

# SCHOOL OF ARCHITECTURE

## Courses

### ARCH 1112 Introduction to Architecture

**Description:** An introduction to the professions of architecture and architectural engineering. Previously offered as ARCH 1111. Same course as UNIV 1111.

**Credit hours:** 2

**Contact hours:** Lecture: 2 Contact: 2

**Levels:** Undergraduate

**Schedule types:** Lecture

**Department/School:** Architecture

### ARCH 1211 Introduction to Architectural Studies

**Description:** An introduction to the professions of architecture and architectural engineering. No degree credit with credit in ARCH 1112.

**Credit hours:** 1

**Contact hours:** Lecture: 1 Contact: 1

**Levels:** Undergraduate

**Schedule types:** Lecture

**Department/School:** Architecture

### ARCH 1216 Architectural Design Studio I

**Prerequisites:** Grade of "C" or better in ARCH 1112, or consent of instructor.

**Description:** Architectural graphics and design fundamentals. Students progressing in the Physics 1114/2014 and MATH 2144 course sequence will be given preference in enrollment. Additionally, students who have not received a grade for ARCH 1216 will be given first priority in enrollment. Students who have received a grade in this course will be admitted on a space available basis and at the discretion of the school head and architecture advisor.

**Credit hours:** 6

**Contact hours:** Lab: 12 Contact: 12

**Levels:** Undergraduate

**Schedule types:** Lab

**Department/School:** Architecture

### ARCH 2003 Architecture and Society (HI)

**Description:** Design, planning, and building considered in their social and aesthetic contexts. Some sections may be restricted to Architectural Engineering majors, see course offerings. May not be used for degree credit with ARCH 2183.

**Credit hours:** 3

**Contact hours:** Lecture: 3 Contact: 3

**Levels:** Undergraduate

**Schedule types:** Lecture

**Department/School:** Architecture

**General Education and other Course Attributes:** Humanities, International Dimension

### ARCH 2100 Architectural Studies

**Description:** Beginning studies in graphics and design in architecture. Offered for variable credit, 1-4 credit hours, maximum of 4 credit hours.

**Credit hours:** 1-4

**Contact hours:** Contact: 1-4 Other: 1-4

**Levels:** Undergraduate

**Schedule types:** Independent Study

**Department/School:** Architecture

### ARCH 2116 Architectural Design Studio II

**Prerequisites:** Grade of "C" or better in ARCH 1216.

**Description:** Students who have not received a grade for ARCH 2116 will be given first priority in enrollment. Students who have received a grade in this course will be admitted on a space available basis and at the discretion of the school head and architecture adviser. Problems in architectural design.

**Credit hours:** 6

**Contact hours:** Lab: 12 Contact: 12

**Levels:** Undergraduate

**Schedule types:** Lab

**Department/School:** Architecture

### ARCH 2183 History and Theory of Architecture I

**Description:** History and theory of the Pre-Enlightenment era of architecture in the Western world. May not be used for degree credit with ARCH 2003.

**Credit hours:** 3

**Contact hours:** Lecture: 3 Contact: 3

**Levels:** Undergraduate

**Schedule types:** Lecture

**Department/School:** Architecture

### ARCH 2203 History and Theory of Architecture Since 1900

**Prerequisites:** ARCH 2003. Grade of "C" or better.

**Description:** History and theory of world architecture in the 20th century and beyond. May not be used for degree credit with ARCH 2283.

**Credit hours:** 3

**Contact hours:** Lecture: 3 Contact: 3

**Levels:** Undergraduate

**Schedule types:** Lecture

**Department/School:** Architecture

### ARCH 2216 Architectural Design Studio III

**Prerequisites:** Grade of "C" or better in ARCH 1216 and ARCH 2116.

Students who have not received a grade for ARCH 2216 will be given first priority in enrollment. Students who have received a grade in this course will be admitted on a space available basis and at the discretion of the school head and architecture adviser.

**Description:** Problems in architectural design.

**Credit hours:** 6

**Contact hours:** Lab: 12 Contact: 12

**Levels:** Undergraduate

**Schedule types:** Lab

**Department/School:** Architecture

### ARCH 2252 Design Communication I: Visual and Graphic Acuity

**Prerequisites:** Co-requisite enrollment in ARCH 2116 or permission of instructor.

**Description:** Introduction to the communication strategies unique to the professions of architecture and architectural engineering.

**Credit hours:** 2

**Contact hours:** Lecture: 2 Contact: 2

**Levels:** Undergraduate

**Schedule types:** Lecture

**Department/School:** Architecture

### ARCH 2263 Building Systems

**Prerequisites:** Grade of "C" or better in ARCH 1216 and ARCH 2116.

**Description:** Architectural, structural, and environmental control systems.

**Credit hours:** 3

**Contact hours:** Lecture: 3 Contact: 3

**Levels:** Undergraduate

**Schedule types:** Lecture

**Department/School:** Architecture

**ARCH 2283 History and Theory of Architecture II (H)**

**Description:** A study of mankind's accomplishments exhibited in architecture from the renaissance to the present day. May not be used for degree credit with ARCH 2203.

**Credit hours:** 3

**Contact hours:** Lecture: 3 Contact: 3

**Levels:** Undergraduate

**Schedule types:** Lecture

**Department/School:** Architecture

**General Education and other Course Attributes:** Humanities

**ARCH 2890 Honors for Topics in Architecture**

**Prerequisites:** Honors student standing.

**Description:** Honors Topics course to be used as an Add on for students concurrently enrolled in other ARCH courses, or can be used as a stand-alone course. Enrichment experiences to enhance the understanding of Architectural design. Offered for variable credit, 1-3 credit hours, maximum of 3 credit hours.

**Credit hours:** 1-3

**Contact hours:** Lecture: 1-3 Contact: 1-3

**Levels:** Undergraduate

**Schedule types:** Lecture

**Department/School:** Architecture

**General Education and other Course Attributes:** Honors Credit

**ARCH 3033 Design Methods**

**Prerequisites:** ARCH 2216 or permission of instructor.

**Description:** Investigations in design problem solving.

**Credit hours:** 3

**Contact hours:** Lecture: 3 Contact: 3

**Levels:** Undergraduate

**Schedule types:** Lecture

**Department/School:** Architecture

**ARCH 3043 Structural Loadings in Architecture**

**Prerequisites:** "C" or better in ENSC 2143, and/or co-requisite enrollment in ARCH 3143.

**Description:** An exploration of types of loadings and their application in the design of building structures.

**Credit hours:** 3

**Contact hours:** Lecture: 2 Lab: 2 Contact: 4

**Levels:** Undergraduate

**Schedule types:** Lab, Lecture, Combined lecture and lab

**Department/School:** Architecture

**ARCH 3083 History and Theory of Renaissance and Baroque Architecture (H)**

**Prerequisites:** ARCH 2003. Grade of "C" or better. Or ARCH 2283. Grade of "C" or better.

**Description:** History and theory of Renaissance and Baroque architecture in the western world.

**Credit hours:** 3

**Contact hours:** Lecture: 3 Contact: 3

**Levels:** Undergraduate

**Schedule types:** Lecture

**Department/School:** Architecture

**General Education and other Course Attributes:** Humanities

**ARCH 3100 Special Topics in Architecture**

**Description:** Subjects to be selected by the faculty in architecture from advances in state-of-the-art areas. Offered for variable credit, 1-6 credit hours, maximum of 12 credit hours.

**Credit hours:** 1-6

**Contact hours:** Contact: 1-6 Other: 1-6

**Levels:** Undergraduate

**Schedule types:** Independent Study

**Department/School:** Architecture

**ARCH 3116 Architectural Design Studio IV**

**Prerequisites:** Grade of "C" or better in ARCH 2216 and admission to Professional School.

**Description:** Problems in architectural design.

**Credit hours:** 6

**Contact hours:** Lab: 12 Contact: 12

**Levels:** Undergraduate

**Schedule types:** Lab

**Department/School:** Architecture

**ARCH 3143 Structures: Analysis I**

**Prerequisites:** Grade of "C" or better in ENSC 2143.

**Description:** Structural theory for applications in architecture. Previously offered as ARCH 3243.

**Credit hours:** 3

**Contact hours:** Lecture: 2 Lab: 2 Contact: 4

**Levels:** Undergraduate

**Schedule types:** Lab, Lecture, Combined lecture and lab

**Department/School:** Architecture

**ARCH 3163 Architectural Science I: Thermal Systems and Life Safety for Architects**

**Prerequisites:** Admission to Professional School, or permission of instructor.

**Description:** A survey of the scientific and design fundamentals of thermal comfort, building physics, building performance and energy concerns, and mechanical systems for buildings as well as the basic principles of life safety. May not be used for degree credit with ARCH 4134 or ARCH 4163. Previously offered as ARCH 3134.

**Credit hours:** 3

**Contact hours:** Lecture: 2 Lab: 2 Contact: 4

**Levels:** Undergraduate

**Schedule types:** Lab, Lecture, Combined lecture and lab

**Department/School:** Architecture

**ARCH 3173 History and Theory of American Architecture**

**Prerequisites:** ARCH 2003. Grade of "C" or better. Or ARCH 2283. Grade of "C" or better.

**Description:** History and theory of American architecture from the colonial period to the present day.

**Credit hours:** 3

**Contact hours:** Lecture: 3 Contact: 3

**Levels:** Undergraduate

**Schedule types:** Lecture

**Department/School:** Architecture

**ARCH 3216 Architectural Design Studio V**

**Prerequisites:** Grade of "C" or better in ARCH 3116.

**Description:** Problems in architectural design.

**Credit hours:** 6

**Contact hours:** Lab: 12 Contact: 12

**Levels:** Undergraduate

**Schedule types:** Lab

**Department/School:** Architecture

**ARCH 3223 Structures: Timbers****Prerequisites:** Grade of "C" or better in ARCH 3323.**Description:** Analysis and design of timber structures used in architecture.**Credit hours:** 3**Contact hours:** Lecture: 2 Lab: 2 Contact: 4**Levels:** Undergraduate**Schedule types:** Lab, Lecture, Combined lecture and lab**Department/School:** Architecture**ARCH 3224 Structures: Steel II****Prerequisites:** Grade of "C" or better in ARCH 3323 and ARCH 3143.**Description:** Design and analysis of multi-story steel frames, trusses, arches, and other architectural structure components. Previously offered as ARCH 4244 and ARCH 4144.**Credit hours:** 4**Contact hours:** Lecture: 3 Lab: 2 Contact: 5**Levels:** Undergraduate**Schedule types:** Lab, Lecture, Combined lecture and lab**Department/School:** Architecture**ARCH 3252 Computer Applications in Architecture I****Prerequisites:** Grade of C or better in ARCH 2116, and concurrent enrollment in ARCH 2216.**Description:** Introduction to 2D and 3D computer topics and their application in the design process. No credit for students with credit in ARCH 3253.**Credit hours:** 2**Contact hours:** Lecture: 2 Contact: 2**Levels:** Undergraduate**Schedule types:** Lecture**Department/School:** Architecture**ARCH 3262 Design Communication II: Advanced Digital Applications****Prerequisites:** Grade of "C" or better in ARCH 2252 and ENGR 1412.**Description:** State-of-the-art applications of computers to the practice of architecture and architectural engineering. Previously offered as ARCH 4053.**Credit hours:** 2**Contact hours:** Lecture: 1 Lab: 2 Contact: 3**Levels:** Undergraduate**Schedule types:** Lab, Lecture, Combined lecture and lab**Department/School:** Architecture**ARCH 3263 Materials In Architecture****Prerequisites:** Grade of "C" or better in ARCH 2263 and admission to Professional School.**Description:** Introduction to the basic materials used in the construction of architecture and how such materials affect both the design and implementation of the systems that incorporate these materials.**Credit hours:** 3**Contact hours:** Lecture: 3 Contact: 3**Levels:** Undergraduate**Schedule types:** Lecture**Department/School:** Architecture**ARCH 3273 History and Theory of Medieval Architecture****Prerequisites:** ARCH 2003, Grade of "C" or better. Or ARCH 2183, Grade of "C" or better. Or consent of instructor.**Description:** History and theory of the architecture created between the 8th and 15th centuries in Europe, and its impact on the subsequent religious architecture of today.**Credit hours:** 3**Contact hours:** Lecture: 3 Contact: 3**Levels:** Undergraduate**Schedule types:** Lecture**Department/School:** Architecture**ARCH 3323 Structures: Steel I****Prerequisites:** Grade of "C" or better in ENSC 2113 and admission to the Professional Program or permission of school head and advisor.**Description:** Analysis and design of steel structures used in architecture.**Credit hours:** 3**Contact hours:** Lecture: 2 Lab: 2 Contact: 4**Levels:** Undergraduate**Schedule types:** Lab, Lecture, Combined lecture and lab**Department/School:** Architecture**ARCH 3343 Structures: Steel II****Prerequisites:** Grade of "C" or better in ARCH 3323 and ARCH 3043.**Description:** Analysis, design, detailing and documentation of multi-story steel structures, and other structural components used in architecture applications. Previously offered as ARCH 3224.**Credit hours:** 3**Contact hours:** Lecture: 2 Lab: 2 Contact: 4**Levels:** Undergraduate**Schedule types:** Lab, Lecture, Combined lecture and lab**Department/School:** Architecture**ARCH 3353 Advanced Graphics and Theory of Representation****Prerequisites:** Grade of "C" or better in ARCH 2252 or consent of instructor.**Description:** Manual and digital graphic techniques are explored in a project-based studio learning environment.**Credit hours:** 3**Contact hours:** Lecture: 2 Lab: 2 Contact: 4**Levels:** Undergraduate**Schedule types:** Lab, Lecture, Combined lecture and lab**Department/School:** Architecture**ARCH 3373 Design and Diversity in Urban Centers of the US****Prerequisites:** Permission of Instructor.**Description:** Field study analysis of the diverse social and cultural issues evidenced through the design of architecture in major urban centers of the United States. Previously offered as ARCH 3370.**Credit hours:** 3**Contact hours:** Lab: 6 Contact: 6**Levels:** Undergraduate**Schedule types:** Lab**Department/School:** Architecture

**ARCH 3433 Architectural Science II: Acoustics, Lighting, and Service Systems**

**Prerequisites:** MATH 2144, Grade of "C" or better.

**Description:** A survey of scientific and design fundamentals of architectural acoustics, lighting, electrical, and signal, conveying, and plumbing systems for buildings. May not be used for degree credit with ARCH 4433.

**Credit hours:** 3

**Contact hours:** Lecture: 2 Lab: 2 Contact: 4

**Levels:** Undergraduate

**Schedule types:** Lab, Lecture, Combined lecture and lab

**Department/School:** Architecture

**ARCH 3473 History and Theory of Structures in Architecture (H)**

**Prerequisites:** "C" or better in ARCH 2003 or ARCH 2183 or ARCH 2283.

**Description:** A study of the language of structural systems as manifested in architecture through the ages.

**Credit hours:** 3

**Contact hours:** Lecture: 3 Contact: 3

**Levels:** Undergraduate

**Schedule types:** Lecture

**Department/School:** Architecture

**General Education and other Course Attributes:** Humanities

**ARCH 4073 History and Theory of Early Modern Architecture**

**Prerequisites:** ARCH 2003, Grade of "C" or better. Or ARCH 2283, Grade of "C" or better.

**Description:** History and theory of modern architecture in the western world from the industrial revolution to the early twentieth century.

**Credit hours:** 3

**Contact hours:** Lecture: 3 Contact: 3

**Levels:** Undergraduate

**Schedule types:** Lecture

**Department/School:** Architecture

**ARCH 4093 Architectural Project Management**

**Prerequisites:** Concurrent enrollment in ARCH 4216 or ARCH 5226 or consent of instructor.

**Description:** Principles of management as applied to architectural and architectural engineering projects. Previously offered as ARCH 5293.

**Credit hours:** 3

**Contact hours:** Lecture: 3 Contact: 3

**Levels:** Undergraduate

**Schedule types:** Lecture

**Department/School:** Architecture

**ARCH 4100 Special Topics in Architecture**

**Prerequisites:** Consent of instructor and head of the school.

**Description:** Subjects to be selected by the faculty in architecture from advances in state-of-the-art areas. Offered for variable credit, 1-6 credit hours, maximum of 12 credit hours.

**Credit hours:** 1-6

**Contact hours:** Contact: 1-6 Other: 1-6

**Levels:** Undergraduate

**Schedule types:** Independent Study

**Department/School:** Architecture

**ARCH 4116 Design Studio VI**

**Prerequisites:** Grade of "C" or better in ARCH 3216 and ARCH 3262.

**Description:** Problems in architectural design. Previously offered as ARCH 4517.

**Credit hours:** 6

**Contact hours:** Lab: 12 Contact: 12

**Levels:** Undergraduate

**Schedule types:** Lab

**Department/School:** Architecture

**ARCH 4123 Structures: Concrete I**

**Prerequisites:** Grade of "C" or better in ARCH 3323.

**Description:** Analysis and design applications in architectural problems using concrete structures.

**Credit hours:** 3

**Contact hours:** Lecture: 2 Lab: 2 Contact: 4

**Levels:** Undergraduate

**Schedule types:** Lab, Lecture, Combined lecture and lab

**Department/School:** Architecture

**ARCH 4131 Architectural Science Lab**

**Prerequisites:** Enrollment by permission of instructor or academic advisor; senior standing.

**Description:** Laboratory experiments for building systems. Systems may include heating, cooling, electrical, lighting, acoustics and plumbing.

**Credit hours:** 1

**Contact hours:** Lab: 2 Contact: 2

**Levels:** Undergraduate

**Schedule types:** Lab

**Department/School:** Architecture

**ARCH 4143 Structures: Foundations for Buildings**

**Prerequisites:** Grade of "C" or better in ARCH 4123.

**Description:** Subsurface soil conditions and design of foundation systems and retaining walls for buildings.

**Credit hours:** 3

**Contact hours:** Lecture: 2 Lab: 2 Contact: 4

**Levels:** Undergraduate

**Schedule types:** Lab, Lecture, Combined lecture and lab

**Department/School:** Architecture

**ARCH 4163 Architectural Science I: Thermal Systems and Life Safety for Architectural Engineers**

**Prerequisites:** Admission to Professional School, or permission of instructor.

**Description:** A survey of the scientific and design fundamentals of thermal comfort, building physics, building performance and energy concerns, and mechanical systems for buildings, as well as the basic principles of life safety. May not be used for degree credit with ARCH 3134, ARCH 4134, or ARCH 3163. Previously offered as ARCH 4134.

**Credit hours:** 3

**Contact hours:** Lecture: 2 Lab: 2 Contact: 4

**Levels:** Undergraduate

**Schedule types:** Lab, Lecture, Combined lecture and lab

**Department/School:** Architecture

**ARCH 4173 History and Theory of Skyscraper Design (H)**

**Prerequisites:** ARCH 2003, Grade of "C" or better. Or ARCH 2283, Grade of "C" or better.

**Description:** History and theory of the development of the skyscraper in the USA from the late 19th century to the present.

**Credit hours:** 3

**Contact hours:** Lecture: 3 Contact: 3

**Levels:** Undergraduate

**Schedule types:** Lecture

**Department/School:** Architecture

**General Education and other Course Attributes:** Humanities

**ARCH 4183 History and Theory of Architecture: Cities**

**Prerequisites:** ARCH 2003, Grade of "C" or better. Or ARCH 2283, Grade of "C" or better.

**Description:** The development of cities as an aspect of architecture from ancient times to the twentieth century.

**Credit hours:** 3

**Contact hours:** Lecture: 3 Contact: 3

**Levels:** Undergraduate

**Schedule types:** Lecture

**Department/School:** Architecture

**ARCH 4203 Experimental Design Lab**

**Credit hours:** 3

**Contact hours:** Lab: 6 Contact: 6

**Levels:** Undergraduate

**Schedule types:** Lab

**Department/School:** Architecture

**ARCH 4216 Architectural Design Studio VII**

**Prerequisites:** Grade of "C" or better in ARCH 3163 and ARCH 3433 and ARCH 4116 and ARCH 4123.

**Description:** Problems in Architectural Design. May not be used for degree credit with ARCH 5226.

**Credit hours:** 6

**Contact hours:** Lab: 12 Contact: 12

**Levels:** Undergraduate

**Schedule types:** Lab

**Department/School:** Architecture

**ARCH 4224 Structures: Concrete II**

**Prerequisites:** Grades of "C" or better in ARCH 3262, ARCH 4123, and concurrent enrollment in ARCH 4143.

**Description:** Design and analysis of multi-story reinforced concrete frames used in architecture applications. Previously offered as ARCH 4225.

**Credit hours:** 4

**Contact hours:** Lecture: 3 Lab: 2 Contact: 5

**Levels:** Undergraduate

**Schedule types:** Lab, Lecture, Combined lecture and lab

**Department/School:** Architecture

**ARCH 4233 Sustainable Design in Architecture**

**Prerequisites:** Grade of "C" or better in ARCH 3134 or ARCH 3163 or ARCH 4163.

**Description:** Sustainability topics and their application to architecture.

**Credit hours:** 3

**Contact hours:** Lecture: 3 Contact: 3

**Levels:** Undergraduate

**Schedule types:** Lecture

**Department/School:** Architecture

**ARCH 4263 Architecture Seminar**

**Prerequisites:** Co-requisite enrollment in ARCH 4216 or ARCH 5226, or permission of instructor.

**Description:** Topics in architecture and architectural engineering. May not be used for degree credit with ARCH 5263.

**Credit hours:** 3

**Contact hours:** Lecture: 3 Contact: 3

**Levels:** Undergraduate

**Schedule types:** Lecture

**Department/School:** Architecture

**ARCH 4273 History and Theory of Islamic Architecture**

**Prerequisites:** ARCH 2003, Grade of "C" or better. Or ARCH 2183, Grade of "C" or better.

**Description:** Architecture of the Islamic World.

**Credit hours:** 3

**Contact hours:** Lecture: 3 Contact: 3

**Levels:** Undergraduate

**Schedule types:** Lecture

**Department/School:** Architecture

**ARCH 4283 Architecture of Asia**

**Prerequisites:** ARCH 2003 Architecture and Society.

**Description:** History and theory of the architecture of Asia.

**Credit hours:** 3

**Contact hours:** Lecture: 3 Contact: 3

**Levels:** Undergraduate

**Schedule types:** Lecture

**Department/School:** Architecture

**ARCH 4293 The Ethics of the Built Environment (H)**

**Prerequisites:** Admission to the professional program or consent of instructor.

**Description:** Analysis of basic values that determine the form of the built environment.

**Credit hours:** 3

**Contact hours:** Lecture: 3 Contact: 3

**Levels:** Undergraduate

**Schedule types:** Lecture

**Department/School:** Architecture

**General Education and other Course Attributes:** Humanities

**ARCH 4343 Structures: Concrete II**

**Prerequisites:** Grade of "C" or better in ARCH 3262 and ARCH 4123.

**Description:** Analysis, design, detailing and documentation of multi-story reinforced concrete structures, and other structural components used in architecture applications. Previously offered as ARCH 4224.

**Credit hours:** 3

**Contact hours:** Lecture: 2 Lab: 2 Contact: 4

**Levels:** Undergraduate

**Schedule types:** Lab, Lecture, Combined lecture and lab

**Department/School:** Architecture

**ARCH 4353 Computational Foundations**

**Description:** The use of advanced 3D digital design tools for architectural applications.

**Credit hours:** 3

**Contact hours:** Lecture: 3 Contact: 3

**Levels:** Undergraduate

**Schedule types:** Lecture

**Department/School:** Architecture

**ARCH 4373 Field Study in Europe I****Prerequisites:** Senior standing in architecture or consent of instructor.**Description:** On-site analysis and study of European architecture, culture, and urban design.**Credit hours:** 3**Contact hours:** Lecture: 3 Contact: 3**Levels:** Undergraduate**Schedule types:** Lecture**Department/School:** Architecture**ARCH 4374 International Field Study (HI)****Prerequisites:** Admission to Professional Program in Architecture or Architectural Engineering or approval of instructor and head of school.**Description:** On-site analysis and study of international architecture, culture and urban design.**Credit hours:** 4**Contact hours:** Lab: 8 Contact: 8**Levels:** Undergraduate**Schedule types:** Lab**Department/School:** Architecture**General Education and other Course Attributes:** Humanities, International Dimension**ARCH 4383 History and Theory of Modern Architecture in Italy****Prerequisites:** ARCH 2003, Grade of "C" or better. Or ARCH 2283, Grade of "C" or better.**Description:** History and theory of the progressive experimental architecture created in Italy in the Modern era amidst the cultural, economic, and political realities of 1909-1943.**Credit hours:** 3**Contact hours:** Lecture: 3 Contact: 3**Levels:** Undergraduate**Schedule types:** Lecture**Department/School:** Architecture**ARCH 4433 Architectural Science II: Acoustics, Lighting, and Service Systems for Architectural Engineers****Prerequisites:** MATH 2144, Grade of "C" or better.**Description:** Engineering fundamentals of architectural acoustics, lighting, electrical, and signal, conveying, and plumbing systems for buildings. May not be used for degree credit with ARCH 3433.**Credit hours:** 3**Contact hours:** Lecture: 2 Lab: 2 Contact: 4**Levels:** Undergraduate**Schedule types:** Lab, Lecture, Combined lecture and lab**Department/School:** Architecture**ARCH 4444 Structures: Analysis II****Prerequisites:** Grade of "C" or better in ARCH 3143 and ENGR 1412.**Description:** Mathematical formulation of architectural structural behavior. Matrix applications, finite element, finite differences, stability considerations, and three dimensional structural modeling.**Credit hours:** 4**Contact hours:** Lecture: 3 Lab: 2 Contact: 5**Levels:** Undergraduate**Schedule types:** Lab, Lecture, Combined lecture and lab**Department/School:** Architecture**ARCH 4991 Professional Development for Architects and Architectural Engineers****Prerequisites:** Admission to Professional School, or permission of instructor.**Description:** Professional values, culture, mentorship, and leadership development companion course to a professional experience.**Credit hours:** 1**Contact hours:** Lab: 2 Contact: 2**Levels:** Undergraduate**Schedule types:** Lab**Department/School:** Architecture**ARCH 5003 Integrative Design****Prerequisites:** Admission to the Graduate College and the Architecture Graduate Certificate Program.**Description:** Advanced Topics in Integrative Design.**Credit hours:** 3**Contact hours:** Contact: 3 Other: 3**Levels:** Graduate**Schedule types:** Independent Study**Department/School:** Architecture**ARCH 5016 Architectural Design Studio VIII****Prerequisites:** Grade of "C" or better in ARCH 4216 or permission of school head or advisor.**Description:** Problems in architectural design. May not be used with degree credit in ARCH 5117.**Credit hours:** 6**Contact hours:** Lab: 12 Contact: 12**Levels:** Graduate, Undergraduate**Schedule types:** Lab**Department/School:** Architecture**ARCH 5023 Timber and Masonry Design and Analysis****Prerequisites:** Grade of "C" or better or concurrent enrollment in ARCH 4123, or by permission of instructor.**Description:** Analysis and design of timber and masonry structures, including code requirements, analysis techniques, design of components, and detailing of architectural engineering contract documents conforming to the relevant codes.**Credit hours:** 3**Contact hours:** Lecture: 2 Lab: 2 Contact: 4**Levels:** Graduate, Undergraduate**Schedule types:** Lab, Lecture, Combined lecture and lab**Department/School:** Architecture**ARCH 5093 Real Estate Development****Prerequisites:** Admission to professional program, or consent of instructor.**Description:** Introduction to real estate development as a function of project conception, analysis, design and delivery. Same course as EEE 5200.**Credit hours:** 3**Contact hours:** Lecture: 3 Contact: 3**Levels:** Graduate, Undergraduate**Schedule types:** Lecture**Department/School:** Architecture

**ARCH 5100 Special Topics in Architecture**

**Prerequisites:** Consent of instructor and head of the school.

**Description:** Subjects to be selected by the faculty in architecture from advances in state-of-the-art areas. Offered for variable credit, 1-6 credit hours, maximum of 12 credit hours.

**Credit hours:** 1-6

**Contact hours:** Contact: 1-6 Other: 1-6

**Levels:** Graduate, Undergraduate

**Schedule types:** Independent Study

**Department/School:** Architecture

**ARCH 5117 Architectural Design Studio VIII**

**Prerequisites:** Grade of "C" or better in 4216 or permission of school head or advisor.

**Description:** Problems in architectural design. No credit for students with credit in ARCH 5116.

**Credit hours:** 7

**Contact hours:** Lab: 16 Contact: 16

**Levels:** Graduate, Undergraduate

**Schedule types:** Lab

**Department/School:** Architecture

**ARCH 5133 Advanced Energy Issues in Architecture**

**Credit hours:** 3

**Contact hours:** Lecture: 3 Contact: 3

**Levels:** Graduate, Undergraduate

**Schedule types:** Lecture

**Department/School:** Architecture

**ARCH 5143 Structures: Special Loadings**

**Prerequisites:** Grade of "C" or better in ARCH 4444.

**Description:** Mathematical formulations and modeling in architectural structures. Human response to vibrations. Seismic design in building.

Design for extreme winds on buildings. Approximate methods for preliminary design of architectural structures. Previously offered as ARCH 5243.

**Credit hours:** 3

**Contact hours:** Lecture: 2 Lab: 2 Contact: 4

**Levels:** Graduate, Undergraduate

**Schedule types:** Lab, Lecture, Combined lecture and lab

**Department/School:** Architecture

**ARCH 5193 Management of Architectural Practice**

**Prerequisites:** Fifth-year standing in architecture or architectural engineering or consent of instructor.

**Description:** Principles of management as applied to the private practice of architecture and architectural engineering.

**Credit hours:** 3

**Contact hours:** Lecture: 3 Contact: 3

**Levels:** Graduate, Undergraduate

**Schedule types:** Lecture

**Department/School:** Architecture

**ARCH 5217 Architectural Design Studio IX**

**Prerequisites:** Grade of "C" or better in 5117 or consent of instructor.

**Description:** Problems in architectural design. Previously offered as ARCH 5216.

**Credit hours:** 7

**Contact hours:** Lab: 16 Contact: 16

**Levels:** Graduate, Undergraduate

**Schedule types:** Lab

**Department/School:** Architecture

**ARCH 5226 Architectural Engineering Comprehensive Design Studio**

**Prerequisites:** Grade of "C" or better in ARCH 3343, ARCH 4163, ARCH 4243, and ARCH 4433.

**Description:** Problems in architectural and architectural engineering design. May not be used for degree credit with ARCH 4216.

**Credit hours:** 6

**Contact hours:** Lab: 12 Contact: 12

**Levels:** Graduate, Undergraduate

**Schedule types:** Lab

**Department/School:** Architecture

**ARCH 5263 Advanced Architecture Technology Seminar**

**Prerequisites:** Concurrent enrollment in ARCH 4216 or ARCH 5226, or permission of instructor.

**Description:** Advanced topics in technology related to the disciplines of architecture and architectural engineering. May not be used for degree credit with ARCH 4263.

**Credit hours:** 3

**Contact hours:** Lecture: 3 Contact: 3

**Levels:** Graduate

**Schedule types:** Lecture

**Department/School:** Architecture

**ARCH 5373 Field Study in Europe II**

**Prerequisites:** Senior standing in architecture or consent of instructor

**Description:** On-site analysis and study of European architecture, culture and urban design.

**Credit hours:** 3

**Contact hours:** Lecture: 3 Contact: 3

**Levels:** Graduate, Undergraduate

**Schedule types:** Lecture

**Department/School:** Architecture

**ARCH 5493 Entrepreneurship and Architecture**

**Prerequisites:** Senior standing.

**Description:** Introduction to entrepreneurship within the context of architecture, with direct application to architectural services, activities, and products. Emphasis on implementing the entrepreneurial process in starting and sustaining new ventures that significantly shape the built environment. Same course as EEE 5493.

**Credit hours:** 3

**Contact hours:** Lecture: 3 Contact: 3

**Levels:** Graduate, Undergraduate

**Schedule types:** Lecture

**Department/School:** Architecture

**ARCH 6000 Special Problems**

**Prerequisites:** Consent of instructor and head of school.

**Description:** Theory, research or design investigation in specific areas of study in the field of architecture and its related disciplines. Plan of study determined jointly by student and graduate faculty. Offered for variable credit, 1-15 credit hours, maximum of 15 credit hours.

**Credit hours:** 1-15

**Contact hours:** Contact: 1-15 Other: 1-15

**Levels:** Graduate

**Schedule types:** Independent Study

**Department/School:** Architecture

**ARCH 6083 History and Theory of Contemporary Architecture**

**Prerequisites:** Graduate standing or consent of instructor  
**Description:** American architecture beginning in the 16th century through the 20th century.  
**Credit hours:** 3  
**Contact hours:** Lecture: 3 Contact: 3  
**Levels:** Graduate, Undergraduate  
**Schedule types:** Lecture  
**Department/School:** Architecture

**ARCH 6113 Creative Component Research**

**Prerequisites:** Admission to graduate program.  
**Description:** Data gathering, analysis and program formulation related to creative component.  
**Credit hours:** 3  
**Contact hours:** Lecture: 3 Contact: 3  
**Levels:** Graduate  
**Schedule types:** Lecture  
**Department/School:** Architecture

**ARCH 6117 Graduate Design Studio**

**Prerequisites:** Admission to graduate program.  
**Description:** Problems in architectural design.  
**Credit hours:** 7  
**Contact hours:** Lab: 14 Contact: 14  
**Levels:** Graduate  
**Schedule types:** Lab  
**Department/School:** Architecture

**ARCH 6203 Creative Component in Architectural Engineering**

**Description:** A design project based on a program previously developed by the student, to include a written report and supporting documents when appropriate. Must be approved by the project advisor and completed in the final semester of the graduate program.  
**Credit hours:** 3  
**Contact hours:** Lab: 6 Contact: 6  
**Levels:** Graduate  
**Schedule types:** Lab  
**Department/School:** Architecture

**ARCH 6207 Creative Component in Architecture**

**Prerequisites:** ARCH 6117.  
**Description:** A design project based on a program previously developed by the student to include a written report and supportive documents when appropriate. Must be approved by the project adviser and completed in the final semester of the graduate program.  
**Credit hours:** 7  
**Contact hours:** Contact: 7 Other: 7  
**Levels:** Graduate  
**Schedule types:** Independent Study  
**Department/School:** Architecture

**ARCH 6243 Structures: Analysis III**

**Prerequisites:** Grade of "C" or better in ARCH 4444 and admission to the graduate program.  
**Description:** Analysis techniques for architectural structures including stability, space frames, computer applications, guyed towers and project research.  
**Credit hours:** 3  
**Contact hours:** Lecture: 2 Lab: 2 Contact: 4  
**Levels:** Graduate  
**Schedule types:** Lab, Lecture, Combined lecture and lab  
**Department/School:** Architecture

**ARCH 6343 Structures: Steel III**

**Prerequisites:** Grade of "C" or better in ARCH 3343, or by permission of instructor.  
**Description:** Advanced topics in structural steel design, and steel connection design and detailing.  
**Credit hours:** 3  
**Contact hours:** Lecture: 3 Contact: 3  
**Levels:** Graduate, Undergraduate  
**Schedule types:** Lecture  
**Department/School:** Architecture

**ARCH 6543 Structures: Concrete III**

**Prerequisites:** Grade of C or better in ARCH 4224.  
**Description:** Design of prestressed concrete structures, including pre- and post-tensioning.  
**Credit hours:** 3  
**Contact hours:** Lecture: 3 Contact: 3  
**Levels:** Graduate, Undergraduate  
**Schedule types:** Lecture  
**Department/School:** Architecture