

Graduate School of Architecture & Urban Design

The Graduate School of Architecture & Urban Design cultivates the designer's identity as a leader and as both an expressive individual and a socially responsible citizen. Our programs emphasize the physicality of design through regard for site, purpose, material, technique and meaning. Our commitment to the ethical practice of architecture, landscape architecture and urban design spans disciplines, contending cultural theories and the range of representational media.

The Graduate School of Architecture & Urban Design provides an intimate environment for learning, with individualized attention in the design studios and correspondingly small lectures and seminars. The independent character of a student's abilities is demonstrated and tested in the final semester through the Degree Project, in which students work individually with faculty and critics. The graduate school also has a strong teaching and research assistant program, with approximately one out of every four students engaged in this learning experience.

Contact Information

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Faculty

Endowed Professors

Bruce Lindsey, AIA (<https://samfoxschool.wustl.edu/people/faculty/164-bruce-lindsey/>)

E. Desmond Lee Professor for Community Collaboration
MFA, University of Utah
MArch, Harvard University

Robert McCarter (<https://samfoxschool.wustl.edu/people/faculty/169-robert-mc-carter/>)

Ruth & Norman Moore Professor
MArch, Columbia University

Eric Mumford (<https://samfoxschool.wustl.edu/people/faculty/174-eric-mumford/>)

Rebecca and John Voyles Professor of Architecture
PhD, Princeton University

Mónica Rivera (<https://samfoxschool.wustl.edu/people/faculty/178-monica-rivera/>)

JoAnne Stolaroff Cotsen Professor of Architecture
MArch, Harvard University

Professors

John Hoal (<https://samfoxschool.wustl.edu/people/faculty/150-john-hoal/>)

PhD, Washington University in St. Louis

Stephen P. Leet (<https://samfoxschool.wustl.edu/people/faculty/162-stephen-leet/>)

BArch, University of Kentucky

Adrian Luchini (<https://samfoxschool.wustl.edu/people/faculty/167-adrian-luchini/>)

MArch, Harvard University

Linda C. Samuels (<https://samfoxschool.wustl.edu/people/faculty/179-linda-c-samuels/>)

PhD, University of California, Los Angeles

Professor of Practice

Nanako Umemoto (<https://samfoxschool.wustl.edu/people/faculty/186-nanako-umemoto/>)

BArch, The Cooper Union

Associate Professors

Chandler Ahrens (<https://samfoxschool.wustl.edu/people/faculty/137-chandler-ahrens/>)

MArch, University of California, Los Angeles

Gia Daskalakis (<https://samfoxschool.wustl.edu/people/faculty/146-gia-daskalakis/>)

Dipl de Postgrado, Universidad Politecnica de Catalunya

Catalina Freixas (<https://samfoxschool.wustl.edu/people/faculty/148-catalina-freixas/>)

Dipl Arch, Universidad de Buenos Aires

Patricia Heyda (<https://samfoxschool.wustl.edu/people/faculty/149-patty-heyda/>)

MArch, Harvard University

Derek Hoferlin (<https://samfoxschool.wustl.edu/people/faculty/151-derek-hoferlin/>)

MArch, Tulane University

Zeuler Lima (<https://samfoxschool.wustl.edu/people/faculty/163-zeuler-lima/>)

PhD, Universidade de São Paulo

Constance Vale (<https://samfoxschool.wustl.edu/people/faculty/187-constance-vale/>)

MArch, Yale University

Hongxi Yin (<https://samfoxschool.wustl.edu/people/faculty/191-hongxi-yin/>)

PhD, Carnegie Mellon University

Assistant Professors

Wyly Brown (<https://samfoxschool.wustl.edu/people/faculty/144-wyly-brown/>)

MArch, Harvard University

Seth Denizen

PhD, University of California, Berkeley

Eric Ellingsen (<https://samfoxschool.wustl.edu/people/faculty/147-eric-ellingsen/>)

MArch, MLA, University of Pennsylvania
MA, St. John's College

Petra Kempf (<https://samfoxschool.wustl.edu/people/faculty/156-petra-kempf/>)

PhD, Karlsruhe Institute of Technology
MSc, Columbia University

Pablo Moyano (<https://samfoxschool.wustl.edu/people/faculty/173-pablo-moyano/>)

MArch, Washington University in St. Louis
MUD, Washington University in St. Louis

Zahra Safaverdi

MArch, Harvard University

Kelly Van Dyck Murphy (<https://samfoxschool.wustl.edu/people/faculty/175-kelley-van-dyck-murphy/>)

MArch, Washington University in St. Louis

Senior Lecturers

Ryan Abendroth (<https://samfoxschool.wustl.edu/people/faculty/78-ryan-abendroth/>)

MArch, University of Illinois at Urbana-Champaign

Michael Allen (<https://samfoxschool.wustl.edu/people/faculty/138-michael-allen/>)

BA, The Union Institute

Julie Bauer (<https://samfoxschool.wustl.edu/people/faculty/140-julie-bauer/>)

Diplom-Ingenieur in Architecture, Technical University of Berlin

Philip Holden (<https://samfoxschool.wustl.edu/people/faculty/152-philip-holden/>)

MArch, Washington University in St. Louis

George Johannes (<https://samfoxschool.wustl.edu/people/faculty/154-george-johannes/>)

MArch, Washington University in St. Louis

Don Koster (<https://samfoxschool.wustl.edu/people/faculty/159-don-koster/>)

MArch, Washington University in St. Louis

Doug Ladd

BA, Southern Illinois University, Carbondale

Gay Lorberbaum (<https://samfoxschool.wustl.edu/people/faculty/166-gay-lorberbaum/>)

MArch, Washington University in St. Louis

Emiliano López Matas (<https://samfoxschool.wustl.edu/people/faculty/165-emiliano-lopez-matas/>)

MArch, Washington University in St. Louis

Dennis McGrath (<https://samfoxschool.wustl.edu/people/faculty/170-dennis-mc-grath/>)

BArch, University of Kansas

Bob Moore (<https://samfoxschool.wustl.edu/people/faculty/172-bob-moore/>)

PhD, Washington University in St. Louis
BFA, Syracuse University

Jim Scott (<https://samfoxschool.wustl.edu/people/faculty/180-jim-scott/>)

JD, Saint Louis University School of Law

Phillip Shinn (<https://samfoxschool.wustl.edu/people/faculty/181-phillip-shinn/>)

BS, Princeton University

Jonathan Stitelman (<https://samfoxschool.wustl.edu/people/faculty/184-jonathan-stitelman/>)

MArch, Washington University in St. Louis
MUD, Washington University in St. Louis

Lindsey Stouffer (<https://samfoxschool.wustl.edu/people/faculty/69-lindsey-stouffer/>)

MFA, Washington University in St. Louis

Ian Trivers (<https://samfoxschool.wustl.edu/people/faculty/185-ian-trivers/>)

PhD, University of Michigan

Professors Emeriti

Kathryn Dean

Paul Donnelly

Iain A. Fraser

Gerald Gutenschwager

Robert Hansman

James Harris

Sheldon S. Helfman

Donald Royse

Carl Safe

Thomas L. Thomson

Deans Emeriti

Constantine E. Michaelides
FAIA

Cynthia Weese
FAIA

Courses

Below are listings for course levels 500 and above. For available 300- and 400-level courses, please visit our online course listings (<https://courses.wustl.edu/CourseInfo.aspx?sch=A&crslvl=3:4>).

- **A46 ARCH (p. 3):** Architecture
- **A48 LAND (p. 17):** Landscape Architecture
- **A49 MUD (p. 22):** Urban Design

Architecture

Visit online course listings to view semester offerings for A46 ARCH (<https://courses.wustl.edu/CourseInfo.aspx?sch=A&dept=A46&crslvl=5:8>).

A46 ARCH 501A Designing With Words

Writing is a creative act; a means by which designers craft the story of their vision with words. Writing is also a critical act; a way of thinking that refines and sculpts our ideas, sharpening and shaping the depth and clarity of the design process. And yet, writing at times can feel treacherous. We can frequently feel as if we are stumbling over words or even swimming up a river against them. How do we transform words into another way of designing? How do we put writing at our own command? This course will help to develop writing skills as another tool for the designer by addressing how we use writing in our own field, particularly in portfolios, presentations and research. We will practice techniques to make writing meaningful as a critical and creative practice so that words are not barriers or add-ons, but a colorful complement to creative vision. This course will be geared toward supporting students at all writing levels, particularly students writing in English as a second language.

Credit 3 units. Arch: GARW, HT

A46 ARCH 5080 Community Arts and Social Practice: An Introduction

This seminar brings together several different disciplines and methodologies to look at the practice of the arts in the context of community. The seminar combines hands-on work and observation, theoretical analysis and reflection, and specific proposals. For our case studies, we concentrate on several programs and places currently existing or developing in the St. Louis region. We discuss both ends and means, and systems of evaluation that draw on, among other things, art, architecture, social work and community development.

Credit 3 units.

A46 ARCH 511 Architectural Design V

Prerequisite: satisfactory completion of Arch 419 or equivalent. Twelve hours of studio work a week.

Credit 6 units.

A46 ARCH 511S Architectural Design V (Barcelona)

Credit 6 units.

A46 ARCH 512 Architectural Design VI

Prerequisite: satisfactory completion of Arch 511. Twelve hours of studio work a week.

Credit 6 units.

A46 ARCH 518A 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.

A46 ARCH 520 Shifting from Lines to Surfaces/Virtual to Empirical

Digital Media Design: Introduction to Exploring Digital and CAD/CAM Technology. This is a course in computing theory and techniques on two-dimensional digital software and advanced three-dimensional modeling software. Weekly demonstrations on software operations and individual projects are developed. This course bridges the gap between 2D computational tools that define lines and the 3D tools that develop complex surfaces. These surfaces explore the possibilities of creating and articulating the nonlinear geometries manipulated on the digital environment. The final project consists of two-dimensional drawings, digital models and physical models produced by advanced CAD/CAM technology. By employing alternative techniques and emerging technologies of manufacturing, new forms of objects and perceptions redefine multiple design processes.

Credit 3 units.

A46 ARCH 521H Topics in Advanced Architectural Computing: Performative Skins

Course participants will explore the materiality and environmental suitability of skins, and will be encouraged to find the answers to questions about their topological performance in the context of dynamic environments and in the reality of their anthropospheric state of existence. Building Performance Analysis will facilitate the morphing of architectural design through various phases of environmental simulations: insolation, light, wind and acoustics, for the purpose of creating a digitally altered tectonic that is most suitable of in situ conditions. Prerequisites for the class are an advanced knowledge of various digital modeling techniques and a basic understanding of sustainable design principles. An attempt will be made to establish a direct link between analytical results obtained with Ecotect and various applications supporting Smart Geometry (Generative components).

Credit 3 units.

A46 ARCH 521M 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 opacity 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, but not a prerequisite for the studio. Students enrolled in this seminar will receive priority placement in the studio.

Credit 3 units.

A46 ARCH 523N Visions of a Brighter Future: The History of Progressive Design at Worlds Fairs

From the very first world's fair, the Crystal Palace Exposition of 1851, world's fairs have been fraught with boosterism, nationalism and the exploitation of cultures deemed "lesser." 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 - often 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 have been tapped, sometimes in official competitions, to design and build structures, buildings and landscapes reflecting stylistic trends and technological innovations of their time. Today we have still-standing legacies of these fairs, including the Eiffel Tower, the Seattle Space Needle, the Musée d'Orsay in Paris, the Plaza de España in Seville, The Bridge Pavilion at Expo 2008, The Atomium in Brussels, and The Millennium Dome in London to name just a few. The influence of the 1893 Chicago World's Fair alone changed the way Americans looked at cities and started the City Beautiful Movement, which affected and continues to influence cities worldwide. World's fairs are not a phenomenon of the past, because they continue to be held today, still tapping architects and planners to create visions of a brighter future. This class will allow students to investigate little-known forerunners of more permanent designs and the experimental work of some of the most influential architects that emerged from world's fairs. Requirements will include one in-class report and a final paper.
Credit 1.5 units.

A46 ARCH 524E 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 toward 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 toward *Ordonnance*, a collective publication that will historicize and diagram this administrative impulse.
Credit 3 units.

A46 ARCH 524F 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.

A46 ARCH 524G 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 fieldwork) 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.

Same as A48 LAND 524G

Credit 3 units. Arch: GARW, RW

A46 ARCH 525K 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. Fulfills History/Theory elective. Fulfills Urban Issues elective. Credit 3 units. Arch: CAST, GACS, GAMUD, GAUI, UI

A46 ARCH 525L 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 20 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 CDs 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.

A46 ARCH 525M 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 Oubrierie (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 meetings 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

A46 ARCH 526U 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

A46 ARCH 527M Louis L. Kahn and Contemporary Architecture: Comparative Critical Analyses of Built Works

A graduate seminar employing comparative critical analyses to explore 10 works of the American architect Louis Kahn (1901-1974) and works by 10 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 10 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. Summary papers and CDs of the PowerPoint presentations will be due at the end of the semester. Maximum enrollment: 20 students. Fulfills History and Theory elective distribution requirement. Credit 3 units. Arch: CAST, GACS

A46 ARCH 527N 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 20th 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.

A46 ARCH 527S 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-19th 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 MArch students.
Credit 3 units. Arch: GARW, GAUI, HT, UI

A46 ARCH 527T 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 40-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 10 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 CDs of the two in-class presentations, will be due at the end of the semester. 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.

A46 ARCH 527U 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 of construction. 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

A46 ARCH 527V 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 10 of Carlo Scarpa's built works, as well as analyzing the relation to Scarpa's works that can be found in the works of 10 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 10 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 CDs 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

A46 ARCH 528M 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.

A46 ARCH 528S 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. Students will be registered for the course from the waitlist by the Registrar's Office.

Same as A49 MUD 528S

Credit 3 units. Arch: GAMUD, GAUI, UI

A46 ARCH 528T CIAM and Team 10, 1928-81

This research and writing seminar will look broadly at the ideas and built outcomes of CIAM, the International Congresses of Modern Architecture, 1928-1956. Some of its younger members, notably Alison and Peter Smithson and Aldo van Eyck, then went on to lead the Team 10 group down to 1981. In a period of substantial global changes, CIAM was influential in linking modern architecture to a focus on town planning for all, based on what it identified as the "four functions" of "dwelling, producing, transportation, and relaxation." It offered new models of land subdivision and urban organization, and was a major force in the replacement of the classical system of architecture with what is now usually called "modernism."

Credit 3 units. Arch: GARW

A46 ARCH 529E Cellular Transformations

Throughout history, design has always played an important role in technological development; however, within the context of modernity, contemporary design has seen its limits since the urgency of environmental and sustainable issues has inflicted a great impact in our lives. There is a shift in design process, not only to invent new materials, but to reorganize and transform the materials that currently exist in our world. The Cellular Transformations research is a project that hybrids organic and synthetic interfaces by developing a cohesive materialism where both biological and artificial enhancements are produced. The Cellular Transformations research explores the process of cells attaching to substrates and scaffolds by promoting organic tissue growth. The infrastructural scaffolds and manipulation of the structural experiments impact the surface heterogeneity that could be articulated for maximum control within a design process. Our goal is to invent new formations of substrates and scaffolding techniques that allow cells to fabricate their own natural matrix and structural integrity by holding their own mechanical loads. This course will enroll students from architecture, biology, and mechanical engineering to develop a collaborative research laboratory for experimenting with cellular growth techniques. The course will be working from the Architecture School's Digital Fabrication Lab and Biology's Cellular Incubator Lab. There will be visits and lectures from the faculty of Washington University's Medical and Engineering Schools throughout the semester.

Credit 3 units.

A46 ARCH 529F 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.

A46 ARCH 529G 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.

Same as A48 LAND 529G

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

A46 ARCH 530D 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 their studio project throughout the design process. The seminar includes public lecture by a dozen 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 their studio design project. Priority will be given to students who will be simultaneously enrolled in Degree Project.

Credit 3 units.

A46 ARCH 530E Special Topics

Credit 3 units.

A46 ARCH 530F Special Topics: Introduction to Designing Healthcare Environments

Healthcare environments -- and hospitals in particular -- are one of the most complex and challenging building types to design, construct and maintain. We want to create spaces that are calming and comforting for patients and families who are dealing with some of the most troubling times in their lives as well as spaces that truly support the healing process and positively affect outcomes. At the same time, many demands are placed on the physical environment: supporting efficient workflows for staff and physicians, providing a safe environment for all, being durable and maintainable, taking into account the rising cost

of healthcare, adhering to the many guidelines and codes enforced by multiple authorities having jurisdiction, dealing with strict infrastructure requirements, and the list goes on and on. Through lectures, readings, and site visits, this course will provide an introduction to the fundamentals of designing healthcare environments, including what types of spaces can be found in healthcare environments; processes for balancing the complex and sometimes conflicting requirements of those spaces; and a variety of theories and trends shaping healthcare environments today and in the future.

Credit 1.5 units.

A46 ARCH 530H Special Topics in Professional Practice

Credit 3 units.

A46 ARCH 530J Special Topics in History & Theory

Credit 3 units. Arch: CAST, GACS

A46 ARCH 530M Special Topics in History & Theory: Open City

Urban populations are characterized by flux and diversity that contribute to conditions of implicit and explicit inclusion and exclusion. Alongside architecture and urban design, cultural, economic, and political processes play an important role in determining whether urban change and diversity operate as assets or threats. The central question of this research and writing seminar will be whether and how design (at a variety of scales and degrees of formality) generates and accommodates communities and places of agency, connection, collaboration, and affirmation of public life. With the use of a diachronic approach, the themes of geography, trade, conflict, migration, technology, and networks will organize our studies. Lectures and seminar discussions will focus on Amsterdam, New York City, Tokyo, and Venice; student research will engage other cities, with a goal of achieving geographic and cultural diversity among topics. Fundamental texts will include but are not limited to works by Debord, De Certeau, Foucault, Harvey, Lefebvre, Sassen, Soja, and Varnelis. Students will deploy historical resources and methods to analyze built conditions and urban experiences using written and graphic means to present their conclusions.

Credit 3 units. Arch: GARW, RW

A46 ARCH 530N Special Topics in History & Theory: Eye and Mind: Perception in the Folds

Perception is more than seeing; it involves an awareness of both internal and external contexts. Painters like Paul Cezanne and Francis Bacon capture the world as they perceive it, which in turn gives pause to our own understanding of it. How we perceive the mediums of painting, photography, and film speaks to our knowledge of the world, the limits of that knowledge, and our sense of being itself. According to Maurice Merleau-Ponty in "The Visible and the Invisible," "he who sees cannot possess the visible unless he is possessed by it, unless he is of it." This seminar will focus on the aesthetic theories of three French philosophers: Maurice Merleau-Ponty, Gilles Deleuze, and Jacques Derrida. We will use primary source material in small doses to facilitate close reading and rigorous thinking.

Credit 3 units. Arch: GARW, RW

A46 ARCH 531B 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.

A46 ARCH 531C 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 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.

A46 ARCH 538A Technology Transfer

The course will explore design, manufacturing, and production strategies employed for the development of technology in industries typically outside of the architectural domain. The performance characteristics of these technologies will be considered as they relate to desired impact, technical theory and process. The course will investigate the role of computation in design and production through an analysis of industry techniques related to computer modeling, performance analysis, CAD/CAM, rapid prototyping and robotics. The class will explore recent developments in the automotive, aerospace and shipbuilding industries among others for this research. In addition to analysis, students will be asked to develop and critique postulations related to the appropriate engagement of these technologies, design methodologies and production techniques in the "making" of architecture. Students will be asked to participate in discussions regarding their findings, write a report and make a formal presentation of their work.

Credit 3 units.

A46 ARCH 538C 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. Prerequisites: Students should complete Structures I & II, Environmental Systems I & II, and Building Systems before enrolling in Advanced Building Systems. Students who do not meet the prerequisites must receive the permission of the graduate chair in order to enroll.

Credit 3 units.

A46 ARCH 5461 Kindred Landscapes

The world is in the midst of an accelerated biodiversity crisis - on track for a mass extinction of species hundreds of times faster than previously estimated. Biodiversity is the degree of variation of life within an ecosystem; its eco-temporalities weave the planet together. As species are threatened and disappear, the impact of fragile, fractured relationships among life on Earth is unfolding at an unprecedented pace. This seminar considers the role of biodiversity in landscape studies and practice. How do we reconcile our living and consumption patterns with the unseen impact that they have on global and local landscape ecologies? How can the built environment address these threats? Global food systems are one of the major drivers of biodiversity loss. How can we understand the spatial, cultural, and ecological relationships between what we eat and the impact on the environment? In an urbanizing and compartmentalized world, how do we generate empathy for our non-human partners on this earth? In this course we will empathetically and immersively reflect on the vital intertwining of ecologic and cultural relationships with the land that have become largely invisible. This class will look towards traditional knowledge systems that reflect life on earth as our kin - our human and non-human relations. Kinship is a sense of affiliation and belonging. Kinship as a practice allows us to identify a shared future on Earth. Assignments will focus on how design and practice can help develop stewardship and reclaiming, not merely reimagining landscape, as reciprocal relationships between humans and the non-human world. We will use local examples to develop relational and experiential landscape design projects. There will be field trips to develop hands-on learning experiences and some intersection with the Mellon Foundation-funded Mississippi River School for Kinship and Social Exchange. Priority is given to students in the MLA program and to Landscape Architecture minors. Students will add themselves to the wait list and will be administratively enrolled in the course.

Same as A48 LAND 546A

Credit 3 units. Arch: ECOL

A46 ARCH 546D #pyrocene

In California, Australia, the Amazon, and beyond, fire has become the "new normal." With wildfires burning hotter, faster, larger, and longer, the scholar Steven Pyne has declared a new "age of fire": the Pyrocene. This course investigates the Pyrocene at the intersection of landscape and urbanism as a phenomenon that demands new ways of understanding, practicing, and connecting architecture, urban design, and landscape architecture. Students will situate recent burn events -- from California's Wine Country and Camp fires to the 2019 Amazon fires to Australia's recent "Black Summer" -- in long cycles of time, attending to processes of transformation in the long tail of disaster as ecosystems reassert themselves and real estate speculation recolonizes land. Students will interpret burn events in the historical context of imbricated social and ecological crises: a crisis of growth, pushing development into wildland-urban interfaces; a crisis of climate change, accelerating burn seasons; and a crisis of colonization, suppressing indigenous land stewardship traditions. Where the media fixates on "morning after" devastation and gazes "in" at burn zone spectacle, students will endeavor to look "out" from sites of intensive destruction and regeneration, interrogating contemporary urbanism, landscape, economy, and ecology through a critical Pyrocene lens. Drawing on scholars such as T.J. Demos, Donna Haraway, and Jason W. Moore as

well as the speculative fiction of Octavia Butler, Ursula K. Le Guin, and Kim Stanley Robinson, students will think about design practice within larger webs of life and politics, considering political coalitions and cultural forms that point out of the Pyrocene.

Same as A48 LAND 546D

Credit 3 units. Arch: GAUI, UI

A46 ARCH 546E Attending Crises, Projecting Futures

The word "crisis" is derived from the ancient Greek verb "krinein", meaning to judge in order to make a decision; and from its noun, "krisis", meaning judgment, decision. A crisis can be thought of as a turning point and a process of change when current ways of thinking and acting can no longer be sustained. This seminar looks at just one collective world decision with the capacity to positively redirect the outcomes of multiple current challenges. What if humanity gradually eliminated all animal agriculture and moved to a plant-based diet? Substantial evidence points to greater well-being for humans, animals, the environment, and the planet. Human health will improve markedly as diseases caused by animal consumption abate. Much of the 60% of pandemics that are zoonotic could be avoided. Crop availability will alleviate world hunger. Human-caused animal suffering can end. Deforestation, water and air pollution, vanishing biodiversity, and the greenhouse gases contributing to global warming will be greatly diminished. A new climate model developed recently by scientists at Stanford University finds that the phasing out of animal agriculture over the next 15 years represents "our best and most immediate chance to reverse the trajectory of climate change." Though the design professions are ill-equipped to affect the social, economic, and political wills to enact these changes, they do offer equally important analytical and visualization skills capable of creatively mapping and diagramming information in relational, interpretive, and generative ways. The first part of course is dedicated to this production after the investigation, assessment, and debate of various conflicting positions. The second part is interested in programmatic and design speculations for the 40% of habitable land that will be gradually freed. The task of the design disciplines is to uncover the imaginative potential of the land and to create the conditions for the appearance of new realities.

Same as A48 LAND 546E

Credit 3 units. Arch: ECOL

A46 ARCH 552D 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 100 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, HT

A46 ARCH 554B The Space Within: Interior Experience as the Origin of Architecture

This graduate seminar is structured around the book "The Space Within: Interior Experience as the Origin of Architecture" by Robert McCarter. Throughout human history -- and particularly in the modern period -- interior space and its experience have served as both the beginning (the initial inspiration for the design of architecture) as well as the end (the final purpose of architecture as it is evaluated through inhabitation). Since the beginning of the modern period and still today, pivotal discoveries in architectural design may be traced back to a generative ideal of intimate interior experience, and the quality of the interior spatial experience of the inhabitants may be shown to be both the primary determinant of the architectural design process as well as the means of appropriately evaluating a work of architecture after it is built. This seminar explores how interior space has been integral to the development of modern architecture from 1900 to today, and it looks at how generations of modern architects have engaged interior space and its experience in their design processes, which has enabled them to fundamentally transform the traditional methods and goals of architectural composition. For many of the most recognized and respected architects practicing today, the conception of the interior spatial experience continues to be the necessary starting point for design, and the inhabitation of interior space remains the primary reason to construct works of architecture. The course is structured around the chapters of the textbook "The Space Within," and, in parallel with the textbook themes, involves analyses and presentations of the work of Frank Lloyd Wright, Adolf Loos, Le Corbusier, Alvar Aalto, Eileen Gray, Louis Kahn, Aldo van Eyck, Carlo Scarpa, and six selected contemporary architects. Analytical methods employed in the course 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: the way in which a building is built, of what materials it is made, and how all of these combine to construct the experience of those who inhabit it. After introductory lectures by the professor, each of the 10 subsequent class meetings will consist of a presentation of one of the textbook chapters and selected buildings by one of the focus architects, each of which will be presented by a team of two students. Optimal enrollment: 20 students. Fulfills History and Theory Case Study Elective requirement.

Credit 3 units. Arch: CAST, GACS

A46 ARCH 554C 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. Same as A48 LAND 554C
Credit 3 units. Arch: CAST, ECOL, GACS, GAUI Art: CPSC

A46 ARCH 554D The Space Within: Interior Experience as the Origin of Architecture

A graduate seminar structured around the themes put forward in the book "The Space Within: Interior Experience as the Origin of Architecture" by Robert McCarter. Throughout human history, and particularly in the modern period, interior space and its experience has served as both the beginning, the initial inspiration for the design of architecture, as well as the end, the final purpose of architecture as it is evaluated through inhabitation. Since the beginning of the modern period, and continuing today, pivotal discoveries in architectural design may be traced back to a generative ideal of intimate interior experience, and the quality of the interior spatial experience of the inhabitants may be shown to be both the primary determinant of the architectural design process, as well as the means of appropriately evaluating a work of architecture after it is built. This seminar explores how interior space has been integral to the development of modern architecture, and how generations of modern architects have engaged interior space and its experience in their design processes, enabling them to fundamentally transform the traditional methods and goals of architectural composition. For the six modern architects we will examine, as well as for many of the most recognized and respected architects practicing today, the conception of the interior spatial experience continues to be the necessary starting point for design, and the inhabitation of interior space remains the primary reason to construct works of architecture. Each class will consist of both faculty lectures based on the chapters of the textbook, *The Space Within*, and, parallel with the textbook themes, student team analyses and presentations of the work of Frank Lloyd Wright, Adolf Loos, Le Corbusier, Eileen Gray, Alvar Aalto, Louis Kahn, Aldo van Eyck. Analytical methods employed in the course 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.
Credit 1.5 units.

A46 ARCH 554E Strange Behavior

Human beings are weird. They do weird things with regularity, so much so that sometimes we believe it is normal behavior. Human beings occupy built space in weird ways that increasingly become normalized, or in ways may be very personal. This semester we will uncover how people USE and OCCUPY space in a variety of ways. This course explores the aspects of research that deal with human beings - how they use the built environment, how they understand the way designers create, how designers make decisions about design, how architecture affects people and its contexts, how design impacts the health of a community and individuals. We will engage people where they are through conducting observations, interviews, and active engagement. You will watch, play with, discuss among, and lead participants of the studies we will conduct, including your own. Think of this as a giant human experiment to understand how human beings interact with space and how that should affect how we design. Students will consider the application of observation and interactional research to everyday practices, design, and decision-making. The semester engages the total understanding of how to design and completion of a short human-subjects study to enhance design. We will meet

with community members and engage people at various locations around St. Louis. Site visits will occur regularly throughout the St. Louis Metropolitan area, so be ready to be a part of a traveling research team and an active leader and participant.
Credit 1.5 units.

A46 ARCH 555C 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.

A46 ARCH 560A 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.
Same as A48 LAND 560A
Credit 3 units. Arch: ECOL

A46 ARCH 561D Contemporary Urbanity and Urban Public Spaces

The seminar will review and discuss how the construction of the contemporary public urban space has developed from late 20th century to the present and considers possible future developments. The reinterpretation of the use of the public space and its dynamics will be the focus point of the seminar which will incorporate a wide variety of perspectives while following the international debate and

discourse of public space and using St. Louis as a case study of how low-density urban configurations figure into the global conversation. The seminar will proceed in a multilayered approach including the following fields: historical emerging concepts of public space, the shifting and diffused boundaries between urban and non-urban environments; physical and geometrical magnitudes and accountable parameters (scale, density, economic, social and political statistics); other non-apparent/non-physical conditions. Relevant case studies will be introduced as examples of possible strategies able to produce celebrated qualified and diverse public spaces, along with a review of examples taken from other cities. A comparison of mutual effects with contemporary American cities using St. Louis as reference. A close look to the particular performance of the city of St. Louis and its pulses of contemporary urbanity and its shared spaces will introduce the debate into the local circumstances. The case study work will use graphic (mapping) and written techniques but also through the detection of the local agent's debates about urban activities. The educational objectives of the course are to provide tools and basic knowledge to understand, analyze and propose contemporary public spaces as well as to develop the capacities to distill the various elements that compose urbanity, and to recognize the interactions between them.

Credit 3 units.

A46 ARCH 561E 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 townscapes 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

A46 ARCH 563D 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, UI Arch: CPSC

A46 ARCH 563E Urban Theory & Cities in Latin America

This course proposes to explore the relationship between urban theories and the spatial construction of the city by using a number of Latin American cities as case studies. Some of the theories that will be examined here have been proposed as a way of reading and explaining the form, structure and functioning of existing cities. Others have been put forward as models for the planning of new ones. In one way or another, all of these urban theories have influenced and shaped the form and structure of our current cities and our ability to conceptualize them. The urban theories and cases reviewed will span from the colonial city to the contemporary metropolis and urban region. The disciplines from which this course will draw upon will include urban planning, architecture, geography, urban sociology and anthropology. The scope of this course is intentionally broad and diverse as it aims to reflect the multitude of factors that are involved in urban phenomena. Some of the themes that will be examined include the Spanish and Portuguese Colonial City; planned cities in the 19th century (the case of La Plata); modernization in Latin America; modernism and planned cities in the 20th century (the case of Brasilia); the "favelas" in Brazil and "villas miseria" in Argentina; postmodernism and globalization in urban studies; urban fragmentation in the contemporary metropolis (using the cases of São Paulo and Buenos Aires), and the debate on the sustainable urban form. The aim of this course is to provide a forum in which to discuss general theories and issues in urban thought, using primarily the cases of the cities that students will visit and experience first-hand over the course of the program. This course fulfills the Urban Issues elective requirement.

Credit 3 units. Arch: GAUI

A46 ARCH 563L Design as a Social Practice: Community Practice in Pagedale

This course will strive to understand our community through examining the inequities, divisions and tension within the St. Louis Metropolitan region and harness design as an agent for change and empowerment. The social and economic upheaval experienced in inner city neighborhoods and underserved communities over the last half century are the result of government and social services having withered in a period marked by dramatic social, demographic and technological changes effectively restructuring the U.S. economy. These issues may seem unrelated to the practice of architecture and urban design, however they are fundamental to how design shapes community. At this moment, we are challenged as design professionals with the opportunity to engage and serve communities that have been marginalized by conventional modes of thinking and creative practice. The seminar builds upon existing relationships and a body work and engagement in the Pagedale community while laying the groundwork for new action. This seminar questions traditional modes of practice and common assumptions through focusing 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, community engagement 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. CET (<https://gephardt.institute.wustl.edu/for-faculty-and-staff/community-engaged-teaching/>) course.
Credit 3 units.

A46 ARCH 563P 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.
Same as A49 MUD 563P
Credit 3 units. Arch: GAMUD, GAUI, UI

A46 ARCH 564A Urban Development Seminar

Project-based research and discussions focus on the legal policy, social and architectural issues affecting the redevelopment of St. Louis and suburban areas such as Darst Webbe, Westminster Place, Clayton, and prototypical redevelopment of public housing projects of Carr Square, Darst Webbe and Vaughn into tenant ownership and market-rate housing neighborhoods. Topics include public policy issues affecting development, the availability and types of housing, transportation linkages, business, zoning issues, social and historical precursors. Through interaction with community leaders, teams of students from each discipline prepare a design proposal for an actual problem in the St. Louis area. This seminar is an interdisciplinary effort taught by faculty members of Washington University School of Architecture and the St. Louis University School of Law, Social Work and Department of Public Policy Studies. Prerequisite: 400 level and above. Limit 8 students. Fulfills Urban Issues elective for MArch degree.
Credit 3 units. Arch: GAMUD, GAUI, UI Art: CPSC

A46 ARCH 564K 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, UI

A46 ARCH 564L 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. Same as A48 LAND 564L
Credit 3 units. Art: CPSC

A46 ARCH 564M 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.
Same as A48 LAND 564M
Credit 3 units. Arch: ECOL Art: CPSC

A46 ARCH 565D 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.
Same as A49 MUD 565D

Credit 3 units. Arch: GAMUD, GAUI, UI

A46 ARCH 565E 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.

Same as A49 MUD 565E

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

A46 ARCH 566A 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 percent 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 percent 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 MArch degree. Undergraduate enrollment is allowed by arrangement with the instructor.

Same as A49 MUD 566A

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

A46 ARCH 568F 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

A46 ARCH 568G 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.

Same as A49 MUD 568

Credit 3 units. Arch: GAMUD, GAUI, UI

A46 ARCH 5711 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.

Same as A49 MUD 571A

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

A46 ARCH 571A Landscape History II: Prehistory to 1850

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.

Same as A48 LAND 571

Credit 3 units. Arch: HT

A46 ARCH 573B Alternative Modes of Professional Practice

This course endeavors to reconsider the approach, means and delivery methods — the modes if you will — of architecture and its construction. Beginning with an overview of traditional project delivery, the course will serve as a foundation for future research by investigating, interviewing and compiling known methods of emerging practice trends and critical speculation of unproven types. The second stage will include reaching-out and bringing-forth a cross-section of experts and individuals spearheading similar strategies around the United States.

Credit 3 units.

A46 ARCH 573C 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.

A46 ARCH 573D Eye and Mind: Perception in the Folds

Perception is more than seeing; it involves an awareness of both internal and external contexts. Painters like Paul Cezanne and Francis Bacon captured the world as they perceived it, which in turn gives pause to our own understanding of it. The ways that we perceive through the mediums of painting, photography, and film speaks to our knowledge of the world, the limits of that knowledge, and our sense of being itself. "...[H]e who sees cannot possess the visible unless he is possessed by it, unless he is of it" (Maurice Merleau-Ponty, *The Visible and the Invisible*). This seminar will focus on the aesthetic theories of three French philosophers: Maurice Merleau-Ponty, Gilles Deleuze, and Jacques Derrida. We will use primary source material in small doses to facilitate close reading and rigorous thinking.

Credit 3 units. Arch: GARW, RW

A46 ARCH 574B 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, subcontractors), 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.

A46 ARCH 579 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.

A46 ARCH 579A Ecological Economics for Sustainable Cities and Landscapes

This course is designed to provide students with an understanding of the fundamental assumptions, the conceptual novelties, and the distinctive tools of analysis that comprise the emerging discipline of ecological economics as it applies to cities and landscapes, and to explore the role this new paradigm is playing in the movement to convert our society from a high-throughput, unsustainable society to a lower-throughput, sustainable system. Standard economics (including the subfield of environmental economics) sees the economy as the whole that contains all other values. In this view, nature has value because some people will pay to experience it or to enjoy its services. Ecological Economics reverses that relationship by acknowledging that the environment, not the economy, is the containing whole. This approach comprises a revolutionary challenge to the foundational premises of contemporary economics. Economics has never undergone the thermodynamic revolution that swept through the physical, life, and social sciences in the late 19th and early 20th century. The course will look briefly at this intellectual history in order to place our studies into their broader social, historical, political, and disciplinary context — and to give students the conceptual background and tools they need to engage the old paradigm in ways that will promote its adaptation to physical reality.

Same as A49 MUD 579A

Credit 3 units. Arch: GAMUD, GAUI, UI

A46 ARCH 580 Design Thinking: Research and Design Methods

Covers the fundamentals of project planning, proposal writing and alternative research and design methods. This course is a prerequisite for Design Project (Arch 616). Grade of B- or better required in preceding two studios.

Credit 3 units.

A46 ARCH 601 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. This course fulfills the History/Theory elective requirement.

Credit 3 units. Arch: GARW, RW

A46 ARCH 611 Architectural Design VII

Prerequisite: satisfactory completion of Arch 512. Twelve hours of studio work a week.

Credit 6 units.

A46 ARCH 611S Architectural Design VII

Credit 6 units.

A46 ARCH 616 Degree Project

Independently initiated design and research projects based on Design Thinking (Arch 580) Proposal to fulfill final requirements for degree award. Prerequisite: Design Thinking (Arch 580).

Credit 6 units.

A46 ARCH 623B History of Urban Design

Examines the history of urban design, with an emphasis on the period 1890 to the present. Major topics include the urbanism of the Spanish Laws of the Indies; the development of the row house and the urban square; the park, parkway and suburban planning of Frederick Law Olmsted and others; the urban planning ideas of Camillo Sitte, Ebenezer Howard, Otto Wagner, Antonio Sant'Elia, Eric Mendelsohn, Tony Garnier, Le Corbusier, the Soviet urbanists and disurbanists, CIAM (Congrès Internationaux d'Architecture Moderne), Team 10, Aldo Rossi, Venturi and Scott-Brown, the Situationists and New Urbanism; and various other approaches to be determined.

Credit 3 units.

A46 ARCH 625F The Architecture of Food: Foundations of a Culture in St. Louis

For centuries, food has shaped the land around cities, routes through cities, and settlements of cities. Food culture has driven social, political, economic, and identity dimensions of cities and communities, for better or worse. St. Louis has a thriving food culture, but also a clear segregation of space related to food deserts, food corridors, food festivals, agricultural space, and access to information about health and nutrition. This course provides an outlet for students to explore the architecture of food of St. Louis and surrounds, the good and bad, as a means to connect to the people, places, and businesses that make up the city's gastronomic culture. In 4 parts, the course investigates 1. the urban fabric of the city through a series of mapping exercises, 2. the neighborhood fabrics based around restaurants and dining/eating spaces through exercises of tasting, reviewing, and diagramming, 3. the spaces of food growth and distribution through video and diagram documentation, 4. the people related food growth, distribution, cuisine, nutrition, and community building through interviews and narrative documentation with partners. This semester students will eat, create, listen, document, and engage the food community of St. Louis. Our focus will train on how community is built literally (as in neighborhoods and spaces) and figuratively (as in relationships and culture) in St. Louis through avenues of food resources, production, restaurant groups, and people. The course culminates in an exhibit of maps, diagrams, photos, videos, and narratives that showcases the food culture of the city. Some meetings will be off campus and require a small expense to cover food or beverage related to course tastings. This course is open to graduate students only.

Credit 1.5 units.

A46 ARCH 646 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 and economics, (2) business practice and management, and (3) laws and regulations. Prerequisite: 500-level studio placement or above.

Credit 3 units.

A46 ARCH 648F 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.

A46 ARCH 652H Metropolitan Development: What's in a Plan?

This course explores pluralist, pragmatic and progressive planning strategies for American urbanism. It provides students with an introduction to the design and planning of American cities in the context of this country's democratic tradition, its multicultural 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 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.

Same as A49 MUD 652H

Credit 3 units. Arch: GAUI, UI

A46 ARCH 656 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. Required for MUD students. Fulfills Urban Issues elective requirement. MUD students have priority. Students will be enrolled from the waitlist.

Same as A49 MUD 656

Credit 3 units. Arch: GAUI, UI

A46 ARCH 658A 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. Students will be registered for the course from the waitlist by the Registrar's Office.

Same as A49 MUD 658

Credit 3 units. Arch: GAUI, UI

A46 ARCH 664 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, UI

A46 ARCH 711 Elements of Urban Design

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

Credit 6 units.

A46 ARCH 714 Metropolitan Urban Design

The third in a three-semester sequence of design studios for students in the Master of Urban Design program. This is a summer studio held in an urban location away from St. Louis.

Credit 6 units.

A46 ARCH 760 Thesis Research

Credit 3 units.

Landscape Architecture

Visit online course listings to view semester offerings for A48 LAND (<https://courses.wustl.edu/CourseInfo.aspx?sch=A&dept=A48&crslvl=5:8>).

A48 LAND 501 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.

A48 LAND 520 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. Students will be registered for the course from the waitlist by the Registrar's Office.

Credit 3 units.

A48 LAND 521A 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. Fulfills Digital elective requirement. Prerequisite: A48 520 or equivalent course(s) approved by instructor.

Credit 3 units.

A48 LAND 524E 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 toward 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 toward *Ordonnance*, a collective publication that will historicize and diagram this administrative impulse.

Same as A46 ARCH 524E

Credit 3 units.

A48 LAND 524F 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.
Same as A46 ARCH 524F
Credit 3 units.

A48 LAND 524G 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 fieldwork) 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

A48 LAND 524H 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

A48 LAND 529G 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. Arch: GAMUD, GAUI, UI Art: CPSC

A48 LAND 530A Special Topics: Public Space and Ecological Knowledge

Public space is shaped by design but also by political, social, and environmental dynamics. Ecological design, especially on public land, requires alignment of various values, desires, and systems. One factor that limits the cultivation of a more ecological urbanism is the knowledge gap about urban ecological systems. Urban ecology research is on the rise, but experiments sometimes come into tension with the public. This course will locate excellent examples of ecological design from history to the present, discuss the role of the advocacy and public awareness, and speculate about how design could further collaborate with ecology. The first half of the semester will be spent touring-in person or virtually-conversing with experts, and researching as a group. The second half of the semester will be spent studying a single public space to understand how ecological ideas are studied there and how ecological values are cultivated through design and operations. This course will ask the following questions. Should ecological agendas be a matter of science and governance, or does ecological urbanism require democratic participation? Can design communicate ecological ideas for a larger public? Could design even be instrumental in the discovery of new ecological ideas? Toward the end of the semester, the work will be speculative design and 1:1 intervention. Markers, signs, or some other system of interpretation will be staged in an attempt to draw urban residents into ecological ideas.
Credit 3 units. Art: CPSC

A48 LAND 530B Special Topics: American Cultural Landscapes: St. Louis

No definition of landscape is free from challenge, nor is any claim on what constitutes culture. This seminar will work as a concurrent critical workshop to The Cultural Landscape Foundation (TCLF) project of developing its guide to the cultural landscapes of St. Louis, which will be part of its What's Out There City and Regional Guide series. Critical inquiry will focus on the different foundational concepts of the "cultural landscape" advanced by TCLF and disciplines including anthropology, historic preservation and landscape architecture. The categories of evidence, documentation, authenticity, integrity and association will be examined as they are used to define what constitutes human heritage. Students will expand the scope of the TCLF project by developing alternate ways of representing and defining landscapes as well as by proposing additional landscapes for inclusion. Work will entail readings in cultural landscape and heritage theory as well as primary source archival research on sites in metropolitan St. Louis.

Credit 3 units. Art: CPSC

A48 LAND 541A 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.

A48 LAND 541B 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.

A48 LAND 542A 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. Students will be registered for the course from the waitlist by the Registrar's Office.

Credit 1.5 units.

A48 LAND 542B 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. Students will be registered for the course from the waitlist by the Registrar's Office.

Credit 1.5 units.

A48 LAND 546A Kindred Landscapes

The world is in the midst of an accelerated biodiversity crisis - on track for a mass extinction of species hundreds of times faster than previously estimated. Biodiversity is the degree of variation of life within an ecosystem; its eco-temporalities weave the planet together. As species are threatened and disappear, the impact of fragile, fractured relationships among life on Earth is unfolding at an unprecedented pace. This seminar considers the role of biodiversity in landscape studies and practice. How do we reconcile our living and consumption patterns with the unseen impact that they have on global and local landscape ecologies? How can the built environment address these threats? Global food systems are one of the major drivers of biodiversity loss. How can we understand the spatial, cultural, and ecological relationships between what we eat and the impact on the environment? In an urbanizing and compartmentalized world, how do we generate empathy for our non-human partners on this earth? In this course we will empathetically and immersively reflect on the vital intertwining of ecologic and cultural relationships with the land that have become largely invisible. This class will look towards traditional knowledge systems that reflect life on earth as our kin - our human and non-human relations. Kinship is a sense of affiliation and belonging. Kinship as a practice allows us to identify a shared future on Earth. Assignments will focus on how design and practice can help develop stewardship and reclaiming, not merely reimagining landscape, as reciprocal relationships between humans and the non-human world. We will use local examples to develop relational and experiential landscape design projects. There will be field trips to develop hands-on learning experiences and some intersection with the Mellon Foundation-funded Mississippi River School for Kinship and Social Exchange. Priority is given to students in the MLA program and to Landscape Architecture minors. Students will add themselves to the wait list and will be administratively enrolled in the course.

Credit 3 units. Arch: ECOL

A48 LAND 546D #pyrocene

In California, Australia, the Amazon, and beyond, fire has become the "new normal." With wildfires burning hotter, faster, larger, and longer, the scholar Steven Pyne has declared a new "age of fire": the Pyrocene. This course investigates the Pyrocene at the intersection of landscape and urbanism as a phenomenon that demands new ways of understanding, practicing, and connecting architecture, urban design, and landscape architecture. Students will situate recent burn events -- from California's Wine Country and Camp fires to the 2019 Amazon fires to Australia's recent "Black Summer" -- in long cycles of time, attending to processes of transformation in the long tail of disaster as ecosystems reassert themselves and real estate speculation recolonizes land. Students will interpret burn events in the historical context of imbricated social and ecological crises: a crisis of growth, pushing development into wildland-urban interfaces; a crisis of climate change, accelerating burn seasons; and a crisis of colonization, suppressing indigenous land stewardship traditions. Where the media fixates on "morning after" devastation and gazes "in" at burn zone spectacle, students will endeavor to look "out" from sites of intensive destruction and regeneration, interrogating contemporary urbanism, landscape, economy, and ecology through a critical Pyrocene lens. Drawing on scholars such as T.J. Demos, Donna Haraway, and Jason W. Moore as

well as the speculative fiction of Octavia Butler, Ursula K. Le Guin, and Kim Stanley Robinson, students will think about design practice within larger webs of life and politics, considering political coalitions and cultural forms that point out of the Pyrocene.

Credit 3 units. Arch: GAUI, UI

A48 LAND 546E Attending Crises, Projecting Futures

The word "crisis" is derived from the ancient Greek verb "krinein", meaning to judge in order to make a decision; and from its noun, "krisis", meaning judgment, decision. A crisis can be thought of as a turning point and a process of change when current ways of thinking and acting can no longer be sustained. This seminar looks at just one collective world decision with the capacity to positively redirect the outcomes of multiple current challenges. What if humanity gradually eliminated all animal agriculture and moved to a plant-based diet? Substantial evidence points to greater well-being for humans, animals, the environment, and the planet. Human health will improve markedly as diseases caused by animal consumption abate. Much of the 60% of pandemics that are zoonotic could be avoided. Crop availability will alleviate world hunger. Human-caused animal suffering can end. Deforestation, water and air pollution, vanishing biodiversity, and the greenhouse gases contributing to global warming will be greatly diminished. A new climate model developed recently by scientists at Stanford University finds that the phasing out of animal agriculture over the next 15 years represents "our best and most immediate chance to reverse the trajectory of climate change." Though the design professions are ill-equipped to affect the social, economic, and political wills to enact these changes, they do offer equally important analytical and visualization skills capable of creatively mapping and diagramming information in relational, interpretive, and generative ways. The first part of course is dedicated to this production after the investigation, assessment, and debate of various conflicting positions. The second part is interested in programmatic and design speculations for the 40% of habitable land that will be gradually freed. The task of the design disciplines is to uncover the imaginative potential of the land and to create the conditions for the appearance of new realities.

Credit 3 units. Arch: ECOL

A48 LAND 551A 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. Students will be registered for the course from the waitlist by the Registrar's Office.

Credit 3 units.

A48 LAND 553 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 three modular sessions: horticulture and the science of plants; typologies and design such as bosque, grove, glade, allée,

meadow, wetlands, hedgerow, etc., and their origins in productive landscapes, and 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

A48 LAND 554C 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

A48 LAND 560 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.

A48 LAND 560A 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

A48 LAND 564L 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

A48 LAND 564M 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

A48 LAND 565 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. 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.

A48 LAND 571 Landscape History II: Prehistory to 1850

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: HT

A48 LAND 571A 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

A48 LAND 574A 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. Can count as a History/Theory elective. Credit 3 units. Arch: GACS, HT

A48 LAND 575 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. 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.

A48 LAND 601 Landscape Architecture Design Studio V
Credit 6 units.

A48 LAND 602 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.

A48 LAND 645 Professional Practice for Landscape Architecture: Business, Practice and 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. This course is only open to Master of Landscape Architecture students.
Credit 3 units.

A48 LAND 6451 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 six-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.

Urban Design

Visit online course listings to view semester offerings for A49 MUD (https://courses.wustl.edu/CourseInfo.aspx?sch=A&dept=A49&crslvl=4:8).

A49 MUD 4102 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. Open to all graduate students. Master of Urban Design students receive priority. 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.
Credit 2 units.

A49 MUD 421W Designing the Modern City

This course, which is based on the textbook *Designing the Modern City: Urbanism Since 1850*, is a lecture course that examines designers' efforts to shape modern cities. Topics covered include the technical and social changes in mid-19th-century industrial cities, notably London, Paris, and Barcelona, as well as varied efforts to shape urban extensions and central new interventions elsewhere. These include reform housing efforts for the working class in 19th-century London and New York, *Städtebau* (city building) in German-speaking environments, the Garden City Movement, the American City Beautiful movement, "town planning" in Britain, and "urbanisme" in France (the source of the contemporary term "urbanism"). Less well-known topics that will also be addressed are urban modernization in East Asia before 1940 and suburban planning in the United States, including Frank Lloyd Wright's *Broadacre City*. The book also addresses social change and modern urbanism in Europe in the 1920s, including the emergence of CIAM (International Congresses for Modern Architecture), which met from 1928 to 1956; the political, technological and urban transformations of World War II; the expansion of racially segregated decentralization in the United States; and some European and Latin American postwar urbanism. It also addresses urbanistic aspects of postwar architectural culture, including critiques of modernist planning by Jane Jacobs and others and more recent responses to the ongoing challenges posed by efforts to create organized self-build settlements and to make more ecologically sustainable cities.
Same as A46 ARCH 421W
Credit 3 units. Arch: GAMUD, GARW, GAUI, RW, UI

A49 MUD 422J 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, UI Art: CPSC

A49 MUD 430A Special Topics in Urban Design: Confronting Urbanization

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 emergent interrelationships between actors, the agency through which these actors engage with the interactive tissue, and how these forces 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 leading toward the fourth dimension of time, and we will aspire to the fifth dimension of lived experience. It is most welcomed that students bring curiosity to the course; they should be interested in being investigative and open to various mediums, including reading theories of urbanization, drawing, experimenting with physical/interactive objects, and 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 in 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, UI

A49 MUD 457C Radical Mapping

Maps are instruments of power. We have seen this, for example, in the racially-motivated "redlined" maps that legitimized urban clearings of entire neighborhoods in American cities in the 1930s. But maps are also instruments of resistance, for visualizing lived experiences and critiquing political systems and relationships of power. Maps are tools for re-writing dominant narratives and spatializing truths. Maps stage new design possibilities. This class will introduce students to the agency and potential of maps and mapping, a skillset all designers need in the face of our current moment of social and environmental justice collapse—a moment that has long been occurring. The course will cover interdisciplinary theories of mapping; critical cartography; American sub/urbanism; issues of race and place; and techniques of visualization. Students will build a radical 'atlas of spatial politics' centered on selected themes, focused on a common American first ring suburban site—either Ferguson, MO, or Kenosha, WI or similar. There are no formal pre-requisites for the class, but knowledge of Adobe Illustrator and In Design are a must. Students will initially work with GIS ArcMap/ArcPro, a geospatial software—provided free, alongside an introductory tutorial and troubleshooting session/s with the WashU Geospatial Library analysts.

Same as A46 ARCH 457C

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

A49 MUD 461D Laboratory for Suburbia

During the past five years, America's suburbanized landscape has emerged as a site of urgent electoral, cultural, and spatial contestation; it is arguably the defining geography of the national political moment. The fields of design and art, however, have largely failed to engage this critical space, remaining focused instead on prestigious cosmopolitan destinations and distressed inner-city communities. This interdisciplinary course will ask students to step into this gap, exploring and proposing new forms of critical suburban practice. This course is interdisciplinary, and students with interests in visual art, architecture, urban design, art history, public art, planning, performance, urban history, American Studies, and anthropology are especially encouraged to enroll. For the course's final project, students will draw from research and fieldwork to produce propositions for interventionist art or design projects in St. Louis. Final projects can include "paper architecture" renderings, sculptural maquettes, video works, performances, curatorial projects, or scholarly papers that point toward new models for critical and visionary suburban practice.

Same as A46 ARCH 461D

Credit 3 units. Arch: GAMUD, GAUI, UI

A49 MUD 463B 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 redirection 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.

A49 MUD 463C Invisible Cities

This graduate and advanced undergraduate seminar takes as a point of departure the famous 1972 Italo Calvino text that reframes a single city (Venice) as multiple cities, told through a sequence of discrete narratives and descriptions. Each of Calvino's invisible "cities" reflect different emotional and physical environments and possibilities — or impossibilities — for their inhabitants, yet are all still connected through an overarching narrative. Invisible Cities, the course, builds on this premise that a city is not a one-size-fits-all experience (nor a monolithic construct with a uniform constituency), but instead is composed of radically different environments all selectively accessed, depending on one's positionality or relationship to urban redevelopment processes. In places like St. Louis — but in fact in all American cities — residents live out different urban realities or imaginaries, with unequal access to the same services, provisions and processes. A highly visible instance of this occurs along Delmar Blvd in St. Louis where two contrasting lived experiences play out in neighborhoods across from each other on the north-south divide. However, this class posits that much less visible instances of the duplicitous city also exist, in spaces not

geographically divided, but (more insidiously) overlaid. The course will focus on this conceptualization of inequality where both privileged and underserved populations co-exist in much more intertwined ways. Within any given block, neighbors live according to different opportunities, for education, health access, police services, or routes to property acquisition and financing. These are the invisible, spatially simultaneous cities; the urban realities that are much harder to see — at least to those who do not live those realities on a day-to-day basis. Like in Calvino's world, urban and lived space is endlessly continuous and accessible for some; for others it is fragmented, even disorienting or opaque. This course will examine, frame, collect and document the various manifestations of invisibility together with the political instruments and policies that produce — and reproduce — it. We will use the St. Louis region as our primary focus, with comparisons to other sites. Our studies will involve a close re/reading of many of the mechanisms of daily governance and urban design such as policies, planning tools, legal, financial and real estate protocols and of course design decisions and processes; i.e., the apparatuses of urban redevelopment that exist right before our eyes. The seminar welcomes both graduate students and advanced undergraduate students from across disciplines. Support for Invisible Cities is provided by the Washington University in St. Louis Ferguson Academic Seed Grant Program granted through the Offices of the Chancellor and Provost and the Olin Business School. Fulfills Urban Issues and MUD Track elective requirement.

Same as A46 ARCH 463C

Credit 3 units. Arch: GAMUD, GAUI, UI

A49 MUD 463D 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, UI Art: CPSC

A49 MUD 5078 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 course work 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 course work or experience that has prepared you for participation. Statements should be emailed (ljenks@wustl.edu). CET (<https://gephardt.institute.wustl.edu/for-faculty-and-staff/community-engaged-teaching/>) course.

Same as S60 SWCD 5078

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

A49 MUD 5079 Community Development & American Cities

The world is becoming increasingly urban. Recently for the first time more than half of the world's population lived in cities. While urbanization has brought great opportunities it also comes with significant challenges. The goal of this course is to introduce and analyze interventions that improve the quality of life of Americans by improving their neighborhoods, and that strengthen neighborhoods as essential components of competitive regional economies. We will focus both on strategies to alleviate urban poverty and on strategies to make urban neighborhoods attractive to large numbers of potential residents of all races and classes. The course will include a rigorous introduction to community development strategies with specific attention to the role of community organizations, the need for strengthening key service areas such as schools and safety, and the importance of density and place-making. While the focus of the course will be on St. Louis and other older industrial cities, the lessons learned are applicable to all cities throughout the world. In addition to St. Louis, we will also spend concentrated time on New York City as an example of a fast-growth, strong market city. Course pedagogy will emphasize intense interaction between students and between the students and instructor, using lectures, small group discussions and active debates. Class assignments will include the requirement to write five short (3-4 page) papers over the course of the semester. All papers will be based on class reading. For MSW Program SED Concentration students, this course fulfills the SED Theories, Problems, and Issues requirement. For MSW Policy Specialization students, this course fulfills the elective requirement. For Master of Architecture students, this course fulfills the Urban Issues elective requirement. For Master of Urban Design students, this course fulfills the MUD Track elective requirement. MSW Pre/corequisite: S15-5012. CET (<https://gephardt.institute.wustl.edu/for-faculty-and-staff/community-engaged-teaching/>) course.

Same as S20 SWHS 5079

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

A49 MUD 525K 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. Fulfills History/Theory elective. Fulfills Urban Issues elective. Same as A46 ARCH 525K

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

A49 MUD 528S 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. Students will be registered for the course from the waitlist by the Registrar's Office.

Credit 3 units. Arch: GAMUD, GAUI, UI

A49 MUD 529G 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.

Same as A48 LAND 529G

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

A49 MUD 530A Special Topics In Urban Design: Alternative Atlas: St. Louis

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 experimental seminar, taught concurrently and in connection with two courses at Washington University and one at Harvard University. The partnership centers (1) "Alternative Atlas: St. Louis," an interdisciplinary seminar led by Linda Samuels, Associate Professor of Urban Design in the Sam Fox School of Design and Visual Arts. The seminar builds in more robust engagement with the disciplines of history, sociology, and African American Studies, among others, by incorporating participants in (2) "Histories of Racial Violence, Legacies & Reckonings," a graduate seminar and practicum in AFAS and sociology led by Geoff Ward, Professor of African and African-American Studies at Wash U, and (3) "History of St. Louis," a graduate history seminar led by Walter Johnson, Winthrop Professor of History and African and African American studies at Harvard University and author of the recent major work, *The Broken Heart of America: St. Louis and the Violent History of the United States*. This collaborative seminar will intentionally combine diverse epistemological frameworks to broaden the understanding of race and spatial relationships in each of the partner disciplines, and to inform our collaborative development of an Alternative Atlas for St. Louis. Content shared across the three courses will fuel projects and partnerships that emerge from the collaboration. Students in the Sam Fox course will be responsible for mapping the core of the Alternative Atlas project. Open to upper-level undergraduate students and graduate students. 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, UI

A49 MUD 562H 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 percent 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 percent 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 to help further understand and define a place of action for architects and urbanists in the informal city. 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 the MArch degree.

Credit 1 unit. Arch: GAUI

A49 MUD 563D 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.

Same as A46 ARCH 563D

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

A49 MUD 563P 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, UI

A49 MUD 564A Urban Development Seminar

Project-based research and discussions focus on the legal policy, social and architectural issues affecting the redevelopment of St. Louis and suburban areas such as Darst Webbe, Clayton, Westminster Place and prototypical redevelopment of public housing projects of Carr Square, Darst Webbe and Vaughn into tenant ownership and market rate housing neighborhoods. Topics include public policy issues affecting development, the availability and types of housing, transportation linkages, business, zoning issues, social and historical precursors. Through interaction with community leaders, teams of students from each discipline prepare a design proposal for an actual problem in the St. Louis area. This seminar is an interdisciplinary effort taught by faculty members of Washington University School of Architecture and the St. Louis University School of Law, Social Work and Department of Public Policy Studies. Prerequisite: 400 level and above. Limit 8 students. Fulfills Urban Issues elective for MArch degree. CET (<https://gephardt.institute.wustl.edu/for-faculty-and-staff/community-engaged-teaching/>) course.

Same as A46 ARCH 564A

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

A49 MUD 564K 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.

Same as A46 ARCH 564K

Credit 3 units. Arch: GAMUD, GAUI, UI

A49 MUD 565D 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, UI

A49 MUD 565E 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, UI Art: CPSC

A49 MUD 566A 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 percent 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 percent 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 MArch degree. Undergraduate enrollment is allowed by arrangement with the instructor.

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

A49 MUD 568 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, UI

A49 MUD 571A 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

A49 MUD 571B 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, UI

A49 MUD 574A 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. Can count as a History/Theory elective. Same as A48 LAND 574A

Credit 3 units. Arch: GACS, HT

A49 MUD 576A 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, UI

A49 MUD 579 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.

Same as A46 ARCH 579

Credit 3 units.

A49 MUD 579A Ecological Economics for Sustainable Cities and Landscapes

This course is designed to provide students with an understanding of the fundamental assumptions, the conceptual novelties, and the distinctive tools of analysis that comprise the emerging discipline of ecological economics as it applies to cities and landscapes, and to explore the role this new paradigm is playing in the movement to convert our society from a high-throughput, unsustainable society to a lower-throughput, sustainable system. Standard economics (including the subfield of environmental economics) sees the economy as the whole that contains all other values. In this view, nature has value because some people will pay to experience it or to enjoy its services. Ecological Economics reverses that relationship by acknowledging that the environment, not the economy, is the containing whole. This approach comprises a revolutionary challenge to the foundational premises of contemporary economics. Economics has never undergone the thermodynamic revolution that swept through the physical, life, and social sciences in the late 19th and early 20th century. The course will look briefly at this intellectual history in order to place our studies into their broader social, historical, political, and disciplinary context — and to give students the conceptual background and tools they need to engage the old paradigm in ways that will promote its adaptation to physical reality.

Credit 3 units. Arch: GAMUD, GAUI, UI

A49 MUD 652H 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 multicultural 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 as the presentation of Metropolitan St. Louis development case studies by professional and political leaders.

Credit 3 units. Arch: GAUI, UI

A49 MUD 656 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. Required for MUD students. Fulfills Urban Issues elective requirement. MUD students have priority. Students will be enrolled from the waitlist.

Credit 3 units. Arch: GAUI, UI

A49 MUD 658 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. Students will be registered for the course from the waitlist by the Registrar's Office.

Credit 3 units. Arch: GAUI, UI

A49 MUD 664 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.

Same as A46 ARCH 664

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

A49 MUD 711 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.

A49 MUD 713 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.

A49 MUD 765D 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, UI