

# Architecture (ARCH)

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*Note: ARCH 414, ARCH 440, ARCH 465, and ARCH 466 are only open to undergraduate students.*

## **ARCH 414. Contemporary Practices. 3 hours.**

An upper level "selective" seminar that examines specific approaches to the contemporary practice of architecture; students choose by lottery from among several options that are offered by faculty. Course Information: Prerequisite(s): ARCH 252; and approval of the department. BS in Architecture students must complete ARCH 371 and 372. Corequisite(s): BS in Architecture students must concurrently enroll in ARCH 465. Class Schedule Information: To be properly registered, students must enroll in one Discussion/Recitation and one Lecture-Discussion.

## **ARCH 440. Digital Design and Fabrication. 3 hours.**

Lectures, 3D software modeling lab time, and lab time for fabricating these files into physical models and prototypes, delivers a survey knowledge of digital fabrication and production in contemporary architectural practice. Course Information: Prerequisite(s): ARCH 106; and approval of the department.

## **ARCH 465. Advanced Topic Studio 1. 6 hours.**

Advanced studio that pursues specific design and research agendas of current significance; students choose by lottery from among several options that are offered by faculty. Course Information: Extensive computer use required. Field trip required at a nominal fee. Field work required. Students will use city as a research laboratory with field work on project sites. Additional scheduled field trips will be made to significant or historical architectural buildings as part of preliminary design research and analysis. Prerequisite(s): ARCH 360 and ARCH 365 and ARCH 366 and ARCH 372; and junior standing or above; and approval of the department. Students must have earned an average grade of C or better in both ARCH 365 and ARCH 366. Students with a lower grade point average for the 365/366 studio sequence are required to take an eight-week summer studio in which they must earn at least a C in order to advance to the studio sequence for the following year. Class Schedule Information: To be properly registered, students must enroll in one Laboratory and one Lecture.

## **ARCH 466. Advanced Topic Studio 2. 6 hours.**

Advanced studio that pursues specific design and research agendas of current significance; students choose by lottery from among several options that are offered by faculty. Course Information: Extensive computer use required. Field trip required at a nominal fee. Field work required. Students will use city as a research laboratory with field work on project sites. Additional scheduled field trips will be made to significant or historical architectural buildings as part of preliminary design research and analysis. Prerequisite(s): ARCH 465; and approval of the department. Students must have earned an average grade of C or better in ARCH 365 and ARCH 366. Students with a lower grade point average for the 365/366 studio sequence are required to take an eight-week summer studio in which they must earn at least a C in order to advance to the studio sequence for the following year. Class Schedule Information: To be properly registered, students must enroll in one Laboratory and one Lecture.

## **ARCH 470. Structures I: Statics. 3 hours.**

Introduction to the analysis of structural elements. Introduction to fundamental structural planning criteria and relevant concepts of tension, compression and bending. Introduction to historical and contemporary structural precedents. Course Information: Prerequisite(s): Credit or concurrent registration in MATH 180 and Credit or concurrent registration in PHYS 131.

## **ARCH 471. Structures II: Strength of Materials. 3 hours.**

Introduction to material properties; strength characteristics of building materials and material assemblies; stress and strain; rigidity and deformation; temperature effects; torsion effects; combined loading of elements and systems. Course Information: Prerequisite(s): ARCH 470 and approval of the school.

## **ARCH 499. Special Topics. 3 or 4 hours.**

Special topics in theory, design, technology, or graphic skills and craft (manual or digital). Course Information: 3 undergraduate hours. 4 graduate hours. May be repeated up to 3 time(s). Prerequisite(s): Senior standing or above.

## **ARCH 520. Topics in Architectural Theory and History. 4 hours.**

Seminar on a current topic in the criticism, theory or history of architecture and urbanism. Course Information: May be repeated to a maximum of 12 hours.

## **ARCH 522. Topics in Architectural Technology. 4 hours.**

Seminar on a current topic in technology, structures, or digital fabrication and new media. Course Information: May be repeated to a maximum of 12 hours.

## **ARCH 531. Architectural Theory and History I. 4 hours.**

Discusses a diversity of critical and generative approaches to contemporary architecture and theory, with an emphasis on how architects invent and instrumentalize history. Course Information: Corequisite(s): ARCH 551 and ARCH 561.

## **ARCH 532. Architectural Theory and History II. 4 hours.**

Investigates the historical and theoretical connections between architecture and culture, society, and politics in a variety of global contexts.

## **ARCH 544. Professional Practices. 4 hours.**

An introduction to the law and business of architecture, with an emphasis on alternative models for contemporary professional practice. Course Information: Prerequisite(s): Approval of the department.

## **ARCH 551. Architectural Design I. 6 hours.**

Introduction to the architectural design discipline as an instigator of qualities and as a function of technique and geometry. Exercises address issues of scale, proportion, intricacy, and formal organizing systems through analog and digital media. Course Information: Previously listed as ARCH 451. Corequisite(s): ARCH 531 and ARCH 561.

## **ARCH 552. Architectural Design II. 6 hours.**

Introduction to the architectural design discipline as an organizer of quantities and as a function of argument and scenario. Exercises confront issues of size, number, expediency, and activity through diagramming, modeling, and graphic techniques. Course Information: Previously listed as ARCH 452. Prerequisite(s): ARCH 551.

**ARCH 553. Architectural Design III. 6 hours.**

Comprehensive housing design studio using building codes, structural and mechanical systems, and material lifecycles as generative design parameters to attain the scale of detail development and the level of construction documents. Course Information: Previously listed as ARCH 453. Prerequisite(s): Advanced standing in the second year of the three-year Master of Architecture program, or completion of both ARCH 551 and ARCH 552 with a grade point average of B or better in the ARCH 551 and 552 course sequence.

**ARCH 554. Architectural Design IV. 6 hours.**

Addresses contemporary collective space through the development of a large, mixed-use complex on an urban site, and the communication with diverse audiences by synthesizing information and identity from multiple programs and publics. Course Information: Previously listed as ARCH 454. Prerequisite(s): ARCH 553.

**ARCH 555. Design Development. 4 hours.**

Advanced seminar that focuses on technical development and documentation of the design project from ARCH 553. Course Information: Extensive computer use required. Prerequisite(s): Credit or concurrent registration in ARCH 553 and ARCH 563. Class Schedule Information: To be properly registered, students must enroll in one Lecture-Discussion and one Laboratory.

**ARCH 561. Architectural Technology I. 4 hours.**

Introduction to building construction processes, terminology, conventions, standards, materials, principles of structural behavior, application of components and assemblies, and communication and specifications. Course Information: Previously listed as ARCH 461. Corequisite(s): ARCH 531 and ARCH 551. Class Schedule Information: To be properly registered, students must enroll in one Laboratory and one Lecture/Discussion.

**ARCH 562. Architectural Technology II. 4 hours.**

Focuses on the relationship of interior architecture and its occupant(s) with emphasis on the technical integration of site, program, movement, and building systems: HVAC, electrical, plumbing, ADA and universal design, vertical transport, and egress. Course Information: Previously listed as ARCH 462. Prerequisite(s): ARCH 561. Class Schedule Information: To be properly registered, students must enroll in one Laboratory and one Lecture/Discussion.

**ARCH 563. Architectural Technology III. 4 hours.**

Focuses on the relationship between architecture, environment, and the human body, including the study of material and energy specification, physiological and cultural norms of the human body, and assembly systems at the building's envelope. Course Information: Previously listed as ARCH 463. Prerequisite(s): ARCH 562 or advanced standing in the second year of the three year Master of Architecture program. Class Schedule Information: To be properly registered, students must enroll in one Laboratory and one Lecture-Discussion.

**ARCH 564. Architectural Technology IV. 4 hours.**

An advanced seminar/lab in architectural technologies, structures, new materials, and fabrication techniques; students choose by lottery into one of several sections with diverse content. Course Information: Previously listed as ARCH 464. Prerequisite(s): ARCH 561 and credit or concurrent registration in ARCH 562 and ARCH 563; and credit or concurrent registration in ARCH 573 and ARCH 574. Students who are admitted advanced standing into the second year of the three year Master of Architecture program have the option to take ARCH 562 OR ARCH 573 concurrently with ARCH 564. Class Schedule Information: To be properly registered, students must enroll in one Laboratory and one Lecture/Discussion.

**ARCH 565. Topic Studio. 6 hours.**

Advanced studio that pursues specific design and research agendas of current significance; students choose by lottery from among several options that are offered by permanent and distinguished visiting faculty. Course Information: Extensive computer use required. Field work; field trips required at a nominal fee. Prerequisite(s): Completion of both ARCH 553 and ARCH 554 with a grade point average of B or better in this course sequence. Students with a lower grade point average for the 553/554 studio sequence are required to take an eight-week summer studio in which they must earn at least a B in order to advance to the studio sequence for the following year.

**ARCH 566. Research Seminar. 4 hours.**

The first part of a year-long design-research project, the seminar establishes the information base to be developed into publishable form in the subsequent research studio. Course Information: Field work required.

**ARCH 567. Research Studio. 6 hours.**

Collaborative and individual design-research, in multiple genres, that addresses concerns at the edge of the contemporary discipline and results from a year-long course of study. Course Information: Extensive computer use required. Field work; field trips required at a nominal fee. Prerequisite(s): ARCH 566.

**ARCH 573. Architectural Structures I. 4 hours.**

Introduction to the analysis of elementary structures by quantitative and graphical means; introduction to historical and contemporary structural precedents. Course Information: Previously listed as ARCH 473. Prerequisite(s): ARCH 561.

**ARCH 574. Architectural Structures II. 4 hours.**

Introduction to the design of structural elements and systems in steel, concrete and wood including the application of computer-aided engineering software and approximate methods. Course Information: Previously listed as ARCH 474. Prerequisite(s): ARCH 561 or advanced standing into the second year of the three year Master of Architecture program.

**ARCH 585. Architectural Theory and History III. 4 hours.**

Examines the trajectory from the industrial metropolis to the contemporary megalopolis through a survey of the forces that produced it, and the ideologies and practices that have attempted to organize or simulate it. Course Information: Previously listed as ARCH 485.

**ARCH 586. Architectural Theory and History IV. 4 hours.**

An advanced seminar in architectural and urban criticism, theory and history; students choose by lottery into one of several sections with diverse content.

**ARCH 587. Pro-seminar I: Design Criticism. 4 hours.**

Introduction to the methods and styles of design criticism, with specific attention to architectural, urban, landscape, and environmental design disciplines.

**ARCH 588. Pro-seminar II: Publication and Graphic Argumentation. 4 hours.**

Revisits the archive of publications on design to liberate strategies and tactics for use in the present day, as well as to encourage the invention of new forms of evidence through diagramming and projective graphics. Course Information: Prerequisite(s): ARCH 587.

**ARCH 589. Writing Tutorial I. 4 hours.**

Independent research and writing, pursued under the direction of a primary advisor. Course Information: Prerequisite(s): Consent of the instructor.

**ARCH 590. Writing Tutorial II. 4 hours.**

Independent research and writing, pursued under the direction of a primary advisor. Course Information: Prerequisite(s): ARCH 589; and consent of the instructor.

**ARCH 591. Architectural Study Abroad. 0-17 hours.**

Lectures, seminars, studio and independent travel/study abroad. Architectural design, planning, structures, history and technology. Course Information: May be repeated to a maximum of 34 hours. Previously listed as ARCH 491. Field work required. Prerequisite(s): Completion of at least one year of architectural graduate course work; 3.00 cumulative grade point average in architecture; and approval of the school.

**ARCH 596. Independent Study for Graduate Students. 1-8 hours.**

Individual study. Course Information: Satisfactory/Unsatisfactory grading only. May be repeated to a maximum of 16 hours. Prerequisite(s): Approval of the Department. Restricted to students in the Master of Architecture, Master of Science in Architecture and Master of Arts in Design Criticism degrees. Students must coordinate with faculty and department in advance to obtain registration approval.