling with 21st-century visions of technology, temporality, environmentalism and justice. Grounded in big ideas and critical readings, Ideas in Urbanism explores the world views and intellectual lineages of authors and their seminal texts in an effort to understand how the production, reproduction, contestation, and creation of urban ideas and the cities they produce has led to urbanism now, and to speculate on where urbanism might be tomorrow. This course is open to all MArch, MLA and MUD students. Undergraduates may enroll with permission. MUD students have priority. Students will be enrolled from the waitlist.

Credit 3 units. Arch: GAMUD, GARW, GAUI, RW

Typical periods offered: Fall

URBDES 5421 Infrastructural Urbanism

The first two decades of the 21st century have brought a range of new forms of urban thinking in response to the challenges of climate change, wealth disparity, and the growing obsolescence of our urban systems. Infrastructural urbanism pulls from many disciplines and movements to build a theory around systems-based urban thinking that is inclusive rather than elitist, flexible rather than rigid, bottom up as well as top down, ecological as well as economical, and outcome-driven rather than object-focused. In this course, we will explore the history and theory of this emergent urban movement; identify and analyze relevant case studies; and explore three strategies for achieving next-generation infrastructure, with a particular focus on Los Angeles): broadening the process, transforming the prototype, and measuring what matters.

Credit 3 units. Arch: GAMUD, GAUI

Typical periods offered: Fall

URBDES 5422 Ecological Economics

This course is designed to give students an appropriate graduate-level understanding of the fundamental assumptions, the conceptual novelties, and the distinctive tools of analysis that comprise the emerging discipline of ecological economics, and to explore the role this new paradigm is playing in the movement toward a sustainable society. Standard economics--the neoclassical model--sees the economy as the whole that contains all other values; nature has value because some people will pay to experience it or to enjoy its services. Ecological Economics reverses that relationship by acknowledging the environment, not the economy, as the containing whole. This it does through its grounding in the laws of energy--the laws that model the behavior of both natural and built systems. (While matter can be recycled, energy can't. No machine can take its own exhaust outputs as fresh inputs; no animal can survive by eating its own excrement.) Fulfills Urban Issues elective requirement. Fulfills MUD Track elective requirement.

Credit 3 units.

URBDES 5423 Informal Cities: The Future of Global Urbanism

This seminar will research the morphology & the morphogenesis of the Informal City as it evolves to be an integral phenomenon of global urbanism, and the corresponding economic, social, architectural and urban theory. Today, one billion people live in informal cities (36% of the world's population) and this is expected to grow another one billion over the next 30 years. As it is currently evolving, the informal city is an urban phenomenon set up within the planned city's territory and increasingly an integral part of it -- often comprising up to 75% of the city and one of the elements of urban morphology that shapes city design. Thus, it is no longer possible to accept a concept of the informal city that centered on negative parameters (ghettos/slums/poverty/crime, etc.), but there is a need to find sustainable spatial solutions to integrate these settlements into the formal urban/architectural tissue leading to the dissolution of urban and symbolic boundaries between the informal areas and formal districts. To this end, the course will review various architecture and urban strategies and projects of informal urbanism in Asia, Africa and South America supported with an optional field trip to South America favelas/barrios in order to define a place of action for architects and urbanists in the informal city. The course fulfills the Urban Issue elective requirement for the M.Arch degree. Undergraduate enrollment is allowed by arrangement with the instructor.

Credit 3 units. Arch: GAMUD, GAUI Art: CPSC

Typical periods offered: Fall

URBDES 5424 Alternative Atlas: STL

Spatial narratives have been historically dominated by those with wealth and power. But their very wealth and power was built on the backs of an army of others, often unnamed, unmarked, and uncompensated. There is a growing effort to tell those stories and mark the physical spaces of their presence and the acts of violence and oppression enacted on their bodies and communities. If a traditional atlas claims some degree of neutrality and objectivity - clearly impossible in any mapping - the Alternative Atlas overtly exposes, decodes and displays silenced truths. Inspired by traditional tour guides, maps, signs and itineraries, this course aims to unearth and represent the deeper foundations of the complicated city of St. Louis and its immediate region. Combining uncomfortable thinking, deep research and thick mapping, the goals of the course are to spatialize this hidden palimpsest. Alternative Atlas: STL is an interdisciplinary seminar that invites a wide range of perspectives and epistemological frameworks to examine, expose, and visualize - in other words, map - this complicated American city. The mapping of St. Louis's past, present, and future is an ongoing project; this particular semester will incorporate new partnerships with artists, curators, storytellers, and technologists working to collect, capture, and represent the present future for public viewing.

Credit 3 units. Arch: GAMUD, GAUI

Typical periods offered: Fall, Spring

URBDES 5601 Theories & Methods of Architecture, Landscape and Urbanism Research

This seminar focuses on the fundamentals of transdisciplinary empirical research in architecture, landscape and urbanism design and urbanism. Through studying research examples, it examines the entire research process from conducting literature review and precedent studies, generating research question and hypothesis, creating study design, collecting and analyzing data with valid and reliable research tools, to communicating findings. A survey of quantitative and qualitative research methods used in disciplines such as social sciences, public policy, public health that are relevant to environmental issues is provided to address the application of research methods on a wide range of problems in architecture, landscape and urbanism. The seminar enables students to effectively engage in empirical research (including research assistantship) as well as the practice of evidence-based design. This course is required for the Doctor of Sustainable Urbanism students and is open to all MArch, MLA and MUD students. Permission from the instructor required for undergraduates. Master of Urban Design students receive priority. Students will be registered for the course from the waitlist by the Registrar's Office.

Credit 3 units. Arch: GAMUD, GAUI

Typical periods offered: Spring

URBDES 5602 Theories & Methods of Sustainable Urbanism

This seminar focuses on the fundamentals of transdisciplinary research in sustainability as it applies to the design, development and management of cities. The objective is to introduce students to fundamental research methods of urban sustainability including methods to: analyze the impact of urbanization on natural systems; understand the physical organization of cities; analyze the effect of socio-economic trends on cities; apply analytical systems to understand the performance of urban elements; and how various scales of the city contribute to sustainability. This course is required for the Doctor of Sustainable Urbanism students and is open to all MArch, MLA and MUD students. Fulfills an urban design and urban elective requirement. Permission from the instructor required for undergraduates.

Credit 3 units. Arch: GAMUD, GAUI

URBDES 5701 Special Topics in Urban Design

Special Topics in Urban Design

Credit 3 units.

Typical periods offered: Fall, Spring

URBDES 5800 Research Methods for a Changing Global Climate

This course explores urban research methodologies with a lens on climate change resilience. Students will navigate qualitative and quantitative research techniques, gaining the skills to assess and inform urban interventions for climate resilience. Students will engage with interdisciplinary methods and practices, incorporating local knowledge and design practices to understand and mitigate the complex socio-environmental dynamics of climate change such as heat island effect, health impacts, and urban flooding in coastal cities like Bangkok or New Orleans. Coursework guides students in formulating critical research questions and developing sustainable, evidence-based approaches that contribute to making our cities more livable, sustainable, and resilient in the face of climate change. Ultimately, students will be equipped to contribute meaningfully to the discourse on urban climate resilience. Course will meet in-person May 20 - June 14 and July 15 - August 9, with four weeks of related field work conducted between in-person learning sessions.

Credit 3 units. Arch: GAMUD, GAUI

Typical periods offered: Summer

URBDES 6150 Informal Cities Workshop: Designing Urbanity: Collective Housing in Emergent Cities

This seminar will research the morphology & the morphogenesis of the Informal City as it evolves to be an integral phenomenon of global urbanism, and the corresponding economic, social, architectural and urban theory. Today, one billion people live in informal cities (36% of the world's population) and this is expected to grow another one billion over the next 30 years. As it is currently evolving, the informal city is an urban phenomenon set up within the planned city's territory and increasingly an integral part of it--often comprising up to 75% of the city and one of the elements of urban morphology that shapes city design. Thus, it is no longer possible to accept a concept of the informal city that centered on negative parameters (ghettos/slums/poverty/crime, etc.), but there is a need to find sustainable spatial solutions to integrate these settlements into the formal urban/architectural tissue leading to the dissolution of urban and symbolic boundaries between the informal areas and formal districts. To this end, the course will review various architecture and urban strategies and projects of informal urbanism in Asia, Africa and South America supported with a field trip will help to further understand and define a place of action for architects and urbanists in the informal city. The course fulfills the Urban Issue elective requirement for the M.Arch degree. The completion of both the Informal Cities (fall semester, 1 unit) and the Lively City (spring semester, 2 units) masterclasses may fulfill the Urban Issues elective requirement for MArch students.

Credit 1 unit. Arch: GAUI

Typical periods offered: Fall

URBDES 6160 Lively City: Behavioral Studies & Public Space Design

Working in small groups, students will acquire new perspectives and skills that put people and their needs at the heart of the creative process of re-imagining and transforming cities. Livability, lively cities, public life, and other concepts describing inviting, vibrant, and stimulating urban environments are frequently communicated in new visions for the future of cities today, but they are the most often unrealized components of design projects. This focus on urban life is a direct reaction to the urban realities created in the 20th century, where increases in our standards of living and the associated city building processes have created areas in which large and increasing numbers of people have become isolated from each other, both socially and geographically. Despite our new awareness for the need to plan for a shared and intensified urban life in sustainable cities, we continue

to have difficulty understanding exactly what this urban life is, how much of it we truly want and need, and how we can reconcile the often conflicting and simultaneous needs of people for privacy and social stimulation. The completion of both the Informal Cities (fall semester) and Lively City (spring semester) masterclasses may fulfill the Urban Issues elective requirement for MArch students. Open to all graduate students. Master of Urban Design students receive priority.

Credit 2 units.

Typical periods offered: Spring

URBDES 6210 Metropolitan Urbanism

The seminar course will investigate the morphology and morphogenesis of the contemporary American metropolitan urban condition. The investigation will attempt to define and understand the changing pattern, form, priorities and use of the metropolitan transect from the central city to the rural fringe. The objective of the course is to understand the history of the American city in terms of the indeterminate tensions, complexity and richness of morphological layering and traces in the urban landscape, as a basis for critical practice.

Credit 3 units. Arch: GAUI

Typical periods offered: Fall

URBDES 6220 Metropolitan Development: What's in a Plan?

This course explores pluralist, pragmatic and progressive planning strategies for American urbanism. It will provide students with an introduction to the design and planning of American cities in the context of this country's democratic tradition, its multi-cultural society, and the particular morphology of its urban areas. Contemporary American cities have urbanized in unprecedented and distinctive ways that suggest the creation of a unique urban culture, despite the seeming globalization of urban trends, or the apparent universalization of urban forms. Identifying the role design can play in this culture requires a lucid appraisal of the context in which metropolitan development takes place. Four study modules will introduce basic issues in planning law, real estate finance, urban economics and environmental planning through lectures and research projects, as well the presentation of Metropolitan St. Louis development case studies by professional and political leaders.

Credit 3 units. Arch: GAUI

Typical periods offered: Fall

URBDES 6230 Metropolitan Sustainability

This seminar will investigate contemporary theory and practice of the design and development of sustainable regions, cities, communities, infrastructures and landscapes. By 2050 three-quarters of the world's population will be living in cities and with cities being the world's largest consumer of resources and a focus of climate change impact, it will be the design of cities that frame the essential theory and practice of sustainability. Consideration will be given to the definition and reasons for the sustainability paradigm; conceptual frameworks for urban sustainability; indicators & measures of sustainability; different sustainability functional categories (water, air, food, energy, transportation, social capital, equity, development patterns & density, etc.); and various approaches to urban sustainability including Regenerative Urbanism, Healthy Cities, Ecological Urbanism, Eco-Urbanity, Resilient Cities, Smart Cities, LEED ND, the Natural Step, ICLEI and ZED Cities. Priority will be given to Master of Urban Design students and Urban Design minors.

Credit 3 units. Arch: GAUI

Typical periods offered: Spring

URBDES 6401 Advanced Seminar in Urban Sustainability I

This seminar will investigate contemporary theories and methods of sustainable urbanism. Cities are increasingly the means through which a sustainable future for the anthropocene era is constructed. Within the sustainable urbanism paradigm cities are understood as complex self-organizing open systems responding to socially constructed processes, conflicting values, natural resource limitations, extreme natural phenomena, man-made hazards, climate change and competing economic interests that inform urban change, design and development. Consideration will be given to the history, definition and reasoning for the urban sustainability paradigm; the theoretical constructs of sustainability, resiliency, adaptation and regeneration for post-carbon cities; the methods of analysis and measurement for urban sustainability; and the design of cities for livability, social inclusion, environmental performance, cultural diversity and economic equity. The course fulfills an Urban Design and Urban Issues elective for MUD, MArch & MLA degrees.

Credit 3 units. Arch: GAMUD, GAUI

Typical periods offered: Fall, Spring

URBDES 6402 Contemporary Practices of Sustainable Urbanism

This seminar will investigate those contemporary practices of Sustainable Urbanism that exemplify a concern for locality, place, culture, community and authenticity. Sustainable urbanism is understood not as a pre-defined goal or form, but as a contested territory involving socially constructed processes, conflicting values and competing interests that dictate urban change and the consumption of urban space all mediated through the practice of urban design. To this end, different methodological approaches to urban sustainability will be investigated, including LEED ND, ZED Cities, Regenerative Urbanism, The Natural Step, Eco-Urbanity, Resilient and Smart Cities. The research project of the seminar will focus on the Delmar Loop/ Parkview Gardens neighborhood, which was recently awarded a HUD/DOT Sustainable Communities Grant with the intent that the students develop a Sustainable Urban Design Plan and Code for the area. This course will be augmented with presentations by local practitioners of sustainability plans and include an optional site visit to Portland, OR and/or Vancouver, Canada to fully investigate and understand the respective city's implementation of sustainable urbanism. Undergraduate enrollment is allowed by arrangement with the instructor. Fulfills Urban Issues elective requirement. Fulfills MUD Track elective requirement.

Credit 3 units.

URBDES 6810 Independent Study

An independent study requires the student to submit a written proposal and obtain the approval of the sponsoring faculty member, the advisor, and the Dean of the Graduate School of Architecture & Urban Design. This should be completed by last day of the previous semester.

Credit 3 units.

Typical periods offered: Spring, Summer

URBDES 6990 Urban Design Research Theories & Methods

This course reviews contemporary theories of urban design and introduces qualitative and quantitative research concepts, methods and practices for the analysis, design and implementation of urban interventions as well as identifying critical questions for the practice of urban design. The goal of urban design is to contribute to maintaining and making our cities livable, sustainable and resilient for the future. As such, urban design will be understood in the context of a highly dynamic and complex cross-cultural, socio-economic, political, and technological condition. Knowledge from this course will be integrated into the studio course

Credit 3 units. Arch: GAMUD, GAUI

Typical periods offered: Summer

URBDES 7011 Elements of Urban Design

The first in a three-semester sequence of design studios for students in the Master of Urban Design program.

Credit 6 units.

Typical periods offered: Fall

URBDES 7013 Metropolitan Design Elements

The second in a three-semester sequence of design studios for students in the Master of Urban Design program.

Credit 6 units.

Typical periods offered: Spring

URBDES 7014 Metropolitan Urban Design

The third in a three-semester sequence of design studios for students in the Master of Urban Design program.

Credit 6 units.

Typical periods offered: Summer

URBDES 8100 Dissertation Research & Writing

Urban Design Dissertation Research & Writing

Credit 12 units.

Typical periods offered: Fall

URBDES 8840 Doctoral Continuing Student Status

Credit 0 units.

Typical periods offered: Fall, Spring
