

ARCHITECTURE (ARCH)

ARCH 1A. History of Architecture: Prehistory to 1800. 3 Units
General Education Area/Graduation Requirement: Arts (3-A)
Term Typically Offered: Fall, Spring

A survey of global architecture and the built environment from prehistory through the end of the 18th century, viewed through its narratives, theories, representations, and formal qualities. Emphasis on architecture's social, cultural, economic and political contexts. Introduction to basic methods of architectural analysis, using context, typology, poetics, structure, technology, materiality, zeitgeist, economics, tectonics, and creativity.
 Cross Listed: ARCH/INTD 1A; only one may be counted for credit.

ARCH 1B. History of Architecture: 1800 to Today. 3 Units
General Education Area/Graduation Requirement: Arts (3-A)
Term Typically Offered: Fall, Spring

A survey of global architecture and the built environment from 1800 to today, viewed through its narratives, theories, representations, and formal qualities. Emphasis on architecture's social, cultural, economic and political contexts. Introduction to basic methods of architectural analysis, using context, typology, poetics, structure, technology, materiality, zeitgeist, economics, tectonics, and creativity.
 Cross Listed: ARCH/INTD 1B; only one may be taken for credit.

ARCH 11A. Architectural Design Fundamentals. 3 Units
Prerequisite(s): Students are encouraged to take INTD 25 and DSGN 10 before ARCH 11A.
Term Typically Offered: Fall, Spring

Introduction to the planning and designing of interior spaces related to residential and commercial projects. Emphasizes understanding and applying programmatic relationships and spatial problem-solving processes to multiple small-scale multilevel design problems. Focuses on the programmatic and schematic design phases. Introduction to architectural drafting concepts, including architectural scale, drawing conventions, and orthographic view creation. Introduction to iterative design work processes and subsequent architectural design development and communication.

ARCH 30. Digital Literacy for Designers. 2 Units
Term Typically Offered: Fall, Spring, Summer

Introductory digital literacy course for design majors. Focuses on preparing students to engage with digital assets and techniques relevant to the scholarly and creative endeavors of the design disciplines. Explores digital literacy as a practice in relation to design.

ARCH 33. Beginning AutoCAD and SketchUP. 2 Units
Prerequisite(s): ARCH 30.
Term Typically Offered: Fall, Spring, Summer

Introductory computer-aided design (CAD) course. Focuses on using AutoCAD and SketchUp software for orthographic drawing development and three-dimensional models of buildings. Emphasis on CAD vocabulary, digital drawing/modeling conventions, and techniques. Provides practice constructing digital two-dimensional orthographic drawings and digital three-dimensional models of architectural projects.

ARCH 36. Beginning Revit. 2 Units
Prerequisite(s): ARCH 30
Term Typically Offered: Fall, Spring, Summer

Introduction to Building Information Modeling (BIM) concepts and modeling techniques using Autodesk Revit. Introductory course on the basic methodology of parametric systems. Covers the fundamental principles of BIM modeling workflow. Emphasis on project setup, project modeling, view setups, and sheet layouts.

ARCH 110A. Intermediate Architecture Design Studio Option A. 4 Units
Prerequisite(s): INTD 25, ARCH 11, ARCH 33, ARCH 36
Term Typically Offered: Fall, Spring

Intermediate architectural design studio exploring issues, ideas, and methods of making and thinking in single-family and multi-family residential architecture. Design problems emphasize creating an integrated solution that considers form, space, site, tectonics, materials, and energy considerations. Emphasis on schematic concept formation and subsequent architectural development. Students work on individual and group design projects.

ARCH 110B. Intermediate Architecture Design Studio Option B. 4 Units
Prerequisite(s): INTD 25, ARCH 11, ARCH 33, ARCH 36
Term Typically Offered: Fall only

Intermediate architectural design studio exploring issues, ideas, and methods of making and thinking in commercial architecture. Design problems emphasize creating an integrated solution that considers form, space, site, tectonics, materials, and energy considerations. Emphasis on schematic concept formation and subsequent architectural development. Students work on individual and group design projects.

ARCH 110C. Intermediate Architecture Design Studio Option C. 4 Units
Prerequisite(s): INTD 25, ARCH 11, ARCH 33, ARCH 36
Term Typically Offered: Fall only

Intermediate architectural design studio exploring issues, ideas, and methods of making and thinking in public-sector architecture. Design problems emphasize creating an integrated solution that considers form, space, site, tectonics, materials, and energy considerations. Emphasis on schematic concept formation and subsequent architectural development. Students work on individual and group design projects.

ARCH 136. Advanced Building Information Modeling for Architecture. 2 Units

Prerequisite(s): ARCH 36
Term Typically Offered: Fall, Spring

Advanced techniques for designing in Building Information Modeling (BIM) environments, including conceptual modeling, design options, custom object creation, and energy modeling and analysis. Emphasis on creating construction drawings using Revit.

ARCH 138A. Architectural Rendering I. 2 Units
Prerequisite(s): ARCH 30, ARCH 33, ARCH 36.
Term Typically Offered: Fall, Spring

Investigation of and practice with media, methods, and techniques of architectural visualization. Exploration of the many forms of perspective and isometric visual expression used during the various stages of the design process. Topics related to rendering, including 3D modeling, visual communication, color, light and shadow, and animation. Employs analog and digital techniques.

ARCH 150. Introduction to Structural Concepts.**3 Units****Prerequisite(s):** Student must have completed their G.E. Area B4 requirement.**Term Typically Offered:** Spring only

Introduction to structural principles as they apply to buildings. Course content includes a historical overview of how structural engineering has shaped buildings; an in-depth analysis of structural forces, including compression, tension, and lateral loads; and an examination of the structural properties of wood, concrete, masonry and steel.

ARCH 153. Building Regulations, Life Safety, and Accessibility.**3 Units****Term Typically Offered:** Fall, Spring

Study of the professional role of the architect in relation to clients, contractors, consultants, and the public. Topics include building and life-safety codes, accessibility codes, green building, and energy codes. Architectural licensure requirements, professional ethics, permitting, regulations, and related laws will be discussed along with strategies for project delivery. Field Trip(s) may be required.
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ARCH 157. Building Envelope: Materials, Systems, and Assemblies.**3 Units****Term Typically Offered:** Fall, Spring

An introduction to exterior building materials, envelope systems, assemblies, and façade design. Emphasis on materials selection, design, detailing, and performance evaluation including sustainable design criteria. Field trip(s) may be required.
Field trip(s) may be required.

ARCH 159. MEP Systems and Building Performance Analysis.**3 Units****Term Typically Offered:** Fall, Spring

An introduction to the general concepts of mechanical, electrical, and plumbing systems and overall building performance as they relate to sustainable design. Emphasis on active and passive thermal comfort and control, building energy, water use, acoustics, and lighting. Field trip(s) may be required.
Field trip(s) may be required.

ARCH 180. Capstone Architecture Studio.**5 Units****Prerequisite(s):** 12 units of the ARCH 110 choices with a grade "C" or better.**Term Typically Offered:** Fall, Spring

Capstone design studio where given complex interior architectural problems, students explore issues, ideas, and methods of making and thinking in architecture. Continued emphasis is on designing integrated solutions that explore form, space, tectonics, materials, building systems, and sustainability. Focus is on demonstrating competency in design research, analysis, programming, conceptualization, design development, and communicating final design proposals. Projects completed with assistance from instructor, client, and working professionals.

ARCH 185. Pro Practice - Architecture Career Preparation.**3 Units****Term Typically Offered:** Fall, Spring

Professional practice studio course in which students develop their professional self-marketing tools. Required guest lectures, professional networking, and career guidance events with written and verbal self-reflection activities.

ARCH 195. Architecture Internship.**3 Units****Prerequisite(s):** Faculty approval required; Students must have completed at least two intermediate design studios.**Term Typically Offered:** Summer only

Directed professional work experience that synthesizes work and academic explorations for architecture studies majors. Approved internship in an architecture office or a planning or architectural-related public service agency. Enhances students' academic experience by providing real-world application of theoretical knowledge, fostering invaluable professional skills, and facilitating connections between classroom learning and industry practices.

Note: Students must make arrangements with a faculty member for a work program prior to admittance.

Credit/No Credit

ARCH 196L. Building Regulations, Life Safety, and Accessibility.**3 Units****Term Typically Offered:** Fall, Spring

Study of the professional role of the architect in relation to clients, contractors, consultants, and the public. Topics include building and life-safety codes, accessibility codes, green building, and energy codes. Architectural licensure requirements, professional ethics, permitting, regulations, and related laws will be discussed along with strategies for project delivery.

ARCH 196M. Building Envelope: Materials, Systems, and Assemblies.**3 Units****Term Typically Offered:** Fall, Spring

An introduction to exterior building materials, envelope systems, assemblies, and façade design. Emphasis on materials selection, design, detailing, and performance evaluation including sustainable design criteria.

ARCH 196S. MEP Systems and Building Performance Analysis.**3 Units****Term Typically Offered:** Fall, Spring

An introduction to the general concepts of mechanical, electrical, and plumbing systems and overall building performance as they relate to sustainable design. Emphasis on active and passive thermal comfort and control, building energy, water use, acoustics, and lighting. Field trip(s) may be required.
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