

# SCHOOL OF ARCHITECTURE

The School of Architecture, founded in 1909, offers professional degree programs in both architecture and architectural engineering. The integration of these programs through shared faculty, facilities and coursework is a major strength of the School. It is one of the few such integrated programs in the United States, and as such produces graduates who are particularly prepared for the integrated team processes used in professional practice. The School of Architecture is a primary unit in the College of Engineering, Architecture and Technology, and therefore benefits from excellent state-of-the-art resources which significantly enhance the School's professional programs. The program moved into a brand new facility, the Donald W. Reynolds School of Architecture Building in 2009, and at the same time celebrated its centennial as a School of Architecture.

The School of Architecture is dedicated to providing a high quality and focused professional education to students whose career goals are to enter the practice of architecture or architectural engineering.

Professional and liberal study electives provide opportunities for educational breadth or depth and a possible double degree in both architecture and architectural engineering. Minor plans of study are also available from the School of Architecture; the Architectural History/Theory minor (ASHT), the Architecture and Entrepreneurship minor (ASAE). A twelve-credit hour Graduate Certificate is now available, focused upon *Integrative Design of the Building Envelope*.

Oklahoma State University graduates are recruited by the leading architectural and architectural engineering firms both in Oklahoma and nationally. The Oklahoma State University School of Architecture is particularly proud of having among its alumni many of the leaders of the best firms in the country, an AIA Gold Medalist (the highest award given to an architect), and presidents of the American Institute of Architects (AIA), the National Architectural Accreditation Board (NAAB), and the National Council of Structural Engineering Associations (NCSEA).

## Mission and Goals

Architecture is the difficult and complex art and science of designing and building a setting for human life. It is unique among today's professions in that its successful practice requires a blend, in roughly equal shares, of traits normally considered less than compatible: human empathy, artistic creativity, technological competence, and organizational and economic acumen. In contrast to other fine arts, architecture is rarely self-generated; it is rather a creative response to a stated or perceived human need. It must, therefore, be more user-oriented than fine art alone and more humane than pure science. Its design solutions must avoid the total subjectivity and detachment of other arts while striving to be functionally, technically and economically objective and sound. Yet, in a seemingly insoluble contradiction, the keenest technological and economic functionality will fall far short of becoming architecture unless it also strongly appeals to human spiritual and emotional values. When one thinks of the environment, one cannot help but see or recall architectural images: pyramids in Egypt, Greek and Roman temples, gothic cathedrals, medieval castles, industrial cities, modern skyscrapers and dwellings or entire cities which significantly express the culture and values of the people who live or lived there.

The mission of the School of Architecture is to cultivate a collaborative learning community focused upon critical thinking and ethical responsibility. To do so, the faculty embrace the established

fundamentals and encourage the exploration of emerging innovations in design. The vision of the school is to empower students to make creative contributions in the cause of architecture.

The School of Architecture endeavors to instill in each individual sensitivity to human needs, a genuine concern for quality, integrity and high ideals, a positive attitude for life-long learning, and an appreciation for one's own self-esteem.

The School's primary goal is to provide excellence in professional education for students preparing to enter the private practice of architecture or architectural engineering. This professional focus is to educate not only qualified candidates for the degree, but graduates who, during their careers, will be licensed professionals and will assume positions of leadership within the profession and society.

## Accreditation

The School of Architecture offers two separately accredited professional degree programs. The Bachelor of Architecture degree, BArch, is accredited by the NAAB. The Bachelor of Architectural Engineering degree, BArchE, is accredited by the Accreditation Board for Engineering and Technology (ABET <http://www.abet.org>) as an engineering program. Both programs require approximately five years of study to complete. In the United States, most registration boards require a degree from an accredited professional degree program as a prerequisite for licensure. The National Architectural Accrediting Board (NAAB) which is the sole agency authorized to accredit U.S. professional degree programs in architecture offered by institutions with U.S. regional accreditation, recognizes three types of degrees: the Bachelor of Architecture, the Master of Architecture and the Doctor of Architecture. A program may be granted an eight-year, three-year or two-year term of accreditation, depending on the extent of its conformance with established educational standards. Doctor of Architecture and Master of Architecture degree programs may require a pre-professional undergraduate degree in architecture for admission. However, the pre-professional degree is not, by itself, recognized as an accredited degree. The Oklahoma State University School of Architecture offers the following NAAB-accredited degree programs - BArch. (154 undergraduate credits).

The next accreditation visit will occur in 2025.

## Architecture

Architecture is the complex synthesis of creatively solving problems involving both art and science through the disciplined orchestration of image-making, activity organization, technological applications, legal constraints and budgetary parameters which together express culture, enhance quality of life and contribute to the environment.

Education in architecture consists of campus-oriented classroom and studio courses, as well as off-campus studies. It is conducted in an intellectual climate which stimulates inquiry, introduces principles and values, and teaches the disciplines necessary to work in collaboration with others. The goal of the program is the education of future leaders within the architecture profession.

In the pre-professional portion of the architectural program (approximately two years of study), the focus is on the fundamental principles of design and technology supplemented by appropriate general education courses in English, social sciences, natural sciences, math and humanities. These courses allow students to assimilate a beginning

knowledge base in architecture along with a broader liberal-based component to their education.

Students who demonstrate proficiency in this portion of the program by meeting a specific set of admission criteria are eligible for admission to the professional program in architecture.

The professional program in architecture (typically three years) builds systematically upon the knowledge acquired in the pre-professional curriculum. Students expand their design and problem-solving abilities through a sequential series of design studios informed by sequences of courses dealing with structure, systems and materials, building technology, the history and theory of architecture, and business and project management principles. In addition students fully utilize the computer as a design and communication tool in the problem-solving process.

The design studio is the center of the School's educational program. It is the setting where students and faculty work most closely together, and where all specialized study and knowledge comes together and is synthesized in design. The record of OSU students' achievements in the design studios is evidenced by the success in national and international architectural design competitions. In addition to a student's design studio education, he or she is required to complete sequential courses in structures, architectural history/theory, technology, and management that work in correlation with the design studio sequence.

The program has long been known as one of the strongest professional programs in the United States. OSU graduates are consistently offered employment opportunities in many of the best architectural offices in Oklahoma and throughout the United States. The program is fully accredited by the National Architectural Accreditation Board.

## Architectural Engineering

Architectural engineering is a profession that combines the art and science known as architecture with a detailed background in fundamental and applied engineering principles. In its broadest sense, it involves the creative application of science and technology to the design of structures meant for human occupancy. Architectural engineering differs from architecture in its focus upon the design of elements, systems and procedures for buildings, rather than the design of buildings themselves. Architectural engineers practice in a wide variety of professional engineering settings such as consulting firms, architectural firms, industrial or commercial organizations and governmental agencies.

The objective of the Bachelor of Architectural Engineering program is to provide basic and professional education to engineering students in building-related systems. OSU graduates possess broad-based knowledge, skills and judgment that prepare them to succeed in the profession of architectural engineering or in further studies at the graduate level. The program is designed to prepare students to contribute to society as professional engineers dealing with analysis, design and related activities within the construction industry. The program utilizes the broad resources of the University to exploit a close relationship with the architectural program and to provide in-depth understanding of the professional field and sensitivity to other less technical concerns related to the building environment faced by architectural engineers.

The primary focus of the architectural engineering program at OSU is the safe and economical design of technical systems used in buildings. Structural systems must withstand the various forces of nature such as gravity, winds and earthquakes, as well as the forces of man. These systems require a working knowledge of the mechanics of those

materials commonly used for building structures such as steel, timber and reinforced concrete. Two new options are available for consideration in the architectural engineering program: Mechanical Electrical and Plumbing, and Construction Project Management.

The study of architectural engineering is an integrated mix of liberal studies, design and technical education. Architectural engineers need to be able to conceptualize aesthetic issues and design complex technical systems.

In the pre-professional portion of the architectural engineering program (approximately two years of study), the focus is on the underlying scientific and mathematical principles of engineering and the basic design principles of architecture supplemented by appropriate general education courses in English, social sciences, natural sciences, math and humanities. These courses allow students to assimilate a beginning knowledge base in architecture and engineering along with a broader liberal-based component to their education. Students who demonstrate proficiency in this portion of the program by meeting a specific set of admission criteria are eligible for admission to the professional program in architectural engineering.

The professional program in architectural engineering (typically three years) builds systematically upon the scientific and architectural knowledge acquired in the pre-professional curriculum. Students acquire detailed technical and architectural knowledge and problem-solving abilities through a series of progressively more detailed and comprehensive courses and studios.

Each architectural engineering course builds upon the preceding architectural engineering courses to develop in the student the ability to identify and solve meaningful architectural engineering problems. The coursework is specifically sequenced and interrelated to provide design experience at each level, leading to progressively more complex, open-ended problems. This coursework includes sensitizing students to socially-related technical problems and their responsibilities as engineering professionals to behave ethically and protect public safety. The program culminates in a fifth-year course in which the students integrate analysis, synthesis and other abilities they have developed throughout the earlier portions of their study into a capstone experience.

An integral part of this educational continuum from basic knowledge through comprehensive architectural engineering design are learning experiences that facilitate the students' abilities to function effectively in both individual and team environments. Students are exposed to a wide variety of problems dealing with contemporary issues in an international context. Moreover, the program provides every graduate with adequate learning experiences to develop effective written and oral communication skills. State-of-the-art computational and CAD tools are introduced and used as a part of the students' problem-solving experiences. Finally, the students' experience in solving ever-more-challenging problems gives them the ability to continue to learn independently throughout their professional careers.

**Architectural Engineering Educational Objectives.** The educational objectives expected of program graduates a few years after graduation are as follows. These graduates:

- Will utilize their education in architectural engineering to contribute to society as licensed professional engineers;
- Will excel in their careers, displaying leadership, initiative, and broad-based knowledge and skills;

- Will have displayed a sensitivity to human needs and other less technical concerns related to the building environment;
- Will have utilized the close relationship with the architecture program to develop a special ability to collaborate with and relate to architects; and
- Will have a positive attitude for life-long learning.

The architectural engineering program has adopted the following program outcomes:

1. an ability to apply knowledge of mathematics, science, and engineering;
2. an ability to design and conduct experiments, as well as to analyze and interpret data;
3. an ability to design a system, component, or process to meet desired needs within realistic constraints such as economic, environmental, social, political, ethical, health and safety, manufacturability, and sustainability;
4. an ability to function on multidisciplinary teams;
5. an ability to identify, formulate, and solve engineering problems;
6. an understanding of professional and ethical responsibility;
7. an ability to communicate effectively;
8. the broad education necessary to understand the impact of engineering solutions in a global, economic, environmental, and societal context;
9. a recognition of the need for, and an ability to engage in life-long learning;
10. a knowledge of contemporary issues; and
11. an ability to use the techniques, skills, and modern engineering tools necessary for engineering practice.

The program outcomes were adopted with the concept that they would provide students with the educational experience necessary to successfully achieve the longer-term program educational objectives.

## Undergraduate Curriculum

The programs in architecture and architectural engineering are five years long and offer the professional degrees of Bachelor of Architecture and Bachelor of Architectural Engineering.

## Undergraduate Admission

Students who satisfy the University admission requirements and CEAT Admissions standards are eligible to enroll for the first two years of the program (pre-professional). Upon completion of these two years, the most qualified students are selected, upon application, by the School for admission to the upper division (professional program). Admission is based upon academic achievement and professional potential. Admission criteria are subject to annual review by the School and may be obtained directly from the School.

Transfer students are required to furnish transcripts and course descriptions for previous classroom courses, as well as examples of previous studio work. Evaluation and enrollment by the School is on a course-by-course basis for all transfer students.

## General Education

All students of OSU are required to complete 40 hours of general education coursework. English composition, American History, Political Science, Social sciences, basic science and mathematics are part of the

General Education requirements. Some required course work in History and Theory of Architecture can be used for General Education (H) credit.

## Electives

Electives should be selected to comply with the appropriate undergraduate degree requirements for the program. (See 3.2 "Changes in Degree Requirements" in the "University Academic Regulations (<http://catalog.okstate.edu/university-academic-regulations>)" section of the Catalog.) These requirements assure compliance with institutional and accreditation criteria.

## Study Abroad

The School of Architecture is committed to preparing its graduates for the professional opportunities presented by the expanding global economy. As part of this preparation, the School offers a five-week Summer European Study Program based in Rome, Italy. This program has been designed to supplement the required curriculum. Students study, in an organized and disciplined fashion, major examples of modern and historic European architecture, including urban issues. Both analytic and artistic sketching skills, and descriptive writing, are the main tools developed in this course of study.

Experience has shown that the Summer European Study Program significantly increases a student's level of maturity, independent thinking, and cultural and social awareness of others. Knowing the values and accomplishments of other cultures not only deepens and broadens knowledge and abilities; it also makes a student a better and more responsible citizen of his or her own country. Starting for freshman matriculating in the fall of 2016, the BArch curriculum will require a longer-term study abroad experience as a condition for graduation..

## Faculty and Facilities

In keeping with the professional orientation of the School, the faculty have extensive experience as successful practicing architects and architectural engineers, as well as outstanding scholastic records. The diversity of the faculty is a strength.

The school moved into a new facility in 2009, the Donald W. Reynolds School of Architecture Building, which includes spacious design studios, a greatly expanded architectural library, day-lighting lab, computer lab, classroom facilities and many other amenities. The Donald W. Reynolds School of Architecture received an AIA Oklahoma Honor Award recognizing its outstanding design in 2011.

## Computers

All School of Architecture students enrolled in either the architecture or architectural engineering programs will be required to purchase a laptop computer as they enter the design studio sequence. Updated specifications for the computer and software will be provided each year, and posted to the School's website.

## Student Work

Projects submitted for regular class assignments may be retained by the School. All work not retained will be returned to the student.

## Student Body

With the curriculum based upon extensive and personalized student-faculty interaction, the student-faculty ratio in studio courses is set at

approximately 16 to one. Annual student enrollment is approximately 300 students.

## Academic Advising

The College's Office of Student Academic Services provides initial advisement for all entering freshmen pre-professional architecture students. Beginning the second semester of the curriculum, academic advisement is provided by the School of Architecture.

Each student is personally advised in the planning and scheduling of his or her coursework and is counseled and advised individually on matters of career choice, his or her activities at OSU, and on other academic matters. An academic file is created for each student at the time of initial enrollment.

## Admission to Professional School

Students applying for admission to the Professional School must first meet the required criteria established for each program. Applicants will be selected based upon their performance in the First and Second Year Architecture and Architectural Engineering curricula. Particular courses in the curricula, which have proven to be good indicators of success in the two programs, will be factored with a multiplier to increase their influence in the selection procedure. To be considered for either program, applicants must:

1. Complete a minimum of 55 credit hours of coursework (applicable to the degree plan) prior to admission to professional school.
2. Complete the following required first- and second-year courses with a grade of 'C' or better.

For the Architecture program:

Code	Title	Hours
ARCH 1112	Introduction to Architecture	2
ARCH 2003	Architecture and Society (HI)	3
ARCH 1216	Architectural Design Studio I	6
ARCH 2116	Architectural Design Studio II	6
ARCH 2216	Architectural Design Studio III	6
ARCH 2263	Building Systems	3
MATH 2144	Calculus I (A)	4
PHYS 2014	University Physics I (LN)	4
ENSC 2113	Statics	3
ENGL 1113	Composition I	3

For the Architectural Engineering program:

Code	Title	Hours
ARCH 1112	Introduction to Architecture	2
ARCH 1216	Architectural Design Studio I	6
ARCH 2116	Architectural Design Studio II	6
ARCH 2216	Architectural Design Studio III	6
ARCH 2263	Building Systems	3
MATH 2144	Calculus I (A)	4
PHYS 2014	University Physics I (LN)	4
ENSC 2113	Statics	3
ENSC 2143	Strength of Materials	3
ENGL 1113	Composition I	3

Achieve a grade of "C" or better in all required ARCH prefix courses, substitutes for ARCH prefix courses, and prerequisites for ARCH prefix courses.

4. Achieve a grade of "C" or better in all required ARCH prefix courses, substitutes for ARCH prefix courses, and prerequisites for ARCH prefix courses.

The Selection Grade Point Average (SGPA) will be calculated for each applicant by multiplying course credit hours by the multiplier, multiplying by the numerical course grade and dividing by the total factored hours.

For consideration of admission to the Architecture program, the following courses and multipliers will be used in calculating SGPA: ARCH 1112 Introduction to Architecture (x1 multiplier), ARCH 2003 Architecture and Society (HI) (x1 multiplier), ARCH 1216 Architectural Design Studio I (x2 multiplier), ARCH 2116 Architectural Design Studio II (x2 multiplier), ARCH 2216 Architectural Design Studio III (x2 multiplier) ARCH 2263 Building Systems (x1 multiplier), ARCH 3252 Digital Applications I (x2 multiplier), MATH 2144 Calculus I (A) (x1 multiplier), PHYS 2014 University Physics I (LN) (x1 multiplier), ENSC 2113 Statics (x1 multiplier), ENGL 1113 Composition I (x1 multiplier).

For the Architectural Engineering program the following courses are used in the SGPA calculation: ARCH 1112 Introduction to Architecture (x1 multiplier), ARCH 1216 Architectural Design Studio I (x1 multiplier), ARCH 2116 Architectural Design Studio II (x1 multiplier), ARCH 2216 Architectural Design Studio III (x2 multiplier), ARCH 2263 Building Systems (x1 multiplier), MATH 2144 Calculus I (A) (x2 multiplier), PHYS 2014 University Physics I (LN) (x2 multiplier), ENSC 2113 Statics (x3 multiplier), ENSC 2143 Strength of Materials (x2 multiplier), ENGL 1113 Composition I (x1 multiplier), ENGR 1412 (X1 multiplier).

## Double Degree

Applicants wishing to enter into the Professional School in both the BArch and BArchE degree programs must apply for both programs and be accepted to each, independent of the other.

## Change of Program

Changing programs, Architecture to Architectural Engineering or vice versa, typically occurs via formal application and admission to the other program through the Professional School application and admission process.

## Taking ARCH Prefix Courses When Not Admitted to Professional School

Students not admitted to Professional Schools may not enroll in any 3000-level or higher ARCH prefix course or ARCH 2203 History and Theory of Architecture Since 1900 without prior permission of the instructor and Academic Adviser.

## Transfer Students

Students wishing to transfer into Professional School of the OSU School of Architecture must apply for admission to the Professional School in the same manner as OSU students.

## Completion of Required Pre-Professional School Courses

All students applying for admission to Professional School must satisfactorily complete all required courses for consideration by the end of the spring semester of the year of application.



## Application and Notification Dates

Application for admission, readmission or transfer to Professional School of Architecture and Architectural Engineering must be made by the last working day of April of the year of intended admission. Notification of selection decisions will normally be made soon after June 1st but not before a two-week period after Grade Reports have been received by the School—if there should be any problem with a grade that may impact acceptance to Professional Schools the student should contact the School immediately. Selected applicants must confirm acceptance of the offer of a position in Professional School by the date indicated in the letter of offer.

## Reapplication

Applicants not admitted may reapply for admission to Professional School the following year; such applicants do not carry any priority or disadvantage but are included in the full application pool.

## Courses

### ARCH 1112 Introduction to Architecture

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

**Credit hours:** 2

**Contact hours:** Lecture: 2

**Levels:** Undergraduate

**Schedule types:** Lecture

**Department/School:** Architecture

### ARCH 1216 Architectural Design Studio I

**Description:** Architectural graphics and design fundamentals. 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 adviser.

**Credit hours:** 6

**Contact hours:** Lab: 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 Architecture and Architectural Engineering majors, see course offerings.

**Credit hours:** 3

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

**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:** Lecture: 6

**Levels:** Undergraduate

**Schedule types:** Lecture

**Department/School:** Architecture

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

**Prerequisites:** ARCH 2003 or consent of instructor.

**Description:** History and theory of world architecture in the 20th century and beyond.

**Credit hours:** 3

**Contact hours:** Lecture: 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

**Levels:** Undergraduate

**Schedule types:** Lab

**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

**Levels:** Undergraduate

**Schedule types:** Lecture

**Department/School:** Architecture

### ARCH 3083 History and Theory of Baroque Architecture (H)

**Prerequisites:** ARCH 2003.

**Description:** History and theory of renaissance architecture in the western world, particularly the later Baroque period.

**Credit hours:** 3

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

**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 third year.

**Description:** Problems in architectural design.

**Credit hours:** 6

**Contact hours:** Lab: 12

**Levels:** Undergraduate

**Schedule types:** Lab

**Department/School:** Architecture

**ARCH 3134 Architectural Science I: Thermal Systems and Life Safety**

**Prerequisites:** MATH 1513 or MATH 1715.

**Description:** A survey of the fundamentals of thermal comfort, energy concerns and mechanical systems for buildings as well as the basic principles of life safety.

**Credit hours:** 4

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

**Levels:** Undergraduate

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

**Levels:** Undergraduate

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

**Department/School:** Architecture

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

**Prerequisites:** ARCH 2003 or consent of instructor.

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

**Credit hours:** 3

**Contact hours:** Lecture: 3

**Levels:** Undergraduate

**Schedule types:** Lecture

**Department/School:** Architecture

**ARCH 3216 Architectural Design Studio V**

**Prerequisites:** Grade of "C" or better in ARCH 3116, ARCH 3252.

**Description:** Problems in architectural design.

**Credit hours:** 6

**Contact hours:** Lab: 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: 3 Lab: 0

**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

**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

**Levels:** Undergraduate

**Schedule types:** Lecture

**Department/School:** Architecture

**ARCH 3262 Computer Applications in Architecture II**

**Prerequisites:** Grade of "C" or better in ARCH 3252 and concurrent enrollment in ARCH 3216 or ENGR 1412 and admission to Professional School.

**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

**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 third year.

**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

**Levels:** Undergraduate

**Schedule types:** Lecture

**Department/School:** Architecture

**ARCH 3273 History and Theory of Medieval Architecture**

**Prerequisites:** ARCH 2003 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

**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 adviser.

**Description:** Analysis and design of steel structures used in architecture.

**Credit hours:** 3

**Contact hours:** Lecture: 3 Lab: 0

**Levels:** Undergraduate

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

**Department/School:** Architecture

**ARCH 3353 Advanced Graphics and Theory of Representation**

**Prerequisites:** Admission to Professional School 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

**Levels:** Undergraduate

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

**Department/School:** Architecture

**ARCH 3370 Urban USA Field Study**

**Prerequisites:** Admission to Professional School.

**Description:** On-site analysis and study of architecture, culture and urban design of major urban centers in the USA. Offered for variable credit, 2-3 credit hours, maximum of 3 credit hours.

**Credit hours:** 2-3

**Contact hours:** Other: 2

**Levels:** Undergraduate

**Schedule types:** Independent Study

**Department/School:** Architecture

**ARCH 3433 Architectural Science II: Acoustics and Lighting**

**Prerequisites:** MATH 1513 or MATH 1715

**Description:** A survey of architectural acoustics, electrical, and lighting systems for buildings.

**Credit hours:** 3

**Contact hours:** Lecture: 2 Other: 1

**Levels:** Undergraduate

**Schedule types:** Discussion, Combined lecture & discussion, Lecture

**Department/School:** Architecture

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

**Prerequisites:** ARCH 2003.

**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

**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

**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:** Other: 1

**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

**Levels:** Undergraduate

**Schedule types:** Lab

**Department/School:** Architecture

**ARCH 4123 Structures: Concrete I**

**Prerequisites:** Grade of "C" or better in ARCH 3223.

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

**Credit hours:** 3

**Contact hours:** Lecture: 3 Lab: 0

**Levels:** Graduate, 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

**Levels:** Undergraduate

**Schedule types:** Lab

**Department/School:** Architecture

**ARCH 4134 Architectural Science I: Thermal Systems and Life Safety for Architectural Engineers**

**Prerequisites:** ENSC 2213 or concurrent enrollment.

**Description:** Engineering based fundamentals of thermal comfort, energy concerns, and mechanical systems for buildings, as well as the basic principles of life safety.

**Credit hours:** 4

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

**Levels:** Undergraduate

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

**Department/School:** Architecture

**ARCH 4143 Structures: Foundations for Buildings**

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

**Description:** Interaction of frames and supports for structures used in architecture. Subsurface conditions and design of foundation systems and retaining walls for buildings.

**Credit hours:** 3

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

**Levels:** Graduate, Undergraduate

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

**Department/School:** Architecture

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

**Prerequisites:** ARCH 2003 or consent of instructor.

**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

**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.

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

**Credit hours:** 3

**Contact hours:** Lecture: 3

**Levels:** Graduate, Undergraduate

**Schedule types:** Lecture

**Department/School:** Architecture

**ARCH 4216 Architectural Design Studio VII**

**Prerequisites:** Grade of "C" or better in ARCH 3134, ARCH 3433, ARCH 4116 and ARCH 4143.

**Description:** Problems in architectural design.

**Credit hours:** 6

**Contact hours:** Lab: 16

**Levels:** Undergraduate

**Schedule types:** Lab

**Department/School:** Architecture

**ARCH 4224 Structures: Concrete II**

**Prerequisites:** Grades of "C" or better in ARCH 3442, ARCH 4123, and ARCH 4143.

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

**Credit hours:** 4

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

**Levels:** Graduate, 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.

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

**Credit hours:** 3

**Contact hours:** Lecture: 3

**Levels:** Graduate, Undergraduate

**Schedule types:** Lecture

**Department/School:** Architecture

**ARCH 4263 Architecture Seminar**

**Prerequisites:** Concurrent enrollment in ARCH 4216 or ARCH 5226.

**Description:** Topics in architecture and architectural engineering.

**Credit hours:** 3

**Contact hours:** Lecture: 3

**Levels:** Undergraduate

**Schedule types:** Lecture

**Department/School:** Architecture

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

**Prerequisites:** ARCH 2003.

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

**Credit hours:** 3

**Contact hours:** Lecture: 3

**Levels:** Graduate, 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

**Levels:** Undergraduate

**Schedule types:** Lecture

**Department/School:** Architecture

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

**ARCH 4353 Computational Foundations**

**Prerequisites:** ARCH 3252 or permission of advisor.

**Description:** The use of advanced digital design tools for architectural projects.

**Credit hours:** 3

**Contact hours:** Lecture: 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

**Levels:** Graduate, 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

**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 or consent of instructor.

**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

**Levels:** Undergraduate

**Schedule types:** Lecture

**Department/School:** Architecture



**ARCH 4433 Architectural Science II: Acoustics and Lighting for Architectural Engineers****Prerequisites:** ENSC 2613 or concurrent enrollment.**Description:** Engineering based fundamentals of architectural acoustics and electrical/lighting systems for buildings.**Credit hours:** 3**Contact hours:** Lecture: 2 Lab: 2**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**Levels:** Graduate, Undergraduate**Schedule types:** Lab, Lecture, Combined lecture and lab**Department/School:** Architecture**ARCH 5023 Masonry Design and Analysis****Prerequisites:** Grade of "C" or better in ARCH 4123.**Description:** Analysis and design of low-rise masonry structures and multi-story masonry shear walls, 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: 3**Levels:** Graduate, Undergraduate**Schedule types:** Lecture**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**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:** 1-12**Contact hours:** Other: 1**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. Additional fee of \$25.00 per credit hour applies. No credit for students with credit in ARCH 5116.**Credit hours:** 7**Contact hours:** Lab: 16**Levels:** Graduate, Undergraduate**Schedule types:** Lab**Department/School:** Architecture**ARCH 5133 Advanced Energy Issues in Architecture****Credit hours:** 3**Contact hours:** Lecture: 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**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**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**Levels:** Graduate, Undergraduate**Schedule types:** Lab**Department/School:** Architecture**ARCH 5226 Architectural Engineering Comprehensive Design Studio****Prerequisites:** Grade of "C" or better in ARCH 3224, ARCH 4134, ARCH 4224, 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:** Lecture: 6**Levels:** Graduate, Undergraduate**Schedule types:** Lab**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  
**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  
**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:** Other: 1  
**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  
**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  
**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  
**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  
**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:** 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  
**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 3224.  
**Description:** Plastic analysis and design of structural steel frames utilizing load and resistance factor design.  
**Credit hours:** 3  
**Contact hours:** Lecture: 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  
**Levels:** Graduate, Undergraduate  
**Schedule types:** Lecture  
**Department/School:** Architecture

## Undergraduate Programs

- Architectural Engineering: Construction Project Management, BEN (<http://catalog.okstate.edu/engineering-architecture-technology/architecture/architectural-engineering-construction-project-management-ben>)
- Architectural Engineering: Mechanical, Electrical and Plumbing, BEN (<http://catalog.okstate.edu/engineering-architecture-technology/>)

architecture/architectural-engineering-mechanical-electrical-plumbing-ben)

- Architectural Engineering: Structures, BEN (<http://catalog.okstate.edu/engineering-architecture-technology/architecture/engineering-structures-ben>)
- Architecture, BAR (<http://catalog.okstate.edu/engineering-architecture-technology/architecture/bar>)
- Architectural Studies: Architecture and Entrepreneurship (ASAE), Minor (<http://catalog.okstate.edu/engineering-architecture-technology/architecture/architectural-studies-architecture-entrepreneurship-minor>)
- Architectural Studies: History and Theory (ASHT), Minor (<http://catalog.okstate.edu/engineering-architecture-technology/architecture/architectural-studies-history-theory-minor>)

## Faculty

Suzanne D. Bilbeisi, MArch, AIA—Centennial Professor and Head

**AT&T Professor and Associate Dean, CEAT Academic Affairs:** Randy Seitsinger, MArch, FAIA

**Professors:** Mohammed Bilbeisi, MArch, RA; Khaled Mansy, PhD; Tom Spector, PhD, AIA

**Associate Professors:** Jeanne Homer, MArch, AIA; John Phillips, MArchE, PE; Seung Ra, MArch, AIA; Michael Rabens, PhD; Carisa Ramming, MArchE, PE; Nathan Richardson, MArch, AIA; Awilda C. Rodriguez, MArch, RA; Paulo Sanza, MArch, RA; Jerry L. Stivers, MArch, AIA

**Assistant Professors:** Stan Carroll, MArch, AIA