

ARCHITECTURE (ARCH)

ARCH-COMP Senior Comprehensive Exam
(NULL credits) (Spring Semester)
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ARCH-1200 Architectural Drawing
(3 credits) (Spring Semester)

Architectural drawing is the graphic language by which the architect develops and records ideas and communicates them to client, patron, builder. Taken as a whole it is a language with many varied forms of expression. This course focuses on freehand representation of architecture with an introduction to the materials and methods that the architect employs as a fine artist. Emphasis includes composition, concepts of form and space in both the frame and picture ground, as well as an introduction to ornamental drawing and its relationship to both organic and geometric forms. Media employed include graphite, chalk, charcoal, and ink.

Pre or Corequisite(s): ART-1000.

ARCH-1300 Intro to Architecture
(3 credits)

This course presents the world of the architect and architectural drawing organized on the idea of the "Grand Tour." It is an overview of the paradigmatic architecture of Western Civilization. Via a sequence of architectural subjects, the student will learn how architects think and converse—in both theoretical and practical terms—about their work and its perceived suitability to the needs of humans and their environment. In the weekly lab, students will learn the fundamentals of orthographic and parallel projection drafting as representative of architectural ideas. Examples will be drawn from the material covered in the lectures and discussions. 2 lectures and 1 lab per week.

ARCH-1410 Freshman Studio
(4 credits) (Spring Semester)

Building on ARCH-1300, Introduction to Architecture, but also providing a second door to the Architecture curriculum, Freshman Studio introduces and develops the capacity for spatial reasoning and the conventions for communicating architecture in two dimensions. Freshman Studio, additionally, contributes to the curricular mission that integrates the vision of architecture as an enterprise of the liberal arts in conversations regarding drawing, freedom, and the common good. The major focus will be on two-dimensional communication and in excellent craftsmanship as a foundation for the curriculum, in general, and the studio stream in particular.

Prerequisite(s): ARCH-1300 (or, prerequisite or corequisite: ART-1000 and one of the following: ART-1010 or ART-1030).

ARCH-2111 Sophomore Studio I
(4 credits) (Fall Semester)

This introductory studio for the architecture major presents a fundamental approach to architectural design. Students are introduced to a vocabulary of architectural forms, treatises, and practices of traditional architectural representation. A series of small projects introduce the students to the elements of the science and art of building in a logical progression. The architectural language of this studio focuses on parsing the grammar of the antique forms of architecture in order to lay the groundwork for the students to engage in centuries-old dialogues—to speak to the past—in both their precedent studies and during their subsequent summer abroad. ARCH major.

Prerequisite(s): ARCH-1200, ARCH-1410, and MATH-1300.

Corequisite(s): ARCH-2201.

ARCH-2112 Sophomore Studio 2
(4 credits) (Spring Semester)

Studio 2 builds on the dialogue and lessons from Studio 1 and engages the classical language of architecture beyond mere form and ornamental effects to visceral connections with human life. Theoretical projects develop along a logical sequence from small, dependent additions to a large, stand-alone building. The education of the future architect broadens to that of becoming a conscientious citizen, aware of the syntax of the community and city in relation to individual works of architecture. Studio 2 introduces important architectural themes such as program analysis, composition, context, construction techniques, as well as the design influence of laws and codes.

Prerequisite(s): Grade of C- or better in ARCH-2111.

ARCH-2201 Architectural Watercolor & Wash Rendering
(3 credits) (Fall Semester)

This course introduces water-based painting techniques traditional to an architect's education. The in-studio component introduces the student to the traditional architectural rendering media of India and toned inks and the ways in which they are used to create non-perspectival wash drawings of architectural subjects. Topics include materials, ink washes, casting of shades and shadows, atmospheric perspective, sheet composition, and the production of the Beaux-Arts drawing type called the analytique. This course also takes the student outdoors and introduces methods of the "plein air" style of watercolor to prepare the student for painting various subjects in the field. Co-requisite ARCH-2111.

Prerequisite(s): ART-1000, ARCH-1200, and ARCH-1410.

ARCH-2300 Architectural History I
(3 credits) (Fall Semester)

This course covers the history of architecture and related arts from the Bronze Age through the Middle Ages including northern European Romanesque and Gothic. This survey of the architecture and urban design of early Western civilization will cover the masterpieces and their connections to the cultures and civilizations that built them. The early focus of the course is the cultural evidence for the emergence of the Classical out of the Early Dynastic and Archaic periods via the study of religious and secular monuments. (AE, HI, WP, WC)

General Education Categories: Aesthetic Experience, Historical Inquiry, Western Perspective, Written Communication

ARCH-2301 Architectural History 2
(3 credits) (Spring Semester)

This survey course addresses the development of Western architecture from the Proto- Renaissance through the 19th century. The course focuses primarily on the practice and development of architecture from monuments to paradigmatic works to cities—as well as the related history of the visual arts, during these periods. Students will study the ways that architecture and art both reflect and contribute to the development of Western civilization. (AE, HI, WC)

General Education Categories: Aesthetic Experience, Historical Inquiry, Written Communication

ARCH-3100 Architecture Studio 3**(5 credits) (Fall Semester)**

Studio III broadens the instruction of architecture beyond the scope of the science and art of building to the questions of the very nature and quality of the human environment. Building on the student's summer studies in Italy, this studio stresses that a building cannot be designed in a vacuum as it inevitably becomes a backdrop against which we live our lives: the stage-set of a continually unfolding drama that involves all of us. To continue the dialogue with lessons learned in Italy, the architectural language of this studio will be the classical. Theoretical campus-based projects will range in a logical sequence from the design of a public gateway, a building threshold/entry, a devotional chapel, and an individual building within context. Important architectural issues developed in this studio include program and composition, environment, and construction techniques.

Prerequisite(s): ARCH-2101.**ARCH-3113 Junior Studio 3****(5 credits) (Fall Semester)**

Building on the prior year and setting the stage for this junior year, this course deepens the study of the contemporary practice of the Western language of architecture. At the neighborhood scale, architectural types and the relationship to urbanism, with its place types, is introduced. Featured are urban house types (ie, row house, courtyard house, free-standing city house, stacked housing, and apartment buildings). The studio introduces the architect's responsibility to steward resources in the choice of materials and in the composition of plan and elevation. In the increasing scale of urbanism, this studio focuses on the neighborhood culture of place in which the use of types and symbolic ornament has the greatest capacity as a matrix for social identity.

Prerequisite(s): ARCH-2112, ARCH-2301, PHYS-2000 (or PHYS-2100) and prerequisite or corequisite: ARCH-2300.**ARCH-3114 Junior Studio 4****(5 credits) (Spring Semester)**

Architecture Studio 4, building in the sequence, prepares for the senior studios in the contemporary practice of the Western language of architecture. The architectural types are those that are assembled in communal institutions such as a community library, chapel, or town hall. Intensifying is the attention to resources in the building materials and in the architectural composition. In the increasing scale of urbanism, this studio focuses on the culture of place in towns and in town-sized precincts of cities. Deepening is the use of types and symbolic ornament for sharing communal identity.

Prerequisite(s): Grade of C- or better in ARCH-3113.**ARCH-3200 Plein Air Drawing & Water Color****(2 credits) (Summer)**

The course further develops the skills of field sketching, drawing, and painting that are useful to the architect for the conveyance of survey, contextual analysis, design intent, and their various modes of expression. Exercises are conducted on location: in piazzas, museums, churches in Florence, Vicenza, and Rome with short trips to Siena, Ravenna, and Venice-the perennial classrooms for generations of architects.

Prerequisite(s): ARCH-2201.**ARCH-3310 Theory & History: Field Study****(2 credits) (Summer)**

As there can be no substitute for first-hand, field study of buildings and places, this course follows the three-hundred-year practice amongst architects to study the most instructive examples of architecture and urbanism in the Western tradition. These buildings and places are studied for the achievement of beauty, as an outworking of the true and the good, that includes the continuing affirmation of these places as the most livable and the most sustainable built environments. This course will require reading, close observation that includes field-drawing documentation, analytical drawing, discussion, and a summative written report.

Prerequisite(s): ARCH-2112.**ARCH-3400 Architecture of Cities****(3 credits) (Fall Semester)**

The meaningful arrangements of cities and their institutions is studied chronologically. The course analyzes the metrics of good urbanism in pre-industrial cities and, now again, in contemporary cities. Urban sprawl, while intended to maximize personal choice, contributes significantly to climate change, resource depletion, and social disfunction. We look at city, district, and neighborhood as the scales in which individuals and institutions build community to effect individual, family, and communal flourishing. Entailed in the shaping of places can be the liberty of choices and self-governance giving access for all to the goods of cities and thereby promoting social equality. (PC)

Prerequisite(s): ARCH-2301 and ARCH-2112.**General Education Categories:** Person & Community**ARCH-3411 Building I****(3 credits) (Fall Semester)**

This course offers an introduction to histories and theories of building science, as well as construction methods of basic structural systems with the primary focus on wood and residential design. Course scope includes the design of concrete foundations, masonry, floor systems, wall systems and roofs. Students will be introduced to field measurements and will construct a structurally accurate residential house model. Students are introduced to residential loads and calculations, code requirements, and energy efficiency.

ARCH-4115 Senior Studio 5**(6 credits) (Fall Semester)**

Building on the sequence in the contemporary practice of the Western language of architecture, the region and complex urban contexts are introduced. Projects range from communal housing types (such as university housing or a monastery) to civic and institutional ensembles (such as a train station, cathedral, or county courthouse). Resource stewardship looks at larger buildings, complexes, and beyond to the sustainability of places. Architectural challenges include the specific character in public facades, using types and ornament that convey civic meaning and decorum. For a city comprised of neighborhoods and districts, the aim is to create iconic and beloved civic architecture.

Prerequisite(s): ARCH-3114 and ARCH-3310.

ARCH-4116 Capstone Studio 6**(6 credits) (Spring Semester)**

Capstone Studio 6 completes the studio sequence in the Western language of architecture. The student brings to bear all the learned considerations of architecture and urban design. The architectural and urban types and assembled in complex ensembles. Competent judgment is exercised in the choice of appropriate building materials, components, types to communicate civic meaning and to steward resources. At this greatest scale of community identity, this studio meets the challenge of representing the culture of place in complex urban designs. (OC)

Prerequisite(s): Grade of C- or better in both ARCH-4115 and ARCH-4400.

General Education Categories: Oral Communication

ARCH-4400 Environmental Systems & Sustainability**(4 credits) (Fall Semester)**

This course investigates the interrelationship of architecture, environmental systems, and human needs and/or comfort. Lectures, readings, and exercises probe topics that include climate and weather, environmental health and indoor air quality, thermal comfort, active and passive energy design, life safety systems, water conservation and usage, design strategies for heating, ventilating, and air conditioning, as well as plumbing, noise control, and overall building management. Special emphasis is placed on sustainability issues, energy conservation, and public health and safety. The lab component of this course includes independent assignments to study best options and then design the basic mechanical systems associated with the student's primary studio project.

Pre or Corequisite(s): ARCH-3113.