ARCHITECTURE (ARCH)

ARCH 150a, Introduction to Architecture  Staff
Lectures and readings in the language of architecture. Architectural vocabulary, elements, functions, and ideals. Notebooks and projects required. Not open to freshmen. Required for all Architecture majors.  HU

* ARCH 154b, Drawing Architecture  George Knight
Introduction to the visual and analytical skills necessary to communicate architectural ideas. Observation and documentation of architectural space on the Yale campus. Drawing exercises introduce the conventions of architectural representation: plan, section, elevation, and isometric drawings, as well as freehand perceptual drawings of architectural space.

* ARCH 161a, Introduction to Structures  Erleen Hatfield
Basic principles governing the behavior of building structures. Developments in structural form combined with the study of force systems, laws of statics, and mechanics of materials and members and their application to a variety of structural systems. Prerequisites: trigonometry and some knowledge of calculus. Enrollment limited to 20.  QR, SC

* ARCH 162b, Materials in Architecture  Timothy Newton
Science and technology of basic building materials studied together with historic and current design applications. Skills and processes required to create, shape, and connect materials experienced through hands-on projects. Technical notebooks, drawings, design and build exercises, and projects required. Enrollment limited to 20.

ARCH 200b / URBN 200b, Scales of Design  Bimal Mendis
Exploration of architecture and urbanism at multiple scales from the human to the world. Consideration of how design influences and shapes the material and conceptual spheres through four distinct subjects: the human, the building, the city, and the world. Examination of the role of architects, as designers, in constructing and shaping the inhabited and urban world. Lectures, readings, reviews and four assignments that address the spatial and visual ramifications of design. Not open to first-year students. Required for all Architecture majors.  HU

* ARCH 250a, Methods and Form in Architecture I  Trattie Davies
Analysis of architectural design of specific places and structures. Analysis is governed by principles of form in landscape, program, ornament, and space, and includes design methods and techniques. Readings and studio exercises required. Enrollment limited to 25. Open only to Architecture majors.  1½ Course cr

* ARCH 251b, Methods and Form in Architecture II  Michael Schlabs
Continuation of ARCH 250. Analysis of architectural design of specific places and structures. Analysis is governed by principles of form in landscape, program, ornament, and space, and includes design methods and techniques. Readings and studio exercises required.  1½ Course cr
ARCH 271a / HSAR 266a / MMES 126a / SAST 266a, Introduction to Islamic Architecture

Kishwar Rizvi

Introduction to the architecture of the Islamic world from the seventh century to the present, 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. Besides traditional media, the class will make use of virtual tours of architectural monuments as well as artifacts at the Yale University Art Gallery, accessed virtually. HU

* ARCH 306a, Ornamenting Architecture: Cosmos, Nature, Neuroaesthetics

Staff

From foliated friezes to snaking spirals, gruesome gargoyles to graceful guilloches, humans have used ornament for millennia to adorn objects and buildings. What is the function of ornament in the built environment? How does it mediate between the objects it adorns, the viewers it addresses, and the cosmos? What role does it play in orchestrating building occupants’ sense of space, order, and time? And is there scientific evidence for any of these claims? This course provides a venue for exploring these questions through hands-on design and analysis while finding empirical grounding in the emerging fields of biophilic design and neuroaesthetics. Design exercises introduce students to symmetry operations, tessellation, repeat patterns, and foliation, giving the class a basic fluency in the language of ornament. As we study historic precedents and the fundamental geometric properties of ornament, we simultaneously research how these patterns are perceived by the brain, both in the scientific literature and through the use of our own eye trackers and EEG sensors. Students are led through a series of design exercises of increasing complexity in both two and three dimensions, culminating in an ornament project for a shared site. This seminar is meant to nurture methodologies of design that fuse a grounding in the history of ornament with the application of cutting edge technology, enabling novel forms of empirically-grounded design. It is recommended, but not required, that students have some experience with visualization (digital or hand-drawing) and a willingness to explore physical prototyping. HU RP

ARCH 312b / HSAR 312b, Modern Architecture in a Global Context, 1750-present

Craig Buckley

Architects, movements, and buildings central to the development of modern architecture from the mid eighteenth century through to the present. Common threads and differing conceptions of modern architecture around the globe. The relationship of architecture to urban transformation; the formulation of new typologies; architects’ responses to new technologies and materials; changes in regimes of representation and media. Architects include Claude Nicolas Ledoux, Giovanni Battista Piranesi, John Soane, Frank Lloyd Wright, Le Corbusier, Ludwig Mies van der Rohe, Lina Bo Bardi, Louis Kahn, and Kenzo Tange. HU o Course cr

* ARCH 341b / GLBL 253b / LAST 318b / URBN 341b, Globalization Space

Staff

Infrastructure space as a primary medium of change in global polity. Networks of trade, energy, communication, transportation, spatial products, finance, management, and labor, as well as new strains of political opportunity that reside within their spatial disposition. Case studies include free zones and automated ports around the world, satellite urbanism in South Asia, high-speed rail in Japan and the Middle East, agripoles in southern Spain, fiber optic submarine cable in East Africa, spatial products of
tourism in North Korea, and management platforms of the International Organization for Standardization.  

* ARCH 360a / URBN 360a, Urban Lab: An Urban World  
Staff  
Understanding the urban environment through methods of research, spatial analysis, and diverse means of representation that address historical, social, political, and environmental issues that consider design at the scale of the entire world. Through timelines, maps, diagrams, collages and film, students frame a unique spatial problem and speculate on urbanization at the global scale. Prerequisites: For non-majors: permission of the instructor is required. For ARCH majors: ARCH 150, 200, and 280.  
HU  1½ Course cr

* ARCH 450a, Senior Studio  
Turner Brooks  
Advanced problems with emphasis on architectural implications of contemporary cultural issues. The complex relationship among space, materials, and program. Emphasis on the development of representations—drawings and models—that effectively communicate architectural ideas. To be taken before ARCH 494. Enrollment limited to Architecture majors.  
1½ Course cr

* ARCH 471a or b, Individual Tutorial  
Michael Schlabs  
Special courses may be established with individual members of the department only. The following conditions apply: (1) a prospectus describing the nature of the studio program and the readings to be covered must be approved by both the instructor and the director of undergraduate studies; (2) regular meetings must take place between student and instructor; (3) midterm and final reviews are required. For juniors and seniors with DUS approval; meetings by appointment with DUS.  

* ARCH 472a or b, Individual Tutorial Lab  
Michael Schlabs  
RP  ½ Course cr

* ARCH 490a or b / URBN 490a or b, Senior Research Colloquium  
Marta Caldeira  
Research and writing colloquium for seniors in the Urban Studies and History, Theory, and Criticism tracks. Under guidance of the instructor and members of the Architecture faculty, students define their research proposals, shape a bibliography, improve research skills, and seek criticism of individual research agendas. Requirements include proposal drafts, comparative case study analyses, presentations to faculty, and the formation of a visual argument. Guest speakers and class trips to exhibitions, lectures, and special collections encourage use of Yale’s resources.