

Study Areas and Course Descriptions, 2011–2012

In course titles, *a* designates fall term, *b* designates spring term, and *c* designates summer. [Bracketed courses are not offered in 2011–2012.] The School reserves the right to change the prescribed course of study as necessary.

DESIGN AND VISUALIZATION

John Eberhart and Joel Sanders, Study Area Coordinators

This study area encompasses required studios, elective advanced studios, and courses that concentrate on design logic and skills and that support design thinking and representation.

For the M.Arch. I program, required courses in this study area include a core sequence of four design studios, the first-year building project, two advanced studios, a course in formal analysis (1018a), and a four-stage sequence of courses that deal specifically with visualization methodologies. The core studio sequence progresses from spatially abstract exercises to more complex programs that require integrative thinking at various scales and situated on sites of increased complexity, while integrating ecological, landscape, and tectonic demands. In all four stages of the visualization sequence, hand, digital, 2-D, and 3-D methods are explored. The first course (1001c) of this visualization sequence is a summer course required for entering students who have not had significant prior architectural training. The next three courses (1015a, 1016b, and 1017c) – in the fall, spring, and early summer of the first year – are required of all M.Arch. I students.

For the M.Arch. II program, required courses in this study area include a core design studio (1061a), three advanced studios, and a course in computation analysis and fabrication (1062a).

Required Courses

1001c, Visualization I: Observation and Representation 0 credits. (Required of incoming M.Arch. I students with little or no academic background in architecture.) This summer course is an intensive, five-week immersion into the language of architectural representation and visualization, offering a shared inventory and basic framework upon which to build subsequent studies. Students are introduced to techniques and conventions for describing the space and substance of buildings and urban environments, including orthographic drawing, axonometric projection, perspective, architectural diagramming, vignette sketching, and physical modeling. Students work in freehand, hard-line, and digital formats. In parallel to the visualization portion of this course, an introduction to architectural history and theory focusing on principal turning points of thought and practice through to the nineteenth century is presented. George Knight, coordinator; Joyce Hsiang, Steven Lauritano

1011a, Architectural Design 6 credits. (Required in M.Arch. I first year, fall term.) This studio is the first of four core design studios where beginning students bring to the School a wide range of experience and background. Exercises introduce the complexity of architectural design by engaging problems that are limited in scale but not in the issues

they provoke. Experiential, social, and material concerns are introduced together with formal and conceptual issues. Ben Pell, coordinator; Sunil Bald, Brennan Buck, Joyce Hsiang, Eeva-Liisa Pelkonen

1012b, Architectural Design 3 credits. (Required in M.Arch. I first year, spring term.) This second core studio explores inhabitation through the design of the architecture and detail of enclosure, structure, circulation, and the habitable space it produces. The work of the term focuses on the simultaneous relationship of a body to both interior and exterior environments, and their mediation by the material assemblies of building. With an initial focus on the conception and production of a singular interior space, a sequence of projects gives way to increasing physical and spatial complexity by requiring students to investigate – at close range and in intimate detail – issues of structure and enclosure, organization and circulation, urban site and climate. This work forms the conceptual background for the work in the latter half of the term – the collaborative design and construction of the Building Project, an affordable house for a nonprofit developer in New Haven. Prerequisite: 1011a. Alan Organschi, coordinator; Peter de Bretteville, Amy Lelyveld, Job Moore, Joel Sanders

1013c, Building Project 3 credits. (Required in M.Arch. I first year, early summer.) This course examines the actual manifestation of a building, whereby students are required to physically participate in the construction of a structure that they have designed. By engaging in the act of making, students are exposed to the material, procedural, and technical demands that shape architecture. Construction documents are generated and subsequently put to the test in the field. Students engage in collaboration with each other, and with a client, as they reconcile budgetary, scheduling, and labor constraints, and negotiate myriad regulatory, political, and community agencies. The course thus seeks to demonstrate the multiplicity of forces that come to influence the execution of an architectural intention, all the while fostering an architecture of social responsibility, providing structures for an underserved and marginalized segment of the community. For 2012 students enrolled in this course are required to work on the project from April 23 through June 22. For more information, see the section on the Building Project on the Web: www.architecture.yale.edu. Prerequisites: 1011a, 1012b. Adam Hopfner, director; Paul Brouard

1015a, Visualization II: Form and Representation 3 credits. (Required in M.Arch. I first year, fall term. No waivers allowed.) This course investigates drawing as a means of architectural communication and as a generative instrument of formal, spatial, and tectonic discovery. Principles of two- and three-dimensional geometry are extensively studied through a series of exercises that employ freehand and constructive techniques. Students work fluidly between manual drawing, computer drawing, and material construction. All exercises are designed to enhance the ability to visualize architectural form and volume three-dimensionally, understand its structural foundations, and provide tools that reinforce and inform the design process. Sunil Bald, Kent Bloomer

1016b, Visualization III: Fabrication and Assembly 3 credits. (Required in M.Arch. I first year, spring term. No waivers allowed.) This course provides an introduction to the key relationships that exist among methods of drawing, physical materials, technologies

of construction, and three-dimensional form making. The material and formal sensibilities developed in 1015a, Visualization II, are mined to explore drawing as a tool leading to full-scale fabrication. The generation of form through both manual and digital methods is tested through materials and technologies of fabrication. Additive and subtractive processes, repetition and mass production, and building information modeling (BIM) are introduced as tools for assembly. “Assembly” is framed as both full-scale object and “three-dimensional” analog. Exercises and workshops provide students the opportunity to work physically with a wide variety of tools and materials as well as digitally with emerging computer-driven technologies. In this course conceived as a supplement to 1013b, Building Project, students integrate drawing and model-making to develop and propose a construction that can be experienced at the human scale and be understood as an integrated architectural element. Prerequisite: 1015a. John Eberhart, Ben Pell

1017c, Visualization IV: Processing and Presentation 3 credits. (Required in M.Arch. I first year, early summer. No waivers allowed.) This seven-week, intensive course introduces Building Information Modeling (BIM) alongside manual drawing to expand each student’s analytical and expressive repertoire. Fundamental techniques are introduced through short exercises and workshops leading toward a sustained study of an exemplary precedent building. Quantitative analysis is pursued through both assembly modeling and visual dissection of both the programmatic spaces and functional elements. Observational and imaginative manual drawings allow for a reconstruction of the design process and reestablish the thought patterns that formed the building’s design priorities. These discoveries then are re-presented through interactive, multimedia presentations to describe the building assembly and its design ambitions. For 2012 the course is taught from May 7 until June 22. Prerequisites: 1015a, 1016b. John Eberhart, George Knight

1018a, Formal Analysis 3 credits. (Required in M.Arch. I first year, fall term; available as an elective for M.Arch. II and M.E.D. students.) This course studies the object of architecture – canonical buildings in the history of architecture – not through the lens of reaction and nostalgia but through a filter of contemporary thought. The emphasis is on learning how to see and to think architecture by a method that can be loosely called “formal analysis.” The analyses move through history and conclude with examples of high modernism and postmodernism. Reading assignments and one formal analysis are assigned each week. Peter Eisenman

1021a, Architectural Design 6 credits. (Required in M.Arch. I second year, fall term.) This third core studio concentrates on a medium-scale institutional building, focusing on the integration of program, site, composition, form in relation to structure, and methods of construction. Interior spaces are studied in detail. Large-scale models and drawings are developed to explore design issues. Prerequisites: 1011a, 1012b. Keith Krumwiede, coordinator; Katherine Davies, Peter de Bretteville, Martin Finio, M.J. Long, Joel Sanders, Michael Young

1022b, Architectural Design 6 credits. (Required in M.Arch. I second year, spring term.) This fourth core studio, an introduction to the planning and architecture of cities, concerns two distinct scales of operation: that of neighborhood and that of the dwellings and the institutional and commercial building types that typically contribute to neighborhood. Issues of community, group form, and the public realm, as well as the formation

of public space, blocks, streets, and squares are emphasized. The studio is organized to follow a distinct design methodology, which begins with the study of context and precedents. It postulates that new architecture can be made as a continuation and extension of normative urban structure and building typologies. Prerequisites: 1011a, 1012b, 1021a. Edward Mitchell, coordinator; Sunil Bald, Peggy Deamer, Keller Easterling, Bimal Mendis, Alan Plattus

1061a, Post-Professional Design Studio 9 credits. (Required in and limited to M.Arch. II first year, fall term.) This studio is specially designed for incoming post-professional students to introduce them to the School’s educational program and faculty. Each student is given the opportunity to examine in depth a sequence of design problems. Fred Koetter, Edward Mitchell

1062a, Computation Analysis Fabrication 3 credits. (Required in and limited to M.Arch. II first year, fall term.) This course investigates and applies emerging computational theories and technologies through the design and fabrication of a full-scale building component and/or assembly. This investigation includes various static, parametric, and scripted modeling paradigms, computational-based structural and sustainability analysis, and digital fabrication technologies. Students work in pairs to design, analyze, and fabricate a full-scale constructed piece. John Eberhart

Advanced Design Studios (Fall)

Advanced studios are limited in enrollment. Selection for studios is determined by lottery.

1101a, Advanced Design Studio 9 credits. Yvonne Farrell and Shelley McNamara, Kahn Visiting Professors

1102a, Advanced Design Studio 9 credits. Patrick Bellew and Andy Bow, Saarinen Visiting Professors

1103a, Advanced Design Studio 9 credits. David Chipperfield, Foster Visiting Professor

1104a, Advanced Design Studio 9 credits. Peter Eisenman, Gwathmey Professor in Practice

1105a, Advanced Design Studio 9 credits. Tom Coward, Daisy Froud, Vincent Lacovara, and Geoff Shearcroft, Kahn Visiting Assistant Professors

1106a, Advanced Design Studio 9 credits. Alan Plattus

Advanced Design Studios (Spring)

Advanced studios are limited in enrollment. Selection for studios is determined by lottery.

1111b, Advanced Design Studio 9 credits. Greg Lynn, Davenport Visiting Professor

1112b, Advanced Design Studio 9 credits. Massimo Scolari, Davenport Visiting Professor

1113b, Advanced Design Studio 9 credits. Bjarke Ingels and Thomas Christoffersen, Bishop Visiting Professors; Douglas Durst, Bass Distinguished Visiting Architecture Fellow

1114b, Advanced Design Studio 9 credits. Frank O. Gehry, Saarinen Visiting Professor

1115b, Advanced Design Studio 9 credits. Demetri Porphyrios, Kahn Visiting Professor

1116b, Advanced Design Studio 9 credits. Alejandro Zaera-Polo, Foster Visiting Professor

1117b, Advanced Design Studio 9 credits. Joe Day, Kahn Visiting Assistant Professor

1118b, Advanced Design Studio 9 credits. Deborah Berke

1199b, Thesis 9 credits. Proposals for the Thesis option must be submitted for review and approval by the Design and Rules Committees by the Friday of Jury Week for the preceding spring term. Proposals must include an abstract, a proposal, a bibliography, a proposed schedule and adviser, a methodology statement, and the student's current portfolio. Students with approved proposals can take an Independent Study with an instructor of choice in the fall term as thesis preparation. Keller Easterling, coordinator

Elective Courses

1211a, Drawing and Architectural Form 3 credits. This course examines the historical and theoretical development of descriptive geometry and perspective through the practice of rigorous constructed architectural drawings. The methods and concepts studied serve as a foundation for the development of drawings that interrogate the relationship between a drawing's production and its conceptual objectives. Ultimately, the goal is to engage in a larger dialogue about the practice of drawing and spatial inquiry. Weekly readings, discussions, lectures, and drawing exercises investigate the work of key figures, such as Brunelleschi, Girard Desargues, Piero della Francesca, and Brook Taylor, in the development of orthographic and three-dimensional projection. After midterm, the course takes a more experimental approach, and students interrogate the relationship between manual and digital practice. Limited enrollment. Victor Agran

1213b, Architecture and Books 3 credits. For architects, the book has been a necessary (if not essential) tool for clarifying, extending, and promoting their ideas and projects. This seminar examines the phenomenon of the book in architecture as both an array of organizational techniques (what it is) and as a mediator (what it does). Arguably, outside of building itself, the book has been the preferred mode of discourse that architects have chosen to express their intellectual project. Because lasting impression relies partially upon durability of message, the book remains the objet par excellence among media. In addition, the book finds itself in a privileged position as an instrument of discourse. Through case studies, the first portion of this seminar examines the relationship book production has with a selection of contemporary and historical practices, including each project's physical and conceptual composition as well as how each project acts as an agent of the architect within a larger world of communication. The second part of the seminar asks students to apply ideas gathered to a book project of their own. Limited enrollment. Luke Bulman

[1214a, Architectural Form 3 credits. The seminar explores the issue of Formalism as defined by writers, artists, and architects after World War II. Topics include Minimalism, Neo-Constructivism, Deconstructivism, neo-organicism, field theory, and the political

aspects of form. Readings include Adorno, Greenberg, Krauss, Eisenman, Smithson, Morris, Wigley, Kipnis, and Allen. Students are expected to formulate a formal thesis in written form by curating an exhibit and writing a catalogue that justifies their choices in terms of both technique and effect. Limited enrollment. Not offered in 2011–2012. Edward Mitchell]

[1215b, Inner Worlds: From Phenomenology to Sensation 3 credits. Since the eighteenth century, the architectural interior has been directly associated with subjectivity; an inner world bound up with psychological content—moods, sensations, and affects. After the exteriorizing treatments of universal space and the banality of Junk Space, architects interested in a post-linguistic set of effects or constrained by tighter economic conditions are reconsidering the potential of interior as a carefully curated alternate universe. Often left underdeveloped or unconsidered by architects, the design of the interior is peripheral to logics of construction, organization, and urbanism. This seminar attempts to establish a set of criteria with which to approach the design of interior spaces, by examining the transition within architectural discourse from phenomenology to sensation. Commonalities and differences between the two are discussed in the context of art, architecture, and philosophy and against the emerging neurological understanding of how the brain and the body parse aesthetic input. Given this context, students fabricate physical speculations on the contemporary interior by working through form, material, color, and pattern at 1:1 scale. Students exploit the inherent complexity of material fabrication to develop full-scale interior surfaces that produce specific and richly affective interior environments. Limited enrollment. Not offered in 2011–2012. Brennan Buck]

1216b, Ornament Theory and Design 3 credits. This seminar reviews the major writings governing the identities of and distinctions between ornament and decoration in architecture, e.g., Owen Jones, Riegl, Sullivan, Goodhue, etc. Modernist actions against ornament are also examined. After individual student analysis of Victorian and art nouveau production, the focus is on the designing of ornament in twenty-first-century culture. Readings, exercises, individual final projects, and a portfolio are required. Limited enrollment. Kent Bloomer

1218b, Furniture Design and Manufacture 3 credits. The final product of this design class is a finished, working, full-scale piece of furniture, related to mass production manufacturing processes. This work is also to be understood as a part of the set of courses addressing the role that the direct consideration of materials contributes to architectural design. The required materials, sequences, and programs emerge from an effort to relate the work of this class to questions of process and materiality in architecture more generally. So the attitude toward materials and their assembly should be prejudiced toward those that to some extent mimic architecture. The emphasis is on common materials joined and formed using contemporary methods and processes to serve unique purposes in unusual contexts and adapted to new programs. Admission to this course is by permission of the instructor based upon a preliminary project proposal and prior experience. Prerequisites: 1015a and 1016b. Limited enrollment. Peter de Bretteville

[1220a, On the Face of It: Computation and the Facade 3 credits. This seminar examines the reemerging concern with architectural representation through the discourse of

geometry and computation. The building facade is the site of both performance (structural, environmental, and organizational) and politics (transparency, permeability, and fenestration). It orchestrates the building's spatial relationships as well as engages with its social context. This seminar proposes that as architects have begun to engage with hands-on information processing, a set of sensibilities have simultaneously emerged that open up alternate modes of faciality. The dense pattern and expressed joints common to many contemporary building skins perform at multiple scales and orientations beyond front-to-back or top-to-bottom. Varying aggregations of panels and components produce relationships between the part and the whole, the one and the many, the individual and larger social structures. Initially, the contemporary state of the facade is established by examining its historical evolution and associated meanings in relation to theories of perception, representation, and figuration. Students are asked to consider the facade from the exterior as image and from the interior as performative skin. By synthesizing these two agendas and by using the Grasshopper scripting interface (tutorials and consultation throughout the term are provided – no experience or particular software facility is necessary), students redesign the facade of an existing building, reconstituting both its performance as an environment and physical barrier and its presence as a graphic surface in the city. Limited enrollment. Not offered in 2011–2012. Brennan Buck]

1222b, Diagrammatic Analysis: Criticality after the Index 3 credits. While formal analysis is sufficient to understand the genesis of historical buildings up until the French Revolution, that approach is no longer sufficient to understand the complexity of contemporary work, which, despite formal moments, introduces new relationships. This seminar is intended to explore analytic methods that provide an understanding of the complexities of current architectural production. The seminar begins with discussions of new material practices and relationships to the production of form. Students are required to make a presentation, whether it be drawings, writing, or animation, of a diagrammatic analysis of a recent building, such as the Seattle Public Library by Koolhaas, his Porto Concert Hall, Herzog and de Meuron's de Young Museum, Zaha Hadid's Rome Market project, or Zaera Polo's Yokohama Harbor Project. Limited enrollment. Peter Eisenman

[**1223b, In Pursuit of Modern Form** 3 credits. The seminar surveys theories about the genesis and meaning of modern form put forward by architects and theorists during the early part of the twentieth century. The focus is on what it means to be modern and what constitutes a modern form. The seminar considers different design methods and formal theories that aimed to take into account issues central to modernity, such as dynamism, mobility, internationalism, geopolitics, and new types of experience. Students study texts and works by key architects and theorists who engaged this debate, such as Alvar Aalto, Hans Arp, Adolf Behne, Le Corbusier, Siegfried Ebeling, Naum Gabo, Jean Marie Guyau, Hugo Häring, El Lissitzky, László Moholy-Nagy, Antonio Sant'Elia, Filippo Tommaso Marinetti, Mies van der Rohe, and Henry Van de Velde. Key artistic and philosophical ideas, such as elementarism, futurism, functionalism, vitalism, constructivism, and biocentrism, are addressed. Students produce a research Web site, which allows comparison and cross-referencing between different theories. Limited enrollment. Not offered in 2011–2012. Eeva-Liisa Pelkonen]

[**1224a, The Chair** 3 credits. The chair has been a crucible for architectural ideas and their design throughout the trajectory of modern architecture. The chair is both a model for understanding architecture and a laboratory for the concise expression of idea, material, fabrication, and form. As individual as its authors, the chair provides a medium that is a controllable minimum structure, ripe for material and conceptual experiments. In this seminar, students develop their design and fabrication skills through exploration of the conceptual, aesthetic, and structural issues involved in the design and construction of a full-scale prototype chair. Limited enrollment. Not offered in 2011–2012. Timothy Newton, Joshua Rowley]

1226b, Site + Building 3 credits. This seminar investigates buildings and their sites. Conceived as a vehicle for understanding the relationship between site and building through critical analysis, the course examines ancient, historic, and contemporary works of architecture and landscape architecture. Material includes works by Hadrian, Diocletian, Michelangelo, Raphael, Palladio, Durand, Schinkel, Lutyens, Asplund, Aalto, Wright, Mies, Kahn, Neutra, Saarinen, Scarpa, Bawa, Krier, Eisenman, Ando, and Gehry. The seminar focuses on site organization strategies and philosophies of site manipulation in terms of topography; urban, suburban, and rural context; ecology; typology; spectacle; and other form-giving imperatives. Methods of site plan representation are also scrutinized. Requirements include three significant readings, one major class presentation, and the keeping of individual class notebooks. Limited enrollment. Steven Harris

1227b, Drawing Projects 3 credits. Each student admitted to the course comes prepared with a particular subject that is investigated through the media of drawing for the entire term. There is a weekly evening pin-up with group discussion of the work in progress. Limited enrollment. Turner Brooks

1228b, Disheveled Geometries: Toward a New Rustication in Architecture 3 credits. From the Latin *rusticationem*, and originally defining an unsophisticated rural mentality, the term rustication is used to describe architecture's most extreme category of surface textures. If, historically, architectural rustication was seen as a less refined manner of shaping material that subsequently retained a rough texture, then the twenty-first-century condition would be the exact reverse. Rustication now takes more effort rather than less, and skill is measured in moving away from architectural smoothness instead of toward it. With the ability to parametrically, algorithmically, and fractally manage matter at increasingly small scales of resolution, this seminar revisits the topic of rustication, where architects design unapologetically contemporary textures that might act in the service of everything from wind dispersal, shading, insulation, water shedding, grip, power generation, physical defense, or pure aesthetic effect. Students study methods of rustication throughout history and use this research as a foundation to design and produce large-scale prototypes. This seminar is supported by the Mudbox division of Autodesk, and students work intensely with this software program and others. Students are expected to produce original work that operates at the forefront of the profession. To assist in this endeavor, each student is allocated a substantial budget to cover material research, fabrication costs, and outsourcing. Limited enrollment. Mark Foster Gage

1229b, Display and Fabrication 3 credits. This seminar proposes the *apparatus of display* as a site for architectural investigation. Beginning with a brief survey of the history of display culture—from the development of the public museum and the department store in the eighteenth and nineteenth centuries to more recent interest in mechanisms of vision and surveillance—the seminar examines the changing role and increased visibility of the apparatus in defining the relationships between observer and observed in various contemporary contexts of display. At the center of this discussion is the nature of the device itself and its potential to both mediate and generate content in ways particular to small-scale and temporary installations. These issues are discussed through weekly readings and case study analyses and explored at full scale through the ongoing design and critique of display prototypes. Students develop strategies of production, material effect, and interaction to identify ways in which the flexibility of digital fabrication can enable a new engagement with conditions of excess, such as decoration and affect, that would have been previously stripped away from systems of display based on standardized production. The course culminates in a final design project and presentation. Limited enrollment. Ben Pell

1230a, Patternism: Computation and Contemporary Continuity 3 credits. Over the last two decades, digital form has energized Modernism's neutral field to produce undulating surfaces tense with potential energy. Topological surfaces, deployed at an architectural scale, define spaces of constantly shifting size, proportion, and orientation. These surfaces are enabled by calculus rather than geometry and are characterized by vectors and flows more than stable points and planes. This seminar proposes that a formalism combining the continuity of topological surfaces and the articulation of tectonics, enabled by the precise modulation of computation, might catalyze a more diverse mode of formal continuity: pattern. After briefly establishing a theoretical foundation, the seminar focuses on exploiting the full potential of Grasshopper software. First through the lens of material flow (structural loads) and then through spatial experience, poles of repetition/redundancy/continuity on one hand and stocasticity/variation on the other hand are explored. By modulating the relationships between objects and spaces, the seminar investigates multilevel structural and spatial hierarchies—hierarchies of position, scale, and connection—while maintaining what Gregory Bateson called the great aesthetic unity that patterns produce. Limited enrollment. Brennan Buck

1231b, Assembly 3 credits. Digital fabrication has been theorized by Greg Lynn, Mario Carpo, Bernard Cache, and others as paradigmatic of both digital technology and contemporary commercial culture. This seminar focuses on the capacity digital fabrication opens up for architects to directly engage with manufacturing and construction techniques, to integrate fabricated mockups and material studies into the design process, and to gain greater control over the resultant construction. Using the collective design, production, and assembly of a full-scale pavilion sited on New Haven's Green as the seminar's framework, the course begins with a critical evaluation of the discourse surrounding digital fabrication and an intensive examination of a specific building material and its inherent physical properties and fabrication capabilities. Students individually produce design prototypes that by midterm inform a final collaborative design. The project is then developed through component fabrication and assembly studies during the second half

of the term. The pavilion is finally produced in-house and assembled on the New Haven Green in May. Limited enrollment. Brennan Buck

1291c, Rome: Continuity and Change 3 credits. (Open only to M.Arch. I second-year and M.Arch. II first-year students.) This intensive five-week summer workshop takes place in Rome and is designed to provide a broad overview of that city's major architectural sites, topography, and systems of urban organization. Examples from antiquity to the present day are studied as part of the context of an ever-changing city with its sequence of layered accretions. The seminar examines historical continuity and change as well as the ways in which and the reasons why some elements and approaches were maintained over time and others abandoned. Hand drawing is used as a primary tool of discovery during explorations of buildings, landscapes, and gardens, both within and outside the city. Students devote the final week to an intensive independent analysis of a building or place. M.Arch. I students are eligible to enroll in this course after completing at least three terms. Limited enrollment. Victor Agran, Stephen Harby, Alexander Purves

1299a or b, Independent Course Work 3 or 6 credits. Program to be determined with a faculty adviser of the student's choice and submitted, with the endorsement of the study area coordinator, to the Rules Committee for confirmation of the student's eligibility under the rules. (See the School's *Academic Rules and Regulations*.)

The following courses offered elsewhere in the University may be taken for credit with permission of the instructor.

ART 111a or b, Visual Thinking An introduction to the language of visual expression, using studio projects to explore the fundamental principles of visual art. Students acquire a working knowledge of visual syntax applicable to the study of art history and popular culture, as well as art. Projects address all four major concentrations (graphic design, painting/printmaking, photography, sculpture). No prior drawing experience necessary. Materials fee: \$25. Anna Betbeze and faculty

ART 114a or b, Basic Drawing An introduction to drawing, emphasizing articulation of space and pictorial syntax. Class work is based on observational study. Assigned projects address fundamental technical and conceptual problems suggested by historical and recent artistic practice. No prior drawing experience necessary. Materials fee: \$25. Anna Betbeze, Marie Lorenz, Samuel Messer, Robert J. Reed, Jr. [F], William Villalongo, and faculty

ART 116b, Color Study of the interaction of color, ranging from fundamental problem solving to individually initiated expression. The collage process is used for most class assignments. Materials fee: \$25. Clint Jukkala

ART 120a or b, Introductory Sculpture: Working with Wood The focus of this course is on understanding wood technology and using machines and hand tools in the context of the studio. Students are introduced to the range of what sculpture might be. Assignments are designed to foster hands-on appreciation of materials and craftsmanship, as well as initiate awareness of the aesthetic and political implications of handmade objects in a digital world. Attention is paid throughout the course to understanding and articulating

form in space, and to helping students develop personal ways of working alongside, and in response to, current issues in contemporary sculpture. Group discussions and presentations complement the studio work. The shops and the studio are available during class time and during days and evenings throughout the week. Enrollment limited to twelve. Materials fee: \$75. Scott Braun

ART 130a or b, Painting Basics An introduction to painting issues, stressing a beginning command of the conventions of pictorial space and the language of color. Class assignments and individual projects explore technical, conceptual, and historical issues central to the language of painting. Materials fee: \$75. Anna Betbeze

ART 132a or b, Introductory Graphic Design A studio introduction to visual communication with an emphasis on principles of the visual organization of design elements as a means to transmit meaning and values. Topics include shape, color, visual hierarchy, word/image relationships, typography, symbol design, and persuasion. Development of a verbal and visual vocabulary to discuss and critique the designed world and contribute significant projects to it. Materials fee: \$150. Julian Bittiner and Henk van Assen

Art 210a, Sculpture as Object Introduction to concepts of design and form in sculpture. Exploration of the use of wood, including both modern and traditional methods of carving, lamination, assemblage, and finishing. Fundamentals of metal processes such as welding, cutting, grinding, and finishing may also be explored on a limited basis. Group discussion complements the studio work. The shops and the studio are available during days and evenings throughout the week. Enrollment limited to twelve. Materials fee: \$75. Faculty

ART 345a or 346b, Intermediate Sculpture In this course students continue to work in response to assignments. These assignments are designed to provide further investigation into the history of making and thinking in sculpture and to raise questions pertinent to contemporary art. The opportunity exists to explore new techniques and materials while honing familiar skills. This course is designed to help students become self-directed in their work. Individual and group discussion, and visits to museums and galleries, play a significant role in this course. Enrollment limited to twelve. Materials fee: \$75. Prerequisite: Art 120a or 121a or b or equivalent, or permission of the instructor. Faculty

ART 355b, Silkscreen Printing This course presents a range of techniques in silkscreen and photo-silkscreen, from handcut stencils to prints using four-color separation. Students create individual projects in a workshop environment. Materials fee: \$150. Prerequisite: Art 114a or b or equivalent. Open to graduate students. Marie Lorenz

ART 356a, Printmaking Instruction in a diverse range of printmaking media. Students develop work in linocut, woodcut, collograph, drypoint, and etching. Both color and black-and-white printing methods are explored. Materials fee: \$150. Prerequisite: Art 114a or b or equivalent. Open to graduate students. Marie Lorenz

DRAM 102a/b, Scene Design An introduction for all non-design students to the aesthetics and the process of scenic design through critique and discussion of weekly projects. Emphasis is given to the examination of the text and the action of the play, the formulation of design ideas, the visual expression of the ideas, and especially the collaboration

with directors and all other designers. Three hours a week. Open to nondepartmental students. Ming Cho Lee, Michael Yeargan

DRAM 112a/b, Scene Design: Background and Practice An introductory course for all designers in conjunction with 102a/b. Open to nondepartmental students. Ming Cho Lee, Michael Yeargan

DRAM 129b, History of Theater Architecture A survey of European and American theater architecture as it relates to cultural and technological changes through time. This course uses the writings of current and past authorities on such subjects as acoustics, space layout, and decoration to illustrate and evaluate these buildings' many variations. Two hours a week. Open to nondepartmental students with permission of the instructor. Alan Hendrickson

DRAM 132a/b, Advanced Problems in Scene Design Criticism of design problems for plays, musicals, ballet, and opera. This course continues the work started in DRAM 112, carrying it a step further and focusing on design realization. Prerequisite: DRAM 112a/b. Two hours a week. Ming Cho Lee

DRAM 229b, Theater Planning and Construction This course is an introduction to planning, design, documentation, and construction of theaters, concert halls, and similar spaces. Emphasis is placed on the role of the theater consultant in functional planning and architectural design. The goal is to introduce the student to the field and provide a basic understanding of the processes and vocabulary of theater planning. Two hours a week. Open to nondepartmental students with permission of the instructor. Eugene Leitermann

DRAM 389a/b, Properties Design and Construction Through lectures and demonstrations, students study design and fabrication of stage properties. Assignments encourage students to develop craft skills and to explore the application of traditional and new techniques to production practice. Three hours a week. Open to nondepartmental students with permission of the instructor. Brian Cookson, Jennifer McClure, David P. Schrader

HSAR 326a/EVST 326a, Contemporary Art and the Environment The mid-twentieth-century convergence of a nascent environmental movement and a dramatic shift in artistic practice, giving rise to a field rooted in the Earth as both subject and medium. The development of phenomenological artistic expression tied to the land; potential for this field to invoke issues of national identity, gender, urbanization, colonialism, and the accessibility of public space. The growth of an art of explicitly ecological protest; issues of sustainability, counter-globalization, climate change, and land reclamation. Andrea Rager

TECHNOLOGY AND PRACTICE

Michelle Addington and Kyoung Sun Moon, Study Area Coordinators

This study area explores fundamental theories and methods of building technologies and the relationships among these technologies, architectural design, and the larger natural environment. Courses examine materials, construction, structural systems, and the environmental technologies that provide healthy, productive, sustainable, and comfortable

environments. This area also covers professional practice and examines the relationship between methods of construction, procurement, and management. Advanced courses investigate specific technical systems in greater detail, survey emerging methods and technologies, and explore the relationship between building technologies and architectural design in current practice and writings.

For the M.Arch. I program, requirements in this study area include six courses that survey common technical systems used in buildings and integrate the consideration of these technical systems into architectural design through a series of projects of increasing complexity. In addition, there is a required course on architectural practice.

Required Courses

2011a, Structures I 3 credits. (Required in M.Arch. I first year, fall term.) An introduction to the analysis and design of building structural systems and the evolution and impact of these systems on architectural form. Lectures and homework assignments cover structural classifications, fundamental principles of mechanics, computational methods, and the behavior and case studies of truss, cable, arch, and simple framework systems. Discussion sections explore the applications of structural theory to the design of wood and steel systems for gravity loads through laboratory and computational exercises and design projects. Homework, design projects, and midterm and final examinations are required. Kyoung Sun Moon

2012b, Structures II 3 credits. (Required in M.Arch. I first year, spring term.) This course is a continuation of introductory analysis and design of building structural systems. The course introduces materials and design methods of timber, steel, and reinforced concrete. Structural behavior, ductility concepts, movement, and failure modes are emphasized. Geometric properties of structural shapes, resistances to stresses, serviceability, column analysis, stability, seismic, wind load, and lateral force resisting systems are presented. Homework involves calculations, descriptive analysis, and the building and testing of structural models. Midterm and final examinations are required. Prerequisite: 2011a. Kyoung Sun Moon

2015b, Building Technology 3 credits. (Required in M.Arch. I first-year, spring term.) This course examines the role of material and procedure in the formation of architecture and the physical, logistical, and environmental constraints and demands that shape the processes of construction. In the first half of the term, a sequence of lectures surveys the conceptual concerns and technological factors of building: the origin and processing of the major classes of building materials; their physical properties, capacities, and vulnerabilities to physical and environmental stressors; the techniques used to work those materials; and the principles, procedures, and details of building assembly. Corresponding construction examples and case studies of mid-scale public buildings introduce students to the exigencies that so often influence decision making in the technical process and inflect (and potentially enrich) design intention—regulatory requirement, physical and environmental stress and constraint, procedural complication, labor and material availability and quality, energy consumption, and ecological impact. After spring recess and in coordination with the studio design phase of the Building Project, the course turns to the detailed study of light wood-frame construction. Five lectures with practical exercises

track the stages of construction of the single-family house and supplement ongoing design development of the Building Project house. In both its direct technical application to the work in the studio and its exploration of more general themes in current construction practice, the course seeks to illuminate the ecological considerations as well as the materials, means, and methods that are fundamental to the conception and execution of contemporary building. Adam Hopfner, Alan Organschi

2021a, Environmental Design 3 credits. (Required in M.Arch I second year, fall term.) This course examines the fundamental scientific principles governing the thermal, luminous, and acoustic environments of buildings, and introduces students to the methods and technologies for creating and controlling the interior environment. Beginning with an overview of the Laws of Thermodynamics and the principles of Heat Transfer, the course investigates the application of these principles in the determination of building behavior, and explores the design variables, including climate, for mitigating that behavior. The basic characteristics of HVAC systems are discussed, as are alternative systems such as natural ventilation. The second half of the term draws on the basic laws of physics for optics and sound and examines the application of these laws in creating the visual and auditory environments of a building. Material properties are explored in detail, and students are exposed to the various technologies for producing and controlling light, from daylighting to fiber optics. The overarching premise of the course is that the understanding and application of the physical principles by the architect must respond to and address the larger issues surrounding energy and the environment at multiple scales and in domains beyond a single building. The course is presented in a lecture format. Homework, computational labs, design projects, short quizzes, and a final exam are required. Michelle Addington

2022b, Systems Integration and Development in Design 3 credits. (Required in M.Arch. I second year, spring term.) This course is an integrated workshop and lecture series in which students develop the technical systems of preliminary design proposals from earlier studio work. The careful advancement of structural form and detail, environmental systems, and envelope design, as well as an understanding of the constructive processes from which a building emerges, are all approached systematically, as elements of design used not only to achieve technical and performance goals but also to reinforce and re-inform the conceptual origins of the work. The workshop is complemented by a series of lectures from leading structural, environmental, and envelope consultants. Detailed technical drawings and analyses, along with the use of BIM software, are required. Martin Finio, coordinator; Anibal Bellomio, Cristobal Correa, Nikolas Dando-Haenisch, Lisa Davey, Erleen Hatfield, Robert Haughney, Kristin Hawkins, John Jacobson, Andrew Marchesin, Kyoung Sun Moon, Craig Razza, Singh Shillpa, Edward M. Stanley, Paul Stoller, Laura Turlington, faculty

2031a, Architectural Practice and Management 3 credits. (Required in and limited to M.Arch. I third year, fall term. No waivers allowed.) The process by which an architectural design becomes a building requires the designer to control many variables beyond the purely aesthetic. This course provides an understanding of the fundamentals of organizing and managing architectural projects and examines accompanying issues of practice and the profession. Using the project process as an armature, lectures explore

the role and function of the architect, the legal environment, evolving types of practice, fees and compensation, building project teams, and planning and executing a project. Phillip Bernstein

Elective Courses

2211a, Structures and Facades for Tall Buildings 3 credits. This seminar investigates the dynamic interrelationship between technology and architecture in tall buildings. Among the various technologies involved, emphasis is placed on structural and facade systems, recognizing the significance of these systems, the separation of which in terms of their function led to modern architecture, and allowed the emergence of tall buildings. This seminar reviews contemporary design practice of tall buildings through a series of lectures and case study analyses. While most representative structural and facade systems for tall buildings are studied, particular emphasis is placed on more recent trends such as diagrid structures and double-skin facades. Further, this seminar investigates emerging technologies for tall buildings and explores their architectural potentials. Finally, this course culminates in a tall building design project and presentation. Limited enrollment. Kyoung Sun Moon

[2212a, The Liquid Threshold between Order and Chaos 3 credits. In the aftermath of any natural disaster, chaos ensues; and for this seminar the liquid threshold is seen as transitional shelter. Working in collaboration with a number of agencies, this seminar examines the current options for deployable shelter and discusses their performance and limitations. Design criteria such as wind speeds, earthquake loads, and climatic data are established, and through the study of structure, materials, and environmental principles, using models and part prototyping, students are asked to develop sophisticated but simple technical solutions to a real problem. Limited enrollment. Not offered in 2011–2012. Neil Thomas, Aran Chadwick]

[2215b, Architecture as Building 3 credits. This course analyzes the major buildings of this century through detailed dissection of their methods of construction. Graphic display of the major systems that make up a contemporary work of architecture allows for a reconstruction of the design process and reestablishes the thought patterns that formed the design priorities. Emphasis is on the relation of systems of structure and enclosure with the required technical systems. Limited enrollment. Not offered in 2011–2012. Thomas Beeby]

2216b, Materials and Meaning 3 credits. This seminar urges students to probe material usage, in terms of detailing, context, embedded meaning, and historical precedent. The course examines how variations in joinery affect a built work, what opportunities materials afford architects in design and construction, how architects make material selections and decisions, and what meanings material selections bring to a work of architecture. Weekly readings, one class presentation, and two built projects are required. Limited enrollment. Deborah Berke

2217a, Material Formation in Design 3 credits. This course presents historical, contemporary, and emerging methods of material formation from a designer's perspective. Emphasis is placed on processes useful for custom architectural fabrication, especially

those that enable students to capitalize on opportunities generated by computer-aided design and manufacturing (CAD/CAM). Distinctions between direct and indirect making are emphasized in terms of the formal freedom various techniques afford designers. Students are encouraged to cultivate specific aesthetic interests and experiment with the translation of variations into a series of material prototypes in order to benchmark results and better inform their own design process going forward. Limited enrollment. Kevin Rotheroe

[2218b, Smart Materials 3 credits. This seminar explores the basic characteristics and families of smart materials, with a special focus on materials and technologies that have a relationship to vision. The course examines, in depth, materials and technologies such as LEDs, smart glazing, displays, and interactive surfaces, and explores some of the contemporary experiments taking place in the architectural profession. Each student is required to coherently discuss material fundamentals and comprehensively analyze current applications. The course culminates with each student focusing on a material characteristic with which to explore different means of technology transfer in order to begin to invent unprecedented approaches. There are several exploratory assignments and a final design experiment. Limited enrollment. Not offered in 2011–2012. Michelle Addington]

2219b, Craft, Materials, and Computer-Aided Artistry 3 credits. This course reviews materials and computer-aided manufacturing processes especially suited for digitally crafting aesthetically unique architectural components and surfaces. Cross-fertilization of digital and conventional modes of making is emphasized, as this approach often generates economically viable opportunities for creative expression. This is a hands-on, project-based seminar addressing fundamental theoretical issues in the transformation of ideas into material reality via representations, hand-operated tools, and CNC-automated forming devices. Limited enrollment. Kevin Rotheroe

2220a, Studies in Light and Materials 3 credits. This seminar provides an overview of the basic characteristics and families of “phenomenological” materials, with a special focus on materials and technologies that have a relationship to light and vision. Materials and technologies, such as LEDs, smart glazing, displays, and interactive surfaces, are examined in depth, and some of the contemporary experiments taking place in the architecture profession are explored. Throughout the term, students catalog relevant properties and begin to develop a mapping between behaviors and phenomena. Students have the opportunity to interact with some of the well-known architects who are at the heart of the current experimentation. Each student learns how to coherently discuss material fundamentals and comprehensively analyze current applications. The seminar culminates with each student focusing on a material characteristic with which to explore different means of technology transfer in order to begin to invent unprecedented approaches and applications. Limited enrollment. Michelle Addington

[2221b, Ornament and Technology 3 credits. This course examines contemporary interests in digital fabrication relative to the historically complex relationship between technology and the production of ornament and decoration. The seminar surveys the history of ornament from 1851 to the present in order to identify various, and often conflicting, definitions of the term and to examine a series of diverse case studies. The intention is

to outline the potential for digital fabrication to contribute to renewed considerations of the decorative in contemporary architecture, by exploring strategies of figuration, organization, and technique to which these technologies can be readily applied. The course begins with a series of weekly readings, presentations, and case study analyses, and culminates in a final design project and presentation. Limited enrollment. Not offered in 2011–2012. Ben Pell]

2224b, Issues in Contemporary Practice 3 credits. This course, in weekly seminars with practitioners from architecture and related fields, addresses the broad view of practice beyond core design and the practicalities of running architectural projects. Topics discussed answer such questions as what firms look for when they hire recent graduates; how clients select architects; how architects find commissions; how projects get publicized and published; what are the keys to selecting and working with good collaborators like engineers, consultants, and contractors; how to start your own practice; and how to work with owners and developers. Limited enrollment, available only to graduating M.Arch. I and M.Arch. II students. John Apicella, Phillip Bernstein

2226b, Design Computation 3 credits. The capabilities and limitations of architects' tools influence directly the spaces architects design. Computational machines, tools once considered only more efficient versions of paper-based media, have a demonstrated potential beyond mere imitation. This potential is revealed through design computation, the creative application of the processes and reasoning underlying all digital technology, from e-mail to artificial intelligence. Just as geometry is fundamental to drawing, computation affords a fundamental understanding of how data works, which is essential to advance the development of BIM, performative design, and other emerging methodologies. This seminar introduces design computation as a means to enable architects to operate exempt from limitations of generalized commercial software; to devise problem-specific tools, techniques, and workflows; to control the growing complexities of contemporary architectural design; and to explore forms generated only by computation itself. Topics include data manipulation and translation, algorithms, information visualization, computational geometry, human-computer interaction, custom tooling, generative form-finding, emergent behavior, simulation, and system modeling. Using Processing, students develop computational toolsets and models through short, directed assignments ultimately comprising a unified, term-long project. Limited enrollment. A. William Martin

2228a, Architectural Practice in the Developing World: Building Standards, Industry, and Disaster 3 credits. On December 22, 2003, a magnitude 6.6 earthquake struck a populated area in central California; it killed two people. Four days later, a magnitude 6.6 earthquake struck Bam, Iran; the death toll was 30,000. Two similar geological events occurred in cities on different ends of the globe with drastically different consequences. This seminar explores the impact of natural disasters, such as earthquakes, on architectural practice in the developing world; examines the vulnerabilities of developing cities in the face of natural disasters; and explores the global response after catastrophe. Focusing primarily on the Latin American region, students investigate the moral responsibilities faced or undertaken by designers in communities without a developed culture of safe construction. Students prepare weekly in-class presentations, a larger assignment that

investigates a specific building in a foreign country in order to recommend strategies for development, and a final paper that evaluates a chosen disaster response program to determine its effectiveness. Limited enrollment. Stephen Forneris

2299a or b, Independent Course Work 3 or 6 credits. Program to be determined with a faculty adviser of the student's choice and submitted, with the endorsement of the study area coordinators, to the Rules Committee for confirmation of the student's eligibility under the rules. (See the School's *Academic Rules and Regulations*.)

The following courses offered elsewhere in the University may be taken for credit with permission of the instructor.

F&ES 290a/EVST 290a, Geographic Information Systems 3 credits. A practical introduction to the nature and use of geographic information systems (GIS) in environmental science and management. Applied techniques for the acquisition, creation, storage, management, visualization, animation, transformation, analysis, and synthesis of cartographic data in digital form. Dana Tomlin

F&ES 530a, Ecosystems and Landscapes 3 credits. This Foundations course is an introduction to concepts in ecosystem and landscape ecology. Topics covered include element cycling, food web interactions, species-area relationships, whole system metabolism, models of biodiversity, etc. The course emphasizes how to integrate knowledge to understand ecological patterns and processes at multiple scales in order to study and manage ecosystems. Peter A. Raymond, Oswald J. Schmitz

F&ES 730a/330a/E&EB 330a/EVST 330a, Ecosystem Ecology 3 credits. An outdoors, hands-on overview of the study of ecosystems, how the structure of ecosystems develops (e.g., biodiversity), and how ecosystems function (e.g., process nutrients or pollutants), with focus on the impact of global changes – such as climate change and eutrophication – on ecosystem structure and function. Field-based group and independent projects are carried out on New England ecosystems. Melinda Smith

F&ES 755b, Modeling Geographic Space 3 credits. An introduction to the conventions and capabilities of image-based (raster) geographic information systems (GIS) for the analysis and synthesis of spatial patterns and processes. In contrast to F&ES 756a, the course is oriented more toward the qualities of geographic space itself (e.g., proximity, density, or interspersion) than the discrete objects that may occupy such space (e.g., water bodies, land parcels, or structures). Three hours lecture, problem sets, one class project. No previous experience is required. Dana Tomlin

F&ES 756a, Modeling Geographic Objects 3 credits. This course offers a broad and practical introduction to the nature and use of drawing-based (vector) geographic information systems (GIS) for the preparation, interpretation, and presentation of digital cartographic data. In contrast to F&ES 755b, the course is oriented more toward discrete objects in geographical space (e.g., water bodies, land parcels, or structures) than the qualities of that space itself (e.g., proximity, density, or interspersion). Three hours lecture, problem sets, one class project. No previous experience is required. Dana Tomlin

F&ES 854b, Institutions and the Environment 3 credits. One of the most critically important questions facing those seeking to promote environmental stewardship of the world's biosphere is to understand better what types of local, domestic, global, and non-state institutions might best promote meaningful and enduring environmental problem solving. The purpose of this seminar is to review key works in political science and related disciplines on institutions to assess their direct or indirect implications for environmental governance and effectiveness. The course assesses perspectives from rational choice, historical, and sociological institutionalism that have permeated comparative public scholarship; the treatment of institutions with international relations literature; the attention that common property scholars have placed on understanding the development of local institutions; and the emergence and proliferation of private governance institutions. We are curious about understanding the theoretical underpinnings and scholarly debates about how support for such systems occurs. We also assess the various theories against empirical evidence that assess their support and influence ameliorating key resource and environmental problems. Benjamin Cashore

F&ES 885b/ENAS 660b/360b/ENVE 360b, Green Engineering and Sustainability 3 credits. This course focuses on a green engineering design framework, the Twelve Principles of Green Engineering, highlighting the key approaches to advancing sustainability through engineering design. The class begins with discussions on sustainability, metrics, general design processes, and challenges to sustainability. The current approach to design, manufacturing, and disposal is discussed in the context of examples and case studies from various sectors. This provides a basis for what and how to consider when designing products, processes, and systems to contribute to furthering sustainability. The fundamental engineering design topics to be addressed include toxicity and benign alternatives, pollution prevention and source reduction, separations and disassembly, material and energy efficiencies and flows, systems analysis, biomimicry, and life cycle design, management, and analysis. Matthew Eckelman

HISTORY AND THEORY

Kurt W. Foster and Emmanuel Petit, Study Area Coordinators

This study area explores the relationship between design, history, and theory through a broad range of courses in which the analysis of buildings, cities, landscapes, and texts supports the articulation and criticism of fundamental concepts, methods, and issues. Historical and contemporary projects and writings are studied in context and as part of the theoretical discourse of architecture.

For entering M.Arch. I students who have not had significant prior architectural training, the pre-first-year visualization course (1001c) includes a broad survey of Western architectural history to the nineteenth century. For all M.Arch. I students, there is a first-year required survey course of nineteenth- and twentieth-century architectural history (3011a) followed in the second year by two required courses on architectural theory (3021a and 3022b). In addition, M.Arch. I students must satisfactorily complete two of the elective courses from this study area. One of the electives should be in a non-Western subject. Note that the elective courses 1214a, 2227a, 4211b, 4212a, 4213a, 4214b, 4217b, 4222a, and 4223b will satisfy one of the History and Theory elective requirements

provided a research paper is required, although those listed from the Urbanism and Landscape study area cannot be used to satisfy both the History and Theory and the Urbanism and Landscape elective requirements. Courses offered outside of the School not listed below may fulfill this elective requirement provided permission from the study area coordinators has been granted.

For the M.Arch. II program, there is a second-year required course dealing with issues of architecture and urbanism (3071a).

Required Courses

3011a, Modern Architecture 3 credits. (Required in M.Arch. I first year, fall term; available as an elective for M.Arch. II and M.E.D. students.) The course embraces the last century and a half's history of architecture, when traditional fables began to yield to more scientifically conceived ideas of architecture's role in the creation of civilizations. As architecture gained importance in advancing social and industrial agendas, it also built a basis for theoretical reflection and visionary aesthetics. The expanding print and media culture accelerated the migration of ideas and propelled architecture beyond its traditional confines. Discussion of major centers of urban culture and their characteristic buildings alternates with attention to individual concepts and their impact in an increasingly interconnected culture of design. Kurt W. Forster

3021a, Architectural Theory I: 1750–1968 3 credits. (Required in M.Arch. I second year, fall term; available as an elective for M.Arch. II and M.E.D. students.) History of Western architectural theory, 1750–1968, through the close reading of primary texts. Lectures place the readings in the context of architectural history; the texts are discussed in required discussion sections. Topics include discussions of theories of origin and character, the picturesque, debates regarding style, historicism, and eclecticism, Gothic Revival, questions of ornament, architectural modernism, functionalism, and critiques of modernism. Marta Caldeira

3022b, Architectural Theory II: 1968–Present 3 credits. (Required in M.Arch. I second year, spring term; and in M.Arch. II and M.E.D. first year, spring term.) This course is a survey of theoretical and critical literature on contemporary architecture. It explores the texts of postmodernism, post-structuralism, and critical and post-critical discourses, as well as current debates in globalization, post-humanism, and environmentalism in the architectural discipline from 1968 to the present. Ariane Lourie Harrison

3071a, Issues in Architecture and Urbanism 3 credits. (Required in and limited to M.Arch. II third term.) Current issues in architecture and urbanism, explored through seminars and case studies introducing methods and theories of architectural research. Fred Koetter

3091a, Methods and Research Workshop 3 credits. (Required in M.E.D. first year, fall term.) This course introduces students to methods of architectural writing and research, laying the groundwork for an advanced research project. By investigating various text genres, such as surveys, journalism, manifestos, scholarly essays, critical essays, and narratives, this course studies ways of writing about architecture, urbanism, and the environment. Recent debates concerning the relationship between architectural history

and theory and the questions about disciplinary and interdisciplinary boundaries are explored. Students are introduced to hands-on research through a series of library and archival workshops. Students can choose to work on a collective research project leading to a book and/or an exhibition. This year's group project investigates a series of avant-garde architecture exhibitions that took place during the 1960s and 1970s involving groups like Archigram, Superstudio, and Utopie. Limited enrollment. Eeva-Liisa Pelkonen

3092a or b, Independent M.E.D. Research 3–6 credits first year, fall term; variable credits remaining terms, determined in consultation with the director of M.E.D. Studies. (Required in and limited to M.E.D. each term.) The proposal submitted with the admissions application is the basis for each student's study plan, which is developed in consultation with faculty advisers. Independent research is undertaken for credit each term, under the direction of a principal adviser, for preparation and completion of a written thesis. The thesis, which details and summarizes the independent research, is to be completed for approval by the M.E.D. committee by the end of the fourth term. M.E.D. faculty

Elective Courses

[3213b, Architecture and Capitalism 3 credits. This seminar examines the relationship between capitalism and architecture from both a theoretical perspective—Marxism's/neo-Marxism's critique of culture, art, and architecture—and from an architectural perspective—architecture's participation in, resistance to, and speculation about capitalism. The course examines different periods of architectural history from the perspective of theorists and what they had to say about cultural/architectural production and from the perspective of architects and what they had to say about their role in capitalism. The theorists examined include Marx, Ruskin, Simmel, thinkers of the Frankfurt School, Tafuri, Jameson, Slavoj Zizek, Naomi Klein, while the architects include Morris, Muthesius, Gropius, Hilberseimer, Peter Eisenman, Rem Koolhaas. Each week an initial 45-minute lecture by the professor is followed by in-class presentations and discussion by the students. A fifteen-page paper is required at the end of the term. Limited enrollment. Not offered in 2011–2012. Peggy Deamer]

3214b, The Construction of Exactitude: Classicism and Modernism 3 credits. This seminar critically considers modern classicism not only as a compositional design method and as an evocation of precedents, but also as a language of clarity, reduction, and economy resistant to an unquestioned avant-gardist predilection for the “new.” Beginning with the fixed principles that were the legacy of nineteenth-century French and German Neoclassicism (unity, symmetry, proportion), the seminar continues up through the Rationalism and Formalism that followed the Second World War. Issues explored include the concepts of the ruin and monumentality; the Modern Movement's analogies to the classical; and the representation of interwar national and political ideologies. Works studied include those by architects, literary/artistic figures, and theorists such as Richardson, Garnier, Perret, Le Corbusier, Rossi, Asplund, Lutyens, Terragni, Speer, Mies, SOM, Kahn, Valéry, Gide, de Chirico, Calvino, Rowe, Krier, Eisenman, Stern, Porphyrios, and Colquhoun. Limited enrollment. Karla Britton

[3215b, Gross Domestic Product: A Research Seminar on the House 3 credits. This seminar examines the key role that the single-family house plays in constructing the American Dream, paying particular attention to the significant changes that occurred in its design, production, and delivery during the most recent housing boom. The seminar focuses on identifying and analyzing the underlying practices—design, financial, regulatory, marketing, and construction—that produce sprawl, house by house. While the story of the housing boom and bust is one of unprecedented numbers, it is also one of human actions and artifacts enmeshed in a web of economic, political, and cultural forces. In this sense, it is a story of design and the aspirations it serves. Structured as a research seminar that mixes lectures with in-class discussions and individual research presentations, this seminar tells this story through the analysis and interpretation of house designs, subdivision plats, marketing materials, press releases, balance sheets, news stories, stock prices, and annual reports. Limited enrollment. Not offered in 2011–2012. Keith Krumwiede]

3216b, Case Studies in Modern Architectural Criticism 3 credits. This seminar concentrates on issues that influence the way modern buildings and their architects are perceived by critics, scholars, and the public. The careers of such architects as Frank Lloyd Wright, Eero Saarinen, Louis Kahn, Philip Johnson, and Robert Venturi provide a framework for the examination of how patronage, fashion, social change, theory, finance, and politics affect the place of prominent designers and their work in the historical record. Readings include such critics as Catherine Bauer, Alan Colquhoun, Henry-Russell Hitchcock, Ada Louise Huxtable, William Jordy, Rem Koolhaas, Lewis Mumford, Colin Rowe, Vincent Scully, and Manfredo Tafuri. Responding to lectures by the instructor and visitors, students develop criteria for judging architectural quality (program, site, “message,” details, etc.), and then apply those criteria in three brief analytical papers that build toward a 2,500-word research paper investigating the elements that contributed to the “success,” “failure,” or “reevaluation” of an individual building, an architect's career, or a body of architectural work. All written assignments are reviewed in individual conferences with the instructor. Limited enrollment. Carter Wiseman

3217a, Writing on Architecture 3 credits. The goal of this course is to train students in the principles and techniques of nonfiction writing as it applies to architecture. The course includes readings from the work of prominent architects, critics, and literary figures, as well as reviews of books and exhibitions, opinion pieces, and formal presentations of buildings and projects. The main focus of the course is an extended paper on a building selected from a variety of types and historical periods, such as skyscrapers, private houses, industrial plants, gated communities, malls, institutional buildings, and athletic facilities. Limited enrollment. Carter Wiseman

3218a, Sustainability for Post-Humans: Architectural Theories of the Environment 3 credits. This seminar poses post-humanist alternatives to the conceptual constraints and aesthetic limitations imposed by static interpretations of sustainability. Post-humanism envisions radically different boundaries than those that have traditionally governed the interaction between politics, bodies, buildings, and the environment. Grounded in analysis of texts and case studies, the seminar investigates contemporary architectural responses to post-humanism's challenge to identity, politics, and subject formation. Limited enrollment. Ariane Lourie Harrison

[**3219a, Architectural Multiplications** 3 credits. This seminar investigates contemporary approaches to architecture, in which the question of multiplication is made thematic, and proposes a theoretical approach to understanding a series of buildings and books since the early 1990s, such as the Yokohama Ferry Terminal, Animate Form, the Eyebeam competition, Farmax, the Embryological House, Move, and SMLXL. Limited enrollment. Not offered in 2011–2012. Emmanuel Petit]

[**3220b, Contemporary Architectural Discourse Colloquium** 3 credits. Organized by second-year M.E.D. students in collaboration with the director of M.E.D. Studies, this colloquium brings in guest speakers from all disciplines to discuss their work around a selected topic. Limited enrollment. Not offered in 2011–2012. Eeva-Liisa Pelkonen]

[**3221b, Performance Criticism: Reyner Banham** 3 credits. This seminar examines the performance-based critical method of Reyner Banham, a central figure in the construction of postwar architectural discourse and founding member of the Independent Group, from his early reflections on the foundation myths of modern architecture through to his wide-ranging examination of architecture's erratic engagement with the changing material, cultural, and technological landscape of the twentieth century. The course includes lectures by the instructor but focuses on weekly readings and discussions of primary texts by Banham and other Independent Group players including Richard Hamilton, Alison and Peter Smithson, and Lawrence Alloway. Students are responsible for a written and oral presentation that assesses the performance of a contemporary project. Limited enrollment. Keith Krumwiede

[**3222b, Venice: Urban and Architectural Histories of a Maritime Republic** 3 credits. This seminar explores Venice, a place where the multiple histories of politics, commerce, religion, art, and science intersect, all of which are sedimented in the reciprocal relation of architecture and urban form. The course traces the genesis and the development of the city from late antiquity to the present; investigates how political myth and urban reality are mutually implicated in the Piazza S. Marco, the Rialto, and the Grand Canal; and examines the various formal, structural, and functional strategies that architects as diverse as Codussi, Sansovino, Palladio, Scamozzi, Longhena, Frank Lloyd Wright, Le Corbusier, and Carlo Scarpa employed to express this interdependence. Presupposing a long history of morphological development punctuated by specific architectural interventions, this seminar envisions Venice as a city suspended between land and sea, aristocracy and republic, the periphery of the Italian mainland and the center of a vast trading Empire, highlighting the multiple constraints that led to immemorial qualities of invention and collective memory. Limited enrollment. Not offered in 2011–2012. Daniel Sherer]

[**3223a, Parallel Moderns: Toward a New Synthesis?** 3 credits. This seminar puts forward the argument that what many have accepted as the mutually exclusive discourses of tradition and innovation in the modern architecture of the first half of the twentieth century—respectively identified as the “New Tradition” and the “New Pioneers” by Henry-Russell Hitchcock in his *Modern Architecture: Romanticism and Reintegration* (1929)—in fact share common genealogy and are integral to its history. The seminar explores in depth key architects working in the “New Tradition” and goes on to explore

its impact for postmodernism in the 1970s and 1980s. The possible emergence of a new synthesis of seeming opposites in the present is also considered. Limited enrollment. Robert A.M. Stern

[**3224b, Architecture: Fragment and the Absolute** 3 credits. This seminar investigates the theoretical underpinnings of the diverse strands of formalism in the architectural discussion of the 1970s and early 1980s. Passing from the analysis of structural theories of form, to its semantic configurations, and to its post-structuralist displacements, the seminar sheds light on the intellectual trajectory of a specific historical period after Modern architecture and within modernism. Special emphasis is given to the discussions around the Oppositions group and to the influence of French philosophy on formalist architecture. The second half of the seminar relates the proposed topics to built architectural artifacts, and thus stresses the mutual interdependence of physical object and architectural theory. The seminar analyzes how formalist transformations build relationships to modernist precedent from which to “swerve.” Limited enrollment. Not offered in 2011–2012. Emmanuel Petit]

[**3225b, Religion and Modern Architecture** 3 credits. The design of religious architecture challenges the creative capacities of prominent architects, yet this domain has largely gone unnoticed within the field. In an inter-religious and inter-disciplinary context, this seminar offers a fresh examination of the history of modern architecture through a close analysis of a single building type—the religious building (mosques, churches, synagogues, and temples). Drawing on guest speakers, this course opens a discourse between the disciplinary perspectives of philosophy, theology, liturgical studies, and architectural history and theory on the influence religion has come to exert in contemporary civic life, and the concretization of that role in the construction of prominent religious buildings. Questions addressed include: How can the concept of the “sacred” be understood in the twenty-first century, if at all? In what contexts is it intelligible? In a pluralist society, in which the spiritual is often experienced individually, how can architecture express communal identity or tradition? How are concepts of the ineffable realized in material form? Architects discussed included Perret, Plecnik, Lutyens, Wright, Le Corbusier, Mendelsohn, El-Wakil, Tange, Kahn, Ando, Barragan, Moneo, Eisenman, Hadid, and Shim. Limited enrollment. Karla Britton

[**3226b, Lateral Strategies: Architecture and Activism** 3 credits. This seminar researches architecture and activism. Some of the most radical changes to the globalizing world are written not in the language of law and diplomacy but rather in the language of architecture and urbanism. The notion that there is a proper forthright realm of political negotiation usually acts as the perfect camouflage for consequential activity that resides in the unofficial currents of cultural and market persuasion. This seminar tutors spatial entrepreneurialism, impure ethical struggles, and a new species of spatio-political activism. In sequential weeks, the seminar considers these in relation to a topic and two thinkers. Activism and: piracy (Sloterdijk, De Certeau), comedy (Crichtley, Goffman), entrepreneurialism (Banham, Price), law (Agamben, Balibar), organization (Meyer, Castells), aesthetics (Ranciere, Bourriaud), polity (Mattelart, Latour), sovereignty (Habermas, Retort), violence (Virilio, Guattari), ethics (Badiou, Levinas). Limited enrollment. Not offered in 2011–2012. Keller Easterling]

[**3228b, The Autobiographical House** 3 credits. Architects and artists have long built dwellings for themselves (and for surrogate clients) as showcases of their art, sites of collecting and teaching, and as retreats from professional life. From Thomas Jefferson to Philip Johnson, from John Soane to Eileen Gray and Frank Gehry, building a house of one's own often harks back to Renaissance models while experimenting with new manifestations of the architect's evolving role. This seminar examines key examples of buildings as well as wide-ranging readings in autobiography. Limited enrollment. Not offered in 2011–2012. Kurt W. Forster]

3230a, Universals 3 credits. The seminar explores the pleasures, perils, and potential productivity of architecture's love affair with, or faith in, systems of standards. From the belief that the proper combinations of geometry would actually generate transcendence in ecclesiastical architecture, to the various adoptions of a neoclassical language for the redemption of buildings or cities, to the modular systems that would allow modernism to rewrite the world, to the hidden mysteries of ISO's (International Organization for Standardization) supposedly rationalizing decisions, episodes in the alchemy of standards feature many architectural disciples. This seminar studies the ways in which the desire for standards has created isomorphic aesthetic regimes as well as productive renovations of construction and assembly. The seminar also explores the more expansive organs of decision-making that overwhelm and dictate to the architectural discipline, trumping the internal theories of design society with universal standards of much more consequence. While the seminar revisits familiar architectural theory, it also visits some less-familiar episodes such as Eiffel's prefabricated cathedrals designed for distant French colonies, the origin of Sweets Catalog, the context of Konrad Wachsmann's modular systems, or ISO's control over everything from credit card thickness to construction industry protocols. As a true seminar, the first meetings are structured around collective readings and discussions, and the final meetings focus on individual research topics. Limited enrollment. Keller Easterling

3231b, Art in Architecture: 1945–1965 3 credits. Architecture, sculpture, and painting have arguably never been so mixed up as in the recent past. While the magnetic field that links architecture to the visual arts has become a prime condition of formgiving, the status of modern art in the public realm continues to be notoriously ambivalent. Certain CIAM debates that took place between 1947 and 1956 offer valuable insights into some roots of this condition. This seminar focuses on architectural theory and practice in the Cold War era. Key works by architects like Le Corbusier, Aldo van Eyck, Alison and Peter Smithson, Max Bill, and others are examined in the light of their ideas on the "Synthesis of the Arts." Alternating with a series of introductory classes, key texts on the dialogue of the arts by authors like Hitchcock, Giedion, Krauss, Foster, and others are discussed. In the second half of the term each student presents a written case study relating to a relevant project by any of the listed architects as well as by more recent ones like F. Gehry, Herzog & de Meuron, P. Zumthor, or others. Limited enrollment. Stanislaus von Moos

3233b, Venturi, Scott Brown & Associates in Context 3 credits. This seminar examines a choice of projects and buildings by Venturi, Scott Brown & Associates in the light of such issues as mannerism, historicism (and neo-historicism), Modernism in architecture,

as well as contemporary strategies of urban design. Students are expected to present their own analysis of a chosen built or unbuilt Venturi, Scott Brown & Associates project against the background of relevant issues in architectural and/or urban theory, social sciences, or contemporary art and to consider these architects' own theoretical writings. Non-written forms of presentation (tapes, etc.) are also encouraged. Limited enrollment. Stanislaus von Moos

3237b, Human/Nature: Architecture, Landscape, Technology 3 credits. Our global environmental crisis poses the challenge of devising a new model of ecologically responsible interdisciplinary practice that brings together two disciplines – architecture and landscape architecture – that have been professionally segregated at least since the nineteenth century. The first half of the term looks at this issue from a cultural and historical perspective, tracing the ideological origins of the architecture/landscape divide to another Western polarity – the false opposition between nature and culture, human and non-human – dualisms that are deeply rooted in Western literature, philosophy, popular culture, and even notions of gender and sexuality. The seminar explores how this way of thinking has impacted design practices in America from Frederick Law Olmsted in the mid-nineteenth century to Ian McHarg and Robert Smithson in the 1960s and 1970s. During the second half of the term the focus shifts to consider contemporary trends, examining the work of a diverse group of architects, landscape architects, and artists who have been undertaking groundbreaking projects that dissolve traditional distinctions between building and environment. Three converging design directions that unite this otherwise heterogeneous group – topography, bio-computation, and ecology – are identified, and the affinities and differences between them are discussed. Limited enrollment. Joel Sanders

3239b, Launch: Architecture and Entrepreneurialism 3 credits. This seminar studies the designer as entrepreneur. Contemporary entrepreneurs usually understand not only how to capitalize a business but also how to play market networks with the viral dissemination of both objects and aesthetic regimes. While the architecture profession has absorbed many of the technologies that markets use in their population thinking, practice is nevertheless structured to support architecture conceived as singular creations. This seminar considers both historical and contemporary moments in architectural and urban design when architects conceived of buildings, building components, or formats as repeatable products – products that, in the aggregate, may have the power to create an alteration to a local or global environment. Each week, the seminar considers the work of two or three architects together with texts that provide critical and theoretical inflection. The final project is a business/design-plan wherein students serve as each other's publicists. The architects/firms considered in the first portion of the course include Burnham and Root; Alvar Aalto; McKim, Mead & White; John Nolen; Thonet designers; the RPAA (MacKaye, Stein, Wright, Bing, Mumford, Whitaker, Chase); Jean Prouvé; Victor Gruen; Morris Lapidus; Charles and Ray Eames; Case Study Houses; Buckminster Fuller; Cedric Price; Archigram; and Emilio Ambasz. In the second portion of the course, a growing number of contemporary examples, such as Chuck Hoberman, SHoP, TED designers, Kieran Timberlake, and Jürgen Mayer, are examined. Limited enrollment. Keller Easterling

3240a, Spatial Concepts of Japan: Their Origins and Development in Architecture and Urbanism 3 credits. The seminar explores the origins and developments of Japanese spatial concepts and surveys how they help form the contemporary architecture, ways of life, and cities of the country. Many Japanese spatial concepts, such as *MA*, are about creating time-space distances and relationship between objects, people, space, and experiences. These concepts go beyond the fabric of a built structure, and encompass architecture, landscape, and city. Each class is designed around one or two Japanese words that signify particular design concepts. Each week, a lecture on the word(s) with its design features, backgrounds, historical examples, and contemporary application is followed by student discussion. Contemporary works studied include those by Maki, Isozaki, Ando, Ito, Kuma, and SANAA. The urbanism of Tokyo and Kyoto is discussed. Students are required to make in-class presentations and write a final paper. Limited enrollment. Yoko Kawai

3242a, The Digital Turn: A Cultural History 3 credits. This seminar discusses the present state of computer-based design and fabrication by situating today's digital turn within the long duration of the history of cultural technologies. It assesses the technical logics of hand-making, mechanical reproductions, and digital making, focusing on the invention of architectural notations and of architectural authorship in the Renaissance. The seminar then outlines a tentative history of the digital turn from the early 1990s – from the Deleuzian fold to free-form, topology, and formalism; from mass customization and nonstandard seriality to recent developments in digital interactivity, peer production, and building information modeling – questioning in particular the digital reversal of the early-modern and modernist principles of agency in architectural design and probing the import and consequences of these trends for contemporary practice. Students test these interpretive patterns by developing a case study of their choice (of a media object, object, building, software, or technology). Limited enrollment. Mario Carpo

[**3243b, Cold War Urbanism: The Case of Berlin** 3 credits. Berlin's precarious status between East and West has made this city into a prime urbanistic laboratory ever since reconstruction after World War II began. After a brief period of East-West collaboration, East Berlin became the capital of the newly founded German Democratic Republic in 1949, whereas West Berlin turned into a de facto part of West Germany and developed into a showcase of capitalist prosperity and pluralism. The seminar examines the diverging urbanistic strategies embodied in such key sites as Karl-Marx-Allee and Alexanderplatz in East Berlin or Kaiser-Friedrich-Gedächtniskirche, Südliche Friedrichstadt, or the reconstruction of the Hansaviertel in the West as a background to the seminar's main topic: the Internationale Bauausstellung in Berlin, 1984–86 (IBA). The controversial promotion of the "Critical Reconstruction" of the traditional city as a system of closed blocks that became an official dogma after the reunification of the two Germans in 1989 is discussed together with the ideas on alternative scenarios that had preceded it. Limited enrollment. Not offered in 2011–2012. Stanislaus von Moos]

3245a, Architecture and Utopia 3 credits. This seminar examines the odd coupling of architecture and utopia: while utopias are properly imaginable, they architecturally occupy "no place"; while utopian thought demands social suppleness, architecture fixes

people and places; while utopian philosophy is entirely speculative, architecture demands formal precision. What unites them is their shared occupation with power: they both satisfy the need for their originator to tell people how to live. The seminar also examines the very diverse ways in which utopias have been historically conceived, both in relation to what they are critiquing – social disorder and despotism, industrial degradation, capitalist hegemony – and in relation to how they are evaluated: Tafuri's scathing critique versus Jameson's admiration, for example. The first part of the seminar examines the historical, architectural projects that constitute our understanding and definition of "utopia." The second part is devoted to contemporary examinations of the concept of utopia: texts and projects that extend the debate about the validity of the term in an age of globalization, technocracy, and virtuality. Students are asked to do weekly readings with written responses; an in-class presentation; and a 15-page paper elaborating on the presentation topic. Peggy Deamer

3246b, From Open City to Postmodern City: Architecture and Urbanism in Italy, 1945–1980 3 credits. The seminar examines the complex relationship between architecture and urbanism in Italy in the second half of the twentieth century. From the neorealist city in post-WWII Rome to the presentation of a postmodern city in the 1980 Venice Biennale, the seminar explores the ways that Italian architects and theorists proposed architectural practices and urban studies as a single or interdependent conceptual process. Weaving theoretical arguments with design strategies, the seminar – structured as a series of chronological case studies – traces how Italian architects and theorists articulated architecture and urban form in their attempt to address the themes of reconstruction, context, tradition, territory, disciplinary autonomy, consumerism, ideology, and history that made the Italian discourse one of the protagonists in the architectural debates of the second half of the twentieth century. Focusing on primary sources, students have the opportunity to study magazines, seminal theoretical works, and the catalogues of exhibitions that constituted the main vehicles of the Italian architectural discourse in this period. Limited enrollment. Marta Caldeira

3247a, People Making Places: An Anatomy of Nonprofessional Participation in Architecture 3 credits. The idea of "participation" has undergone a recent revival in many cultural and creative fields, including architecture. But what does this positive-sounding, albeit often ill-defined, concept really mean? This seminar proposes a definition of participation as "user completion," with "user" understood as both the immediate known inhabitant and the potential future one. Interrogating the dynamics of collaborative production of the built environment, over time, between architects and users, the seminar maps the impacts of specific distributions of decision-making power. The seminar focuses particularly on the implications of user completion for architectural form, as realized and as perceived. Following initial engagement with established theories from Lefebvre, Latour, and Foucault on how space is collectively produced and experienced, subsequent sessions interrogate this at three different scales – those of the individual home, the shared public space, and the evolving city – all the while asking: How have, and why should, architects make space in the way that they practice for others' contributions? Limited enrollment. Tom Coward, Daisy Froud, Vincent Lacovara, Geoff Shearcroft

3248b, Schinkel and the Creation of a New Urban Topography 3 credits. The Berlin architect Karl Friedrich Schinkel, widely traveled in Europe and in close touch with architects from France to Russia, England, and Italy, helped reshape the city of Berlin by means of numerous inserts and partial expansions, creating new types of public buildings, spaces, and parks. Schinkel's pictorial invention – his panoramas, theaters, and residences – reconfigured the scenario of the city. This seminar attempts to grasp his ideas of topography, landscape, and culture at a time of swift transformation of the European city. Students are required to give in-class presentations and write a substantial paper. Limited enrollment. Kurt W. Forster

3249b, Exhibiting Architecture 3 credits. This seminar traces the legacy of radical architecture exhibitions used by architects as laboratories to test new formal, spatial, and technological ideas throughout the twentieth century. Using the Beinecke Rare Book and Manuscript Library's holdings on modern prints and manuscripts as source material, students learn to conduct primary archival research while working on exhibition installations and concepts conceived by leading modern architects (e.g., Le Corbusier, Mies van der Rohe) as well as by groups of architects (e.g., Archigram, Superstudio, Utopie) at various institutional, cultural, and historical settings. As a final project, students work collectively toward a publication and an exhibition on the topic. Limited enrollment. Eeva-Liisa Pelkonen

3250b, Minimally Invasive? Dialogues between Art and Architecture since 1960 3 credits. Relations between contemporary art and architecture have rarely been as complex, or as subtly contentious, as they are today. Contemporary artists like Rachel Whiteread and Olafur Eliasson mine architecture for its methods and scale, while architects such as Herzog & de Meuron and François Roche frame their designs principally in terms of new art. This seminar examines how art and architecture are currently entwined, and how artists, designers, and critics broker between them, both to distinguish and to diminish the differences between “fine” and “applied” arts. Complementing works and manifestos by artists themselves, the seminar surveys art theorists such as Michael Fried, Rosalind Krauss, and Hal Foster, as well as more recent work by Dave Hickey, Jeff Kipnis, Sanford Kwinter, Sylvia Lavin, and others. Students are responsible for a discussion presentation related to a reading and two writing/analytical exercises: a 1,000-word gallery review due at midterm and a final project that combines a close reading in text and graphics. Limited enrollment. Joe Day

3299a or b, Independent Course Work 3 or 6 credits. Program to be determined with a faculty adviser of the student's choice and submitted, with the endorsement of the study area coordinator, to the Rules Committee for confirmation of the student's eligibility under the rules. (See the School's *Academic Rules and Regulations*.)

The following courses offered elsewhere in the University will fulfill the History and Theory elective requirement and may be taken with the permission of the instructor.

AMST 457b/HIST 113Jb, Cultural Capital: New York in the Twentieth Century An interdisciplinary study of New York City as a global cultural capital in the twentieth century. Social, political, and economic forces shaping the principal institutions of the city's patrician, popular, and mass cultures. The formation of identifiably “New York”

styles in the arts, architecture, photography, literature, and film. The changing geography of cultural creation, reproduction, and distribution in the city. Jean-Christophe Agnew

DRAM 129b, History of Theater Architecture A survey of European and American theater architecture as it relates to cultural and technological changes through time. This course uses the writings of current and past authorities on such subjects as acoustics, space layout, and decoration to illustrate and evaluate these buildings' many variations. Two hours a week. Open to nondepartmental students with permission of the instructor. Alan Hendrickson

HSAR 143b, Introduction to the History of Art: Buddhist Art and Architecture to 1600 Buddhist art and architecture of East Asia, Southeast Asia, and Tibet from the tenth century to the early modern period. Emphasis on cross-regional engagements including the impact of Islam. Mimi Yiengpruksawan

HSAR 216b/AMST 217b, Craft, Design, and Art: American Domestic Architecture and Decorative Arts since 1900 A survey of American architecture and decorative arts in the twentieth century. Examination of architecture, furniture, metals, ceramics, and glass. Topics include responses to the reforms of the Arts and Crafts movement, the introduction of modernism, the survival and revival of traditional and vernacular expressions, the rise of industrial designers, the development of studio crafts, and the varieties of postmodern expression. Edward Cooke, Jr.

HSAR 236a/ARCG 236a/NELC 103a, The Art of Ancient Palaces Introduction to the art and architecture of palaces in ancient Egypt, Mesopotamia, and the Bronze Age Aegean. Special attention to palatial workshops (painting, sculpture, pottery, faience, glass, ivory, metal) in cultural context. Emphasis on the iconography of power, including the establishment within palatial complexes of the world's oldest botanical and zoological gardens. Karen Foster

HSAR 252b/ARCG 252b/CLCV 175b, Roman Architecture The great buildings and engineering marvels of Rome and its empire. Study of city planning and individual monuments and their decoration, including mural painting. Emphasis on developments in Rome, Pompeii, and central Italy; survey of architecture in the provinces. Diana Kleiner

HSAR 266a, Introduction to Islamic Architecture, 1250–1850 An introduction to the architecture of the Islamic world up to the early colonial period, c. 1850 C.E., encompassing regions of Asia, North Africa, and Europe. A variety of sources and media, from architecture to urbanism and from travelogues to paintings, are used in an attempt to understand the diversity and richness of Islamic architecture. Kishwar Rizvi

HSAR 326a/EVST 326a, Contemporary Art and the Environment The mid-twentieth-century convergence of a nascent environmental movement and a dramatic shift in artistic practice, giving rise to a field rooted in the Earth as both subject and medium. The development of phenomenological artistic expression tied to the land; potential for this field to invoke issues of national identity, gender, urbanization, colonialism, and the accessibility of public space. The growth of an art of explicitly ecological protest; issues of sustainability, counter-globalization, climate change, and land reclamation. Andrea Rager

HSAR 598a, Transnational Modernisms in the Middle East Using Jahan Ramazani's *A Transnational Poetics* as a starting point, this graduate seminar aims to interrogate contemporary architecture through the lenses of mobility and hybridity. The starting point is the Middle East; however, the practice and production of such architecture is not limited by region or nation, but is predicated on the intertwined histories of communities defined by economic status, religion, and political ideology. Kishwar Rizvi

URBANISM AND LANDSCAPE

Alan Plattus and Elihu Rubin, Study Area Coordinators

In this study area, a broad range of courses explore the aesthetic, economic, social, and political influences on the spatial form of urban places and the urban, suburban, and rural landscapes that form our design ecology.

For the M.Arch. I program, required courses in this study area include an introduction to urban design (4011b), an introduction to planning and development (4021a), and the satisfactory completion of one of the elective seminar courses from this study area. Note that the elective courses 3222a and 3237b will satisfy the Urbanism and Landscape elective requirement, although they cannot satisfy both the History and Theory and the Urbanism and Landscape elective requirements. Courses offered outside the School not listed below may fulfill this elective requirement provided permission from the study area coordinators has been granted.

Required Courses

4011b, Introduction to Urban Design 3 credits. (Required in M.Arch. I first year, spring term.) This course is an introduction to the history, analysis, and design of the urban landscape presented with weekly lectures and discussion sections. Emphasis is placed on understanding the principles, processes, and contemporary theories of urban design, and the relations between individual buildings, groups of buildings, and the larger physical and cultural contexts in which they are created and with which they interact. Case studies are drawn from New Haven and other cities. Alan Plattus, Andrei Harwell, Elihu Rubin

4021a, Introduction to Planning and Development 3 credits. (Required in M.Arch. I second year, fall term.) This course demonstrates the ways in which financial and political feasibility determine the design of buildings and the character of the built environment. Students propose projects and then adjust them to the conflicting interests of financial institutions, real estate developers, civic organizations, community groups, public officials, and the widest variety of participants in the planning process. Subjects covered include housing, commercial development, zoning, historic preservation, parks and public open space, suburban subdivisions, and comprehensive plans. Alexander Garvin

Elective Courses

4211b, Intermediate Planning and Development 3 credits. This seminar examines the interaction of property development and planning with local market conditions, financing alternatives, government policy, and the political context at the community level. During the first part of the term, students learn how to analyze a specific neighborhood

(in New York City) by using fundamental planning techniques and examining national trends within that neighborhood. Topics include housing, retail, and office development; zoning; historic preservation; transportation; business improvement districts; and building reuse and rehabilitation. In the second part of the term students prepare recommendations for the neighborhood that will meet the conflicting interests of financial institutions, real estate developers, civic organizations, community groups, public officials, and a wide variety of participants in the planning and development process. The end product is a printed book presenting the results of their work. Prerequisite: 4021a, STCY 176b, or equivalent course work. Limited enrollment. Alexander Garvin

4212a, American Cultural Landscapes: An Introduction to the History of the Built Environment 3 credits. After a brief review of Native American and colonial settlements, this lecture course surveys the growth of towns and cities between 1800 and 1920, then examines the shift between 1920 and the present, when residential and commercial activities move away from city centers into diffuse, automobile-dependent metropolitan regions. Students complete one brief writing assignment and one fifteen-page paper. Dolores Hayden

[**4213a, Gender, Territory, and Space** 3 credits. This seminar explores women's and men's everyday experiences of built environments and the city and considers how gender (along with race, class, age, and sexual orientation) affects the design and use of a range of spaces from the most private to the most public. The main focus is on the United States from the late nineteenth century to the present, but other countries offer examples of built projects fostering full citizenship or practices of spatial segregation that deny basic civil rights. Readings are drawn from architecture, history, gender studies, and geography. Students are required to present papers. Limited enrollment. Not offered in 2011–2012. Dolores Hayden]

4214b, Built Environments and the Politics of Place 3 credits. Call it the built environment, the vernacular, everyday architecture, or the cultural landscape, the material world of built and natural places is intricately bound up with social and political life. This seminar explores research methods and sources for writing the history of the built environment, including Sanborn maps, aerial and ground photographs, planning documents, oral histories, landscape analysis, and GIS. It includes readings from urban and suburban history, geography, anthropology, and architecture as well as readings on narrative and graphic strategies for representing spaces and places. Students present papers. Sections from longer theses or dissertations in progress are welcome. Dolores Hayden

4216a, Globalization Space: International Infrastructure and Extrastatecraft 3 credits. This lecture course researches global infrastructures as a medium of transnational polity. Lectures visit the networks of trade, communication, tourism, labor, air, rail, highway, oil, hydrology, finance, and activism. Case studies travel around the world to, for instance, free trade zones in Dubai, IT campuses in South Asia, high-speed rail in Saudi Arabia, cable/satellite networks in Africa, highways in India, a resort in the DPRK, golf courses in China, oil-financed development in Sudan, and automated ports. These investigations begin in transnational territory where new infrastructure consortia operate in parallel to or in partnership with nations. Not only an atlas or survey of physical networks and

shared protocols, the course also considers their pervasive and long-term effects on polity and culture. Infrastructures may constitute a de facto parliament of global decision making or an intensely spatial extra statecraft. Each week, readings, with both evidence and discursive commentary, accompany two lectures and a discussion section. A short midterm paper establishes each student's research question for the term. A longer final paper completes the requirements of the course. Limited enrollment. Keller Easterling

[4217a, Suburbs] 3 credits. American downtowns have declined in size and influence since 1920 as suburbs have come to dominate urban regions. After considering the history of diverse suburban landscapes, this seminar explores definitions of sprawl linking impoverished inner-city areas to growth on metropolitan fringes. Representations of suburban built environments in photography, films, and literature are examined. A research paper of 20–30 pages (or an alternative documentary or public humanities project) is required. Limited enrollment. Not offered in 2011–2012. Dolores Hayden]

4219b, Urban Research and Representation 3 credits. Every day, architects and urban designers make proposals that shape the public and private realms of the city. This seminar sets out to contextualize the social and political ramifications of these interventions; to intensify the designer's tool kit of deep, sociohistorical research of site and place; and to cultivate a reflexive practice that considers seriously the social responsibilities of both the architect and the urban researcher. In the classroom, and in the field, this seminar introduces a diverse set of methods for studying the urban environment, from the archival and visual to the observational and ethnographic. Limited enrollment. Elihu Rubin

4221a, Introduction to Commercial Real Estate 3 credits. This seminar introduces commercial real estate. It does not require any prior knowledge of finance, accounting, or taxation policies. Commercial real estate is income-producing property that is built, financed, and sold for investment. This course examines five basic types of commercial real estate (office, industrial, retail, multifamily, and hotel) from the standpoints of the developer, lender, and investor. Principles of location, financing, timing of market cycles, leasing, ownership structure, and external factors are explored. Students are expected to evaluate assets, partnership interests, and other positions such as debtor interests through valuation measurement, which requires the use of some simple mathematics. An HP-12C calculator or laptop computer with Excel for use in class is required. Students also examine commercial deeds, leases, partnership agreements, and other legal documents. Each student selects a building or development site within New Haven County for a due diligence analysis of zoning, real estate taxes, deeds, liens, market supply and demand, projected income and expenses, and availability of debt. In addition to out-of-class assignments, a brief exercise is included during each class. Limited enrollment. Kevin D. Gray

4222a, History of Landscape Architecture: Antiquity to 1700 in Western Europe 3 credits. This course presents an introductory survey of the history of gardens and the interrelationship of architecture and landscape architecture in Western Europe from antiquity to 1700, focusing primarily on Italy. The course examines chronologically the evolution of several key elements in landscape design: architectural and garden typologies; the boundaries between inside and outside; issues of topography and geography; various

uses of water; organization of plant materials; and matters of garden decoration. Specific gardens or representations of landscape in each of the four periods under discussion – Ancient Roman; medieval; early and late Renaissance; and Baroque – are examined and situated within their own cultural context. Throughout the seminar, comparisons of historical material with contemporary landscape design are made. Limited enrollment. Bryan Fuermann

4223b, History of British Landscape Architecture: 1600 to 1900 3 credits. This seminar examines the history of landscape architecture and of the idea of nature in Britain from 1600 to 1900. Topics of discussion include Italian and French influences on the seventeenth-century British garden; the Palladian country house and garden; naturalism and the landscape park as national landscape style; garden theories of the picturesque and of the sublime; Romanticism and the psychology of nature; the creation of the public park system; arts and crafts landscape design; and modernist landscape idioms. Comparisons of historical material with contemporary landscape design are emphasized throughout the term. The collection of the Yale Center for British Art is used for primary visual material, and a trip to England over spring break, partially funded by the School, allows students to visit firsthand the landscape parks studied in this seminar. Limited enrollment. Bryan Fuermann

4226a, Ecological Urban Design 3 credits. Ecologists are increasingly interested in studying urban systems and have recently moved beyond the traditional focus from “ecology in cities” to “the ecology of cities.” This shift has catalyzed a new discourse in urban ecology, which has given rise to a number of questions: How do we define urban ecosystems? How do we combine science, design, and planning to shape and manage urban ecosystems? How do we implement effective and adaptable experimental and monitoring methods specific to urban sites and human subjects in order to conduct viable urban ecological research? Exploring these questions requires designers and ecologists to achieve more familiarity with each other's areas of expertise including research methods and the scientific process as well as the design process. This seminar focuses on the application of urban ecology to the design of cities. The course provides an overview of urban ecology and how designers and scientists can work in complementary ways to foster dialogue and integrate ecological research and analysis with city planning and design. The course seeks to reposition urban ecology as a practice not only focused on studying urban ecosystems but also on a combined effort to study and reshape them. Limited enrollment. Alexander Felson

[4227b, Ownership/Clientship: A Global Review of Real Estate] 3 credits. This seminar examines the ownership of commercial and institutional real estate globally, changing patterns of ownership since 1900, and the impact of ownership on the quality and type of real estate projects built. The course examines the history of family ownership up to the present day; the tremendous growth in private equity, both institutional and third-party; the rise of developers as owners; the establishment of commercial real estate as a legitimate asset class for investment; and the powerful influence of sovereign funds on capital allocation in the world of commercial real estate. Included are discussions on the history of public equity and syndication markets; how tax and other regulations have influenced property development; the financing and development of new towns and

large-scale developments; the development of commercial real estate assets by railroads, timber companies, and other commercial enterprises; the role of corporations in developing properties for their own use; and institutional nonprofit “clientship.” Students are expected to produce an individual research paper requiring primary research and direct contact with a major owner of commercial real estate projects, tracing the ownership and development history of a specific, large-scale commercial real estate project (\$100MM or more). In addition, periodic analysis of company financial statements and other documents is required. This course requires some basic mathematics and the use of a financial calculator or laptop computer in class. Limited enrollment. Not offered in 2011–2012. Kevin D. Gray]

[4228b, Old and New: Landscape and Urbanism of East Asia 3 credits. What are “Asian” landscapes and urbanism? If they are different from “Western” ones, what makes them unique? Are they surviving and/or transforming in the time of information technology, tourism, and globalization? This seminar explores Asian landscapes: their climate, geography, religions, cultures, and ideas of life/death and construction/reconstruction. Social elements such as views toward family/community, economic conditions, and whereabouts of political powers also influence the physical forms of cities and landscape. Both old and new situations of these layers are explored. The seminar includes lectures by instructors, in-class research exercises, student in-class presentations, and a required independent research paper. Limited enrollment. Not offered in 2011–2012. Yoko Kawai, Takaya Kurimoto]

4229a, Disurbanism: Critical Readings on the Contemporary City 3 credits. The seminar examines critical readings and projects associated with what is loosely called “Disurbanism,” borrowing from the original visions of the Soviet avant-garde, in order to explore both the utopian and dystopian aspects of these writings and works. The course analyzes how the prospects of an attenuated and diffuse urbanism have shifted from a utopian critique of both the bourgeois and early capitalist industrial cities to the requirements for a redefinition of *City* itself as it has evolved into a vast metropolitan network enabled by the automobile and electronic media. Disurbanism’s dystopian incarnation, the disappearance of the *City*, and the subsequent account of the loss of cultural values and the critical discourse surrounding a denatured aesthetics of the sublime are also explored. Students are expected to present material and participate in discussions of the readings as well as submit a final paper. Limited enrollment. Edward Mitchell

4299a or b, Independent Course Work 3 or 6 credits. Program to be determined with a faculty adviser of the student’s choice and submitted, with the endorsement of the study area coordinator, to the Rules Committee for confirmation of the student’s eligibility under the rules. (See the School’s *Academic Rules and Regulations*. Available for credit to fulfill the M.Arch. I Urbanism and Landscape elective requirement with the approval of the study area coordinators.)

The following courses offered elsewhere in the University will fulfill the Urbanism and Landscape elective requirement and may be taken for credit with the permission of the instructor.

F&ES 530a, Ecosystems and Landscapes 3 credits. This Foundations course is an introduction to concepts in ecosystem and landscape ecology. Topics covered include element cycling, food web interactions, species-area relationships, whole system metabolism, models of biodiversity, etc. The course emphasizes how to integrate knowledge to understand ecological patterns and processes at multiple scales in order to study and manage ecosystems. Peter A. Raymond, Oswald J. Schmitz

F&ES 819b, Strategies for Land Conservation 3 credits (or audit). This is a professional seminar on private land conservation strategies and techniques, with particular emphasis on the legal, financial, and management tools used in the United States. The seminar is built around presentations by guest speakers from land conservation organizations. Speakers are assigned topics across the land conservation spectrum, from identification of target sites, through the acquisition process, to ongoing stewardship of the land after the deal is done. The tools used to protect land are discussed, including the basics of real estate law, conservation finance, and project/organization management. Students are required to undertake a clinical project with a local land conservation organization. Enrollment limited to twenty; preference to second-year students if limit reached. Bradford S. Gentry

F&ES 820a, Land Use Law and Environmental Planning 3 credits. This course explores the regulation by local governments of land uses in urban, rural, and suburban areas and the effect of development on the natural environment. The course helps students understand, in a practical way, how the environment can be protected through effective regulation at the local level. It introduces students to federal, state, and regional laws and programs that affect watershed protection and to the laws that delegate to local governments primary responsibility for decision making in the land use field. Theories of federalism, regionalism, states’ rights, and localism are studied. The history of the delegation of planning and land use authority to local governments is traced, leading to an examination of local land use practices particularly as they relate to controlling development in and around watershed areas. Course participants engage in empirical research working to identify, catalogue, and evaluate innovative local laws that successfully protect environmental functions and natural resources, and the manner in which towns, particularly on the coast, incorporate climate change into their planning and regulations. Nearby watersheds are used as a context for the students’ understanding of the strengths and weaknesses of local planning and regulation. Attention is paid, in detail, to how the development of the land adversely affects natural resources and how these impacts can be mitigated through local planning and subsequent adoption of environmental regulations and regulations designed to promote sustainable development in a climate-changing world. The course includes examination of the state and local response to climate change, sea-level rise, growth management, alternatives to Euclidean zoning, low-impact development, brownfields redevelopment, and innovative land use strategies. Marjorie Shansky

F&ES 835a, Seminar on Land Use Planning 1 credit. Land use plans and the techniques used to implement them determine where development occurs on the American landscape. Planners play a key role in determining how the needs of the nation’s growing

population for housing and nonresidential development are accommodated and how natural resources and environmental functions are protected from the adverse impacts of land development. This course explores the multifaceted discipline of land use planning and its associated ecological implications, particularly related to climate change. Land use encompasses the interacting factors of land function, building design, and economic and community support. Strategic land use shrewdly identifies land purposes, incentivizes energy-efficient and climate-resilient structures, and harnesses community and market support for effective land use decision making. In doing so, land use planning possesses the capacity to maximize utility while minimizing environmental damage. In this seminar, students learn from guest speakers and related readings. Speakers include professionals involved in sustainable development, land conservation, smart growth, and climate change adaptive planning. Each session focuses on a different issue that significantly influences land use decisions in an era of necessary sustainable development in the face of global climate change. Because of its interdisciplinary nature, this course provides students the opportunity to explore the ways in which complex planning projects must be managed and the manners by which policies are developed and implemented in order to create environmentally responsible, livable, healthy, dynamic, and equitable communities. John R. Nolon

F&ES 885b/ENAS 360b/660b/ENVE 360b, Green Engineering and Sustainability 3 credits. This hands-on course highlights the key approaches to advancing sustainability through engineering design. The class begins with discussions on sustainability, metrics, general design processes, and challenges to sustainability. The current approach to design, manufacturing, and disposal is discussed in the context of examples and case studies from various sectors. This provides a basis for what and how to consider when designing products, processes, and systems to contribute to furthering sustainability. The fundamental engineering design topics to be addressed include toxicity and benign alternatives, pollution prevention and source reduction, separations and disassembly, material and energy efficiencies and flows, systems analysis, biomimicry, and life cycle design, management, and analysis. Students tackle current engineering and product design challenges in a series of class exercises and a final design project. Julie B. Zimmerman, Matthew Eckelman

HIST 229Jb, London, 1560–1760 A study of London's growth between 1560 and 1760 from a modest city of perhaps 50,000 people to a metropolis with over 700,000 inhabitants. Themes include the dynamics of growth; birth and death, with particular reference to the plague; migration; household life; villages within the city; London as the center of print culture; the royal court; polite society in the late seventeenth and early eighteenth centuries; the "middle sort of people" and consumerism; the world of the poor; and vice and criminality. Keith Wrightson

HIST 255Jb, London and Modernity, 1880 to the Present Aspects of modernity and the changing character of London as a metropolitan center from the late nineteenth century to the present. Social and economic development of the city, urban cultures, historical geography, sexuality, and the imperial and postimperial metropolis. Becky Conekin

HIST 642a, Paris and London: Metropolitan Trajectories, 1850–Present Reading and discussion seminar. Topics include the impact of large-scale economic transformation; popular protest; migration and mobility; social geography; city and country; the world of work and leisure; the experience of war; images and representation of the city; and the successes and failures of urban planning. John Merriman, Jay Winter

HSAR 326a/EVST 326a, Contemporary Art and the Environment The mid-twentieth-century convergence of a nascent environmental movement and a dramatic shift in artistic practice, giving rise to a field rooted in the Earth as both subject and medium. The development of phenomenological artistic expression tied to the land; potential for this field to invoke issues of national identity, gender, urbanization, colonialism, and the accessibility of public space. The growth of an art of explicitly ecological protest; issues of sustainability, counter-globalization, climate change, and land reclamation. Andrea Rager

HSHM 422b/HIST 140Jb, Cartography, Territory, and Identity Exploration of how maps shape assumptions about territory, land, sovereignty, and identity. The relationship between scientific cartography and conquest, the geography of statecraft, religious cartographies, encounters between Western and non-Western cultures, and reactions to cartographic objectivity. Students make their own maps. No previous experience in cartography or graphic design required. William Rankin

JDST 296a/HIST 350Ja/HUMS 446a, Tel Aviv: Culture and History An exploration of culture, politics, and society in modern Palestine and Israel through the study of Tel Aviv. Topics include the city in Zionist ideology, immigration and cosmopolitanism, Hebrew culture and language, architecture and city planning, centers and peripheries, and the city as a site of political activism. Liora Halperin

PLSC 245a, Urban Politics and Policy Approaches to urban politics and political economy. Application of theories to contemporary policy issues such as policing, metropolitan disparities, and inner-city revitalization. Cynthia Horan

PLSC 264b, Big City Politics in America: New York, Los Angeles, Chicago How globalization and responses to it are changing the politics of New York, Los Angeles, and Chicago. Focus on economic restructuring, government reorganization, transformations of urban space, immigration, racial conflicts, and grassroots mobilization. Cynthia Horan

PLSC 280b, Poverty, Politics, and Policy in the American City Examination of how politics informs the formulation and implementation of policies to address urban poverty. Consideration of alternative explanations for poverty and alternative government strategies. Focus on efforts by local organizations and communities to improve their situations within the context of government actions. Cynthia Horan

STCY 176b, Introduction to the Study of the City An examination of forces shaping American cities and strategies for dealing with them. Topics include housing, commercial development, parks, zoning, urban renewal, landmark preservation, new towns, and suburbs. The course includes games, simulated problems, fieldwork, lectures, and discussion. Alexander Garvin