

# ARCHITECTURE

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## Degrees

The College of Architecture and Planning offers a pre-professional Bachelor of Science in Architecture (BSArch) degree and the professional Master of Architecture (MArch) degree which is fully accredited by the National Architectural Accrediting Board (NAAB).

(For Graduate Programs and information please refer to the [Graduate](#) catalog.)

## Programs

- Architecture, BS (<http://catalog.ucdenver.edu/cu-denver/undergraduate/schools-colleges-departments/college-architecture-planning/architecture/architecture-bs/>)

(For Graduate Programs and information please refer to the [Graduate](#) catalog.)

## Faculty

### Professors:

**Amir Ameri**, PhD, Cornell University  
**Julee Herdt**, MArch, Southern California Institute of Architecture  
**Michael K. Jenson**, PhD, University of Edinburgh  
**Laurence K. Loftin III**, MArch, University of Virginia  
**Marc Swackhamer**, March, Rice University  
**Ekaterini Vlahos**, MArch, University of Colorado Denver

### Associate Professors:

**Osman Attmann**, PhD, Georgia Institute of Technology  
**Christopher Koziol**, PhD, University of Colorado Denver  
**Erik Sommerfeld**, MArch, University of Colorado Denver

### Assistant Professors:

**Assia Crawford**, MArch, Newcastle University  
**Sarah Hearne**, PhD, University of California  
**Kevin Hirth**, MArch, Harvard Graduate School of Design  
**José Ibarra**, MArch, Princeton  
**Leyuan Li**, MArch, Rice  
**Matthew Shea**, MArch, University of Colorado Denver

### Visiting Assistant Professors:

**Lior Galili**, MArch II, Harvard GSD  
**Alex Li**, MArch, Harvard GSD

### Instructors:

**Jo VandenBurg**, MArch, University of Colorado Denver

### Visiting Teaching Fellow:

**Will Koning**, MArch, University of Colorado, Denver

Additional information about faculty in this department is available on the college website. (<https://architectureandplanning.ucdenver.edu/>)

## Architecture (ARCH)

### ARCH 1110 - Introduction to Architecture (3 Credits)

Introduces students to the essential ways of looking at and thinking about buildings, sites and cities, exposing students to the various perspectives, positions and practices that they will encounter in both an architecture curriculum and in architectural practice. Max hours: 3 Credits.

Grading Basis: Letter Grade

### ARCH 1711 - Architectural Visualization I (3 Credits)

First in the sequence of two visual studies courses, this course introduces students to the fundamental principles of two and three-dimensional visual analysis and communication. Students are taught basic drawing and model-making conventions, both mechanical and digital, and how to use drawings and models as design and communication tools. Max hours: 3 Credits.

Grading Basis: Letter Grade

### ARCH 1721 - Architectural Visualization II (3 Credits)

Second in the sequence of two visual studies courses, this course introduces students to advanced principles of two and three-dimensional visual analysis and communication. Students are introduced to advanced mechanical and digital communication techniques and the use of drawings and models as design and communication tools. Prereq: ARCH 1711 and ARCH 2111 with a C- or higher. Restriction: Restricted to undergraduate students in the College of Architecture and Planning. No co-credit with ARCH 3801. Max hours: 3 Credits.

Grading Basis: Letter Grade

Prereq: ARCH 1711 and ARCH 2111 with a C- or higher. Restriction: Restricted to undergraduate students in the College of Architecture and Planning.

Typically Offered: Fall.

### ARCH 2111 - Design Studio I - Foundational (6 Credits)

First in the sequence of two foundational design studio courses, this course introduces students to the fundamental principles of three-dimensional design and composition. Students learn to translate and express ideas through willful manipulation of form and space, in a sequential series of exercises. Prereq or Coreq: ARCH 1711 with a C- or higher. Restriction: Restricted to undergraduate students in the College of Architecture and Planning. Max hours: 6 Credits.

Grading Basis: Letter Grade

Prereq or Coreq: ARCH 1711 with a C- or higher. Restriction: Restricted to undergraduate students in the College of Architecture and Planning.

### ARCH 2121 - Design Studio II - Foundational (6 Credits)

Second in the sequence of two foundational design studio courses, this course introduces students to the formal and spatial vocabulary of Architecture and its organizational principles through a series of micro-scale architectural design exercises. Restriction: Restricted to undergraduate ARCH students within the College of Architecture and Planning. Prereq: ARCH 2111 with a C- or higher and ARCH 1711 with a C- or higher. Coreq or Prereq: ARCH 1721. No co-credit with ARCH 3110. Max hours: 6 Credits.

Grading Basis: Letter Grade

Prereq: ARCH 2111 with a C- or higher and ARCH 1711 with a C- or higher. Coreq or Prereq: ARCH 1721. Restriction: Restricted to undergraduate ARCH students within the College of Architecture and Planning.

**ARCH 2230 - Architectural History I (3 Credits)**

Introduces architecture and urbanism from prehistory to the mid-seventeenth century by exploring the social, cultural, technical, philosophical and aesthetic ideas that shaped buildings and other architectural and urban settings in different parts of the world. Max hours: 3 Credits.

Grading Basis: Letter Grade

**ARCH 3111 - Design Studio III - Elemental (6 Credits)**

First in the sequence of two foundational design studio courses, this course introduces students to the fundamental principles of three-dimensional design and composition. Students learn to translate and express ideas through willful manipulation of form and space, in a sequential series of exercises. Prereq: ARCH 2121 with a C- or higher and ARCH 1721 with a C- or higher. Restriction: Restricted to undergraduate ARCH students within the College of Architecture and Planning. No co-credit with ARCH 3120. Max hours: 6 Credits.

Grading Basis: Letter Grade

Prereq: ARCH 2121 with a C- or higher and ARCH 1721 with a C- or higher. Restriction: Restricted to undergraduate ARCH students within the College of Architecture and Planning.

**ARCH 3121 - Design Studio IV - Elemental (6 Credits)**

Second in the sequence of two elemental design studio courses, this course focuses on the design of small-scale buildings to advance students' understanding of the role of context in design communication. Students learn to translate non-formal concepts into sequential architectural experiences in deference to program and site. Prereq: ARCH 3111 with a C- or higher. Restriction: Restricted to undergraduate ARCH students within the College of Architecture and Planning. No co-credit with ARCH 4110. Max hours: 6 Credits.

Grading Basis: Letter Grade

Prereq: ARCH 3111 with a C- or higher. Restriction: Restricted to undergraduate ARCH students within the College of Architecture and Planning.

Typically Offered: Fall.

**ARCH 3130 - Construction Practices: Material and Structural Systems (3 Credits)**

Provides an overview of the materials, systems, assemblies and processes that inform the design and construction of buildings, reviewing the building technologies and developing student understandings of the interrelationship between the interconnected elements and systems that define buildings and spaces. Max hours: 3 Credits.

Grading Basis: Letter Grade

**ARCH 3230 - Architectural History II (3 Credits)**

Introduces architecture and urbanism from the mid-seventeenth century to the present, exploring the forces that shaped buildings and other architectural and urban settings in different parts of the world. Prereq: ARCH 2230 with a C- or higher. Restriction: Open to all undergraduate majors. Max hours: 3 Credits.

Grading Basis: Letter Grade

Prereq: ARCH 2230 with a C- or higher. Restriction: Open to all undergraduate majors.

**ARCH 3330 - Building Systems I (3 Credits)**

Introduces the concepts of thermal behavior of buildings, climate as a determinant of building design, energy use in buildings, natural and mechanical means of environmental control, plumbing, electrical, communication systems, water supply and sanitation systems. Prereq: ARCH 2121 or ARCH 3110 or CEMT 2100. Restriction: Restricted to undergrad students in B.S. Architecture, B.S. Construction Management, and B.S. Construction Engineering Management. Max hours: 3 Credits.

Grading Basis: Letter Grade

Prereq: ARCH 2121 or ARCH 3110 or CEMT 2100. Restriction: Restricted to undergrad students in B.S. Architecture, B.S. Construction Management, and B.S. Construction Engineering Management.

**ARCH 3340 - Theory of Structures I (3 Credits)**

Introduction to the analysis and design of structural elements and focuses on the principles of statics and the strength of materials. Topics include stress determination, deflection and the behaviors of tension, compression and shear in various structural elements. Restriction: Restricted to undergrad students in B.S. Architecture, B.S. Construction Management, and B.S. Construction Engineering Management. Recommended Prereq: MATH 1130 OR MATH 1110 & 1120; PHYS 2010/2030 OR PHYS 2311/2321. Max hours: 3 Credits.

Grading Basis: Letter Grade

Restriction: Restricted to undergrad students in B.S. Architecture, B.S. Construction Management, and B.S. Construction Engineering Management.

**ARCH 3430 - Construction Practices: Building Envelope (3 Credits)**

Discusses the principles and processes of building construction and introduces the major systems and assemblies that inform construction practices. Stresses the relationship between architectural concepts and emerging building technologies, teaching students how to select appropriate materials, systems and assemblies. Max hours: 3 Credits.

Grading Basis: Letter Grade

**ARCH 3600 - Special Topics Cultural (3 Credits)**

Special topics in architecture studies related to cultural inquiries including theory, cultural diversity, and/or cross cultural thinking. Restriction: Restricted to ARCH-BS majors with sophomore standing. Repeatable. Max hours: 24 Credits.

Grading Basis: Letter Grade

Repeatable. Max Credits: 24.

Restriction: Restricted to ARCH-BS majors with sophomore standing

**ARCH 3602 - Architecture Photography (3 Credits)**

Architecture elective in photography of space, interior, and exterior with an emphasis on design composition of architecture. Max hours: 3 Credits.

Grading Basis: Letter Grade

Restriction: Restricted to ARCH-BS majors with sophomore standing

**ARCH 3604 - Architecture of Fun (3 Credits)**

This course tackles this seemingly simple questions of what makes architecture fun through creative practice and critical interrogation. By making and thinking about the architecture we employ to "have fun", you will develop a conceptual framework and develop skills for understanding what makes architecture fun, designing and creating fun architecture and becoming a more playful designer. Restriction: Restricted to Architecture BS students within the College of Architecture and Planning. Term offered: summer. Max hours: 3 Credits.

Grading Basis: Letter Grade

Restriction: Restricted to Architecture BS students within the College of Architecture and Planning.

Typically Offered: Summer.

**ARCH 3605 - Women in Architecture (3 Credits)**

Architecture has a long-standing history of being a male-dominated profession. The profession and mainstream history of architecture continue to struggle with representation, inclusion, and recognition of women in the field. This course highlights the importance of equal representation for women in architecture and explores their significant yet overlooked contribution to the history of architecture. Taking a global perspective, the course uses lectures, readings, case studies, and discussions during the semester to discuss the work, legacy and struggles of women architects throughout history. Max hours: 3 Credits.  
Grading Basis: Letter Grade  
Typically Offered: Fall.

**ARCH 3690 - Cultural Research Abroad (3 Credits)**

Topics in architecture studies related to cultural inquiries including theory, cultural diversity, and/or cross cultural thinking in other cultures. Work shall include preparation in culture, history and language skills in other countries. Repeatable. Max Hours: 6 Credits.  
Grading Basis: Letter Grade  
Repeatable. Max Credits: 6.  
Restrictions: Restricted to Junior standing or higher.

**ARCH 3691 - Cultural Design Abroad (3 Credits)**

Design topics in architecture studies related to cultural inquiries including design, cultural implications of design, and/or cross cultural application of design. Repeatable. Max hours: 6 Credits.  
Grading Basis: Letter Grade  
Repeatable. Max Credits: 6.  
Restrictions: Restricted to Junior standing or higher.

**ARCH 3693 - Rome: Architecture & Urbanism (3 Credits)**

The objective of this course is to provide a broad overview of the city's major architectural sites, topography, infrastructure and systems of urban design and organization through the study of the rich palimpsest of buildings, piazzas and landscapes from antiquity to the present day. Coreq: ARCH 3694. Restriction: Restricted to undergraduate BS-ARCH students with Junior standing or higher. Cross-listed with ARCH 6755. Max hours: 3 Credits.  
Grading Basis: Letter Grade  
Coreq: ARCH 3694. Restriction: Restricted to undergraduate BS-ARCH students with Junior standing or higher.  
Additional Information: Global Education Study Abroad.

**ARCH 3694 - Rome: Documentation, Analysis and Design (3 Credits)**

With graphic representation as the primary mode of inquiry, this course is an intensive study of a single building, piazza or landscape within the rich urban fabric of Rome. The graphical inquiry will be supported by pre-departure research and onsite observation and presentations. Coreq: ARCH 3693. Restricted to undergraduate BS-ARCH students with Junior standing or higher. Cross-listed with ARCH 6760. Max hours: 3 Credits.  
Grading Basis: Letter Grade  
Coreq: ARCH 3693. Restriction: Restricted to undergraduate BS-ARCH students with Junior standing or higher.  
Additional Information: Global Education Study Abroad.

**ARCH 3700 - Special Topics Design (3 Credits)**

Special topics in architecture studies related to design inquiries including theory, design skills, and/or analytical thinking. Restriction: Restricted to ARCH-BS majors with sophomore standing. Repeatable. Max hours: 24 Credits.  
Grading Basis: Letter Grade  
Repeatable. Max Credits: 24.  
Restriction: Restricted to ARCH-BS majors with sophomore standing

**ARCH 3701 - Survival Sketching (3 Credits)**

The focus of this course will be the sketchbook and the keeping of a sketchbook. Restriction: Restricted to undergraduate ARCH students within the College of Architecture and Planning with sophomore standing or higher. Max hours: 3 Credits.

Grading Basis: Letter Grade

Restriction: Restricted to ARCH-BS majors with sophomore standing

**ARCH 3706 - 3D Design, Computation, and Prototyping (3 Credits)**

Introduces the design and computer-controlled fabrication of three-dimensional objects using both additive (3D printing) and subtractive (laser cutter, CNC router/mill) processes. Various commercial and open-source software tools for 3D design (CAD), manufacturing (CAM) and visualization will be explored. Increasingly complex projects throughout the semester will be used to illustrate fabrication techniques. The course will culminate in a final project. Restriction: Restricted to ARCH-BS majors with sophomore standing. Cross-listed with IWKS 3100 and 5170. Max hours: 3 Credits.

Grading Basis: Letter Grade

Restriction: Restricted to ARCH-BS majors with sophomore standing

**ARCH 3707 - Color Theory + Application (3 Credits)**

This course will explore Color perception and theory; media/medium technique/application and landscape/built-environment drawing preparation, composition and presentation. The objective is to develop your understanding of color interaction and interrelationship especially, as it pertains to the use of color in the design and implementation of the built environment. Restriction: Restricted to ARCH-BS majors with sophomore standing. Max Hours: 3 Credits

Grading Basis: Letter Grade

Restriction: Restricted to ARCH-BS majors with sophomore standing

**ARCH 3708 - Introduction to the Essentials of Biomimicry (3 Credits)**

Biomimicry is the conscious emulation of nature's genius that can be applied to the fields of design, engineering, medicine, transportation, and social interaction. This class will be geared towards designers and will give an overview of the discipline, the (3) Essential Elements, the human-nature connection, The Biomimicry Thinking Methodology, and Life's Principles. Restriction: Restricted to ARCH-BS majors with sophomore standing. Max Hours: 3 Credits

Grading Basis: Letter Grade

Restriction: Restricted to ARCH-BS majors with sophomore standing

**ARCH 3709 - Furniture Design (3 Credits)**

Students learn how to design and build furniture in the College's woodshop. Topics include ergonomics, properties of materials, principles and techniques of joinery and techniques of hand and machine tools. Cross-listed with ARCH 6180. Restriction: Restricted to ARCH-BS majors with sophomore standing. Max Hours: 3 Credits.

Grading Basis: Letter Grade

Restriction: Restricted to ARCH-BS majors with sophomore standing

**ARCH 3800 - Special Topics - Technical (3 Credits)**

Special topics elective will include coursework in either Digital Media In Design courses, Design-Build site Construction, or the Science and Art of Engineering Buildings. Additional topics will be develop in conjunction with the required undergraduate technical electives. Restriction: Must be an undergraduate Architecture student with sophomore standing or higher. Repeatable. Max hours: 24 Credits.

Grading Basis: Letter Grade

Repeatable. Max Credits: 24.

Restriction: Restricted to ARCH-BS majors with sophomore standing

**ARCH 3804 - Green Tech Eco-Furniture Fabrication I (3 Credits)**

Green Tech I is the first of two courses that are a "real build" course in which students advance their knowledge of environmental design through full-scale construction of architectural elements, furnishings, accessories, finishes, outdoor gear, or even clothing. Restriction: Restricted to ARCH-BS majors with sophomore standing or higher. Max hours: 3 Credits.

Grading Basis: Letter Grade

Restricted to ARCH-BS majors with sophomore standing or higher.

**ARCH 3805 - Beginning Revit (3 Credits)**

Introduction to Building Information Modeling through Autodesk's Revit Architecture software. The course explores fundamental architectural concepts as they are developed and expressed in Revit. Appropriate program use and team learning experiences are emphasized. Prereq: ARCH 3110 or ARCH 2121. Restriction: Restricted to ARCH-BS majors with sophomore standing or higher. ARCH 3430 recommended. Max hours: 3 Credits.

Grading Basis: Letter Grade

Prereq: ARCH 3110 or ARCH 2121. Restriction: Restricted to ARCH-BS majors with sophomore standing or higher.

**ARCH 3806 - Green Tech Eco-Furniture Fabrication II (3 Credits)**

Green Tech II is the second of two courses that are a "real build" course in which students advance their knowledge of environmental design through full-scale construction of architectural elements, furnishings, accessories, finishes, outdoor gear, or even clothing. Restriction: Restricted to ARCH-BS majors with sophomore standing or higher. Cross-listed with ARCH 6376. Max hours: 3 Credits.

Grading Basis: Letter Grade

Restriction: Restricted to ARCH-BS majors with sophomore standing or higher.

**ARCH 3949 - Internship I (1-6 Credits)**

Experiential learning student internships sponsored by faculty in a field related to architecture. Minimum of 45 work hours per credit. Prereq: Permission of instructor, advisor and acceptance in BS Architecture program. Must also have sophomore standing. Minimum 15 credit hours with 2.75 GPA. Repeatable. Max Hours: 6 Credits.

Grading Basis: Letter Grade

Repeatable. Max Credits: 6.

Typically Offered: Fall, Spring, Summer.

**ARCH 4111 - Design Studio V - Analytical (6 Credits)**

First in the sequence of two analytical design studio courses, this course introduces students to analysis and design as complementary processes. Students learn how to form design intentions based on analytical study of the relationship between architecture and culture. Focused on the design of small-scale buildings, students learn to incorporate structure, light, and material as expressive elements of an architectural composition. Prereq: ARCH 3121 with a C- or higher. Restriction: Restricted to undergraduate ARCH students within the College of Architecture and Planning. Max hours: 6 Credits.

Grading Basis: Letter Grade

Prereq: ARCH 3121 with a C- or higher. Restriction: Restricted to undergraduate ARCH students within the College of Architecture and Planning.

**ARCH 4121 - Design Studio VI - Analytical (6 Credits)**

Second in the sequence of two analytical design studio courses, this course advances students' understanding of the relationship between architecture and culture and their ability to design intermediate scale buildings as effective settings for cultural rituals. Students explore the role of history and precedent in the design process along with the role of detail in architectural compositions. Prereq: ARCH 4111 with a C- or higher. Restriction: Restricted to undergraduate ARCH students within the College of Architecture and Planning. Max hours: 6 credits.

Grading Basis: Letter Grade

Prereq: ARCH 4111 with a C- or higher. Restriction: Restricted to undergraduate ARCH students within the College of Architecture and Planning.

**ARCH 4220 - A History of Theoretical Discourse on Architecture (3 Credits)**

This course traces the history of theoretical discourse on architecture from the Renaissance to the present. It explore the genealogy of current theoretical stances and critical methodologies in the discipline of Architecture through the close reading of a select group of historic and contemporary texts. Prereq: ARCH 3230. Cross-listed with ARCH 6220. Max hours: 3 Credits.

Grading Basis: Letter Grade

Prereq: ARCH 3230.

**ARCH 4230 - Architecture History III (3 Credits)**

Introduces architecture and urbanism from 19th century to present by exploring the social, cultural, technical philosophical and aesthetic ideas that shaped buildings and other architectural. Prereq: Requires prerequisite course of ARCH 3230 (minimum grade C-).

Grading Basis: Letter Grade

Requires prerequisite course of ARCH 3230 (minimum grade C-).

**ARCH 4340 - Theory of Structures II (3 Credits)**

Focuses on the relationship between architectural concepts and the selection of structural systems. Addresses the qualitative and quantitative analysis of reinforced concrete, steel, and wood structural systems and members. Prereq: ARCH 3340 with a C- or higher. Restriction: Restricted to undergrad students in B.S. Architecture, B.S. Construction Management, and B.S. Construction Engineering Management. Max hours: 3 Credits.

Grading Basis: Letter Grade

Prereq: ARCH 3340 with a C- or higher. Restriction: Restricted to undergrad students in B.S. Architecture, B.S. Construction Management, and B.S. Construction Engineering Management.

**ARCH 4440 - Building Systems II (3 Credits)**

Focuses on the environmental systems in commercial and other nonresidential buildings. Discusses natural and artificial lighting, HVAC systems, acoustics, vertical transportation and fire protection. Prereq: ARCH 2121 or ARCH 3110 or CEMT 2100. Restriction: Restricted to undergrad students in B.S. Architecture, B.S. Construction Management, and B.S. Construction Engineering Management. Max hours: 3 Credits.

Grading Basis: Letter Grade

Prereq: ARCH 2121 or ARCH 3110 or CEMT 2100. Restriction: Restricted to undergrad students in B.S. Architecture, B.S. Construction Management, and B.S. Construction Engineering Management.

**ARCH 4610 - A History of American Architecture (3 Credits)**

This course investigates the history of architecture in the United States as a chronological survey of buildings, architects, landscapes, and urban forms and as an exploration of the social, political, economic, technological, and similar issues that inform this built environment.

Prereq: ARCH 2230 and 3230. Cross-listed with ARCH 6210. Max hours: 3 Credits.

Grading Basis: Letter Grade

Prereq: ARCH 2230 and ARCH 3230.

**ARCH 4612 - A History of Modern Architecture (3 Credits)**

This course traces the various theoretical and formal developments in European and American Architecture from the end of the 19th century through the 20th century. The works of a select group of architects will be examined and discussed in relation to the diverse body of goals and objectives, ideas and ideals that constituted the Modern movements in architecture. Prereq: ARCH 2230. Restriction: Restricted to Sophomore standing or higher. Cross-listed with ARCH 6212. Max hours: 3 Credits.

Grading Basis: Letter Grade

Prereq: ARCH 2230 Restriction: Restricted to Sophomore standing or higher

**ARCH 4840 - Independent Study (1-3 Credits)**

Studies initiated by students or faculty and sponsored by a faculty member to investigate a special topic or problem related to architecture.

Prereq: Restricted to undergraduate ARCH students within the College of Architecture and Planning with sophomore standing or higher.

Repeatable. Max Hours: 6 Credits.

Grading Basis: Letter Grade

Repeatable. Max Credits: 6.

Restriction: Restricted to ARCH-BS majors with sophomore standing

**ARCH 4949 - Internship II (1-3 Credits)**

Experiential learning student internships sponsored by faculty in a field related to architecture. Minimum of 45 work hours per credit. Permission of instructor, advisor and acceptance in BS Architecture program. Must also have sophomore standing. Minimum 15 credit hours with 2.75 GPA.

Repeatable. Max Hours: 3 Credits.

Grading Basis: Letter Grade

Repeatable. Max Credits: 3.