

## Architectural Studies (undergraduate)

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A Bachelor's Degree in Architectural Studies is a student's introduction to the profession, where they learn vital technical, artistic, and communication skills.

The architecture major will study in a studio environment that encourages creativity, critical thinking, independent learning, and the exploration of ideas through hands-on making. The studio environment encourages both team-work, a sense of community, and a commitment to working on real-world problems. The integration of design-build studios as well as close collaboration between our technical courses and design studios, creates an education deeply rooted in practical solutions and technical invention. The architecture major will also have the opportunity to spend a semester in Berlin Germany, as well as participating in sketching tours throughout North America

In our unique Design: Build architecture studios, students collaboratively design, plan and build a structure, which have included a town library, a house for Habitat for Humanity, an outdoor high-school classroom, a mobile energy research laboratory, and a solar house.

A bachelor's degree offers students the chance to pursue a minor in other fields, including studio art, construction management, business, and art history.

### Goals:

- Graduates of the Architecture Program will become successful architects with a range of capabilities including residential design, small and large institutional project design, as well as planning of large civic projects and urban planning projects.
- Graduates of the Architecture Program will be well trained in the Architectural Design process that will make them leaders of design teams in firms of varying sizes.
- Graduates of the Architecture Program will be well trained in Green Design and Environmental Architecture so they will be capable of facing and helping to solve the challenges facing our world today.
- Graduates of the Architecture Program will be capable of helping their communities by advocating and implementing good design principles at a broad range of scales
- Graduates of the Architecture Program will be capable of technical problem solving and continuing to educate themselves with the latest means and methods of architectural construction.
- Graduates of the Architecture Program will be able to work both independently and in teams. Trained to be communicators, our graduates will be recognized for their leadership skills and their abilities to work with all people.
- Our graduates will be active citizens in their profession, community, the nation and the world.
- Graduates of the Architecture Program will become adept with a range of capabilities needed as successful architects, including residential design, small and large institutional project design, and commercial design as well as planning of large civic projects and urban planning projects.

- Graduates of the Architecture Program will be well trained in the architectural design process that will make them leaders of design teams in firms of varying sizes.

### Outcomes:

- Architecture majors will be trained in the conventions and techniques used by professionals in the field of Architecture. They will learn to utilize techniques, skills and modern architectural tools necessary for the professional practice of Architecture.
- Architecture Majors will learn to practice Architectural Design process.
- Architecture Majors will learn and practice creativity and the Iterative Process.
- Architecture Majors will learn to use computer based design programs as well as digitally controlled fabrication machines.
- Architecture Majors will gain a knowledge of structural systems, heating and cooling systems, and systems for moving people vertically through buildings.
- Architecture Majors will gain a knowledge of the human factors in design.
- Architecture Majors will learn materials and methods for construction.
- Architecture Majors will gain a knowledge of Passive building systems.
- Architecture Majors will gain a knowledge of Green Design.
- Architecture Majors will learn to prepare and deliver Construction Documents
- Architecture Majors will be trained in the ethics of the profession and will learn to make ethical decisions.
- Architecture Majors will Function as a member of a multidisciplinary team and be able to assume leadership roles on the team.
- Architecture Majors will be trained in both writing, public speaking and public presentation of design ideas. Students will have an opportunity to present ideas to a panel of professionals each semester as well as present writing assignments every semester.
- Architecture Majors will engage in a design build project for a local community
- Architecture Majors will learn how to prepare a professional portfolio
- Architecture Majors will be trained in how to interview for a career in an Architecture firm
- Architecture Majors will learn the process of Architectural Internship, training and Registration as well as the expectation for lifelong learning.

### Careers for this Major:

- Graduates from the undergraduate major in Architecture will continue on for one more year into our Master of Architecture program. Upon completing their M. Arch., our graduates will have their first professional degree in Architecture. This degree is required as part of a three-part process for licensure. Upon receiving their M. Arch., our graduates can then proceed to complete an internship registered with the NCARB (<http://www.ncarb.org>). These internships take place under the direct supervision of a licensed architect. Upon completion of the internship, the individual may then sit for the Architects Registration Exam (ARE). Successful completion of the ARE leads to a license to practice architecture.
- Graduates are leaders in the field of green design and are active members of the American Institute of Architects.

- Graduates complete internships in a wide variety of settings and work throughout the USA as well as internationally.
- Work for small firms on residential projects
- Work in mid-sized firms on residential, institutional and commercial projects
- Work in large firms on global projects such as airports, city planning, and major hospitals

- Principals of their own design firms
- Partnered principals of established firms throughout New England
- Head design teams at large urban firms with global portfolios
- Practice as construction administrators and general contractors
- Professors of architecture

### B.S. in Architectural Studies - Curriculum Map

<b>Freshman</b>			
<b>Fall</b>	<b>Credits</b>	<b>Spring</b>	<b>Credits</b>
AP 111 Fundamentals of Architecture	4	AP 118 Fundamentals of Architecture II	4
EN 101 Composition and Literature I	3	EN 102 Composition and Literature II	3
HI 107 The History of Civilization I (General Education History)	3	HI 108 The History of Civilization II	3
MA 107 Precalculus Mathematics (General Education Math)	4	MA 108 Applied Calculus (General Education Math)	4
SA 103 Introduction to Drawing	3	SA 104 Introduction to Visual Design (General Education Arts & Humanities)	3
	<b>17</b>		<b>17</b>
<b>Sophomore</b>			
<b>Fall</b>	<b>Credits</b>	<b>Spring</b>	<b>Credits</b>
AP 211 Architectural Design I	5	AP 212 Architectural Design II	5
AP 225 Introduction to Passive Environmental Systems	3	AP 325 Materials, Construction, and Design	3
FA 201 History/Theory of Architecture I	3	FA 202 History/Theory of Architecture II	3
PS 201 General Physics I (General Education Lab Science)	4	General Education Lab Science	4
General Education Literature	3	General Education Social Science	3
	<b>18</b>		<b>18</b>
<b>Junior</b>			
<b>Fall</b>	<b>Credits</b>	<b>Spring</b>	<b>Credits</b>
AP 221 Site Development and Design	3	AP 222 Human Issues in Design	3
AP 311 Architectural Design III	5	AP 312 Architectural Design IV	5
AP 327 Active Building Systems I	3	AP 328 Active Building Systems II	3
CE 351 Statics and Mechanics of Materials	4	CE 457 Wood, Steel, and Concrete Structures	4
FA 308 History/Theory of Architecture III	3	FA 309 History/Theory of Architecture IV	3
	<b>18</b>		<b>18</b>
<b>Senior</b>			
<b>Fall</b>	<b>Credits</b>	<b>Spring</b>	<b>Credits</b>
AP 411 Architectural Design V	5	AP 412 Architectural Design VI (Capstone)	5
Free Elective	3	AP 436 Project Delivery and Documentation (General Education Ethics)	4
Free Elective	3	AP Elective (may substitute required course for a minor)	3
Free Elective	3	Free Elective	3
AP Elective (may substitute required course for a minor)	3	Free Elective	3
	<b>17</b>		<b>18</b>
<b>Total Credits: 141</b>			

## Architectural Studies Minor

- The minor in Architectural Studies is for students in other majors who are interested in studying the use and design of space for human work and habitation.
- A minor in Architectural Studies requires 18 credit hours, involving four designated courses and at least three others.
- All courses require a grade of C or higher.

AP 111	Fundamentals of Architecture	4
AP 118	Fundamentals of Architecture II	4
FA 201	History/Theory of Architecture I	3
FA 202	History/Theory of Architecture II	3
AP Elective		3
AP Elective		3
AP Elective		2

## Courses

### AP 106 Architectural Drafting 3 Credits

Techniques of architectural drafting are introduced as basic skills used to describe architectural form. The various graphic tools, techniques, and conventions are presented and the rationale behind their use is explained. In addition to the basic graphic constructions and multi-view projections, the methods of developing architectural plans, elevations, and sections are addressed. This course is primarily intended for students who have had little or no prior introduction to mechanical and architectural drafting. One hour of lecture and three 3-hours of studio per week. 1 lecture hour and 3 studio hours.

### AP 111 Fundamentals of Architecture 4 Credits

An introduction to the basic principles and skills that constitute the discipline of architecture. A series of two and three dimensional graphic exercises is used to cultivate an understanding of architectonics, the intentional arrangement of space and enclosure to communicate human values while also introducing graphic techniques for communicating concepts and solutions. One hour of lecture and three 9-hour studios per week.

### AP 118 Fundamentals of Architecture II 4 Credits

A continuation of the introduction to the fundamental processes and technologies that constitute the discipline of architecture. This course investigates the design process, explores interactive computer graphics (CAD) as a design tool, and culminates with the application of these principles, processes, and skills to an architectural design problem. One hour of lecture and 9 hours of studio per week. Prerequisite: AP 111.

### AP 211 Architectural Design I 5 Credits

The first in a sequence of design studio courses introducing the processes, judgment, and communications involved in the synthesis of architectural form. Through a focused series of individual and group projects, the influences of the human and physical contexts on form are explored. One hour of lecture and three 4-hour studios per week. Prerequisite: AP 118. 1 lecture hour and 12 studio hours.

### AP 212 Architectural Design II 5 Credits

Second in a sequence of design studio courses emphasizing the processes, judgment, and communications involved in the synthesis of architectural form. Through a focused series of individual and/or group projects, the influences of functional requirements on form are explored. One hour of lecture and three 4-hour studios per week. Prerequisite: AP 211. 1 lecture hour and 0 to 12 studio hours.

### AP 221 Site Development and Design 3 Credits

A course that deals with engineering principles and design considerations involved with site design. Earth shaping, drainage, roadway alignment, parking lot layouts, code requirements and environmental factors are studied prior to and after design changes. Two hours of lecture and one 2-hour studio per week. 2 lecture hours and 2 studio hours.

### AP 222 Human Issues in Design 3 Credits

An introduction to the psychological, sociological, and physical factors that influence the design of architectural space. The fields of anthropometrics, ergonomics, and proxemics are addressed, as well as considerations for barrier-free environments. Three hours of lecture/discussion per week. 3 lecture hours.

### AP 225 Introduction to Passive Environmental Systems 3 Credits

Through coordinated lectures and demonstrations, the impacts of environmental energies on architectural form are introduced and explored. Emphasis is given to the processes by which the architect orders light, climate, gravity, and sound responses to achieve building geometry. The course also addresses concepts and strategies for responding to environmental hazards, and designing healthy buildings and green architecture. Three hours of lecture. Prerequisite: AP 118, EG 110 or instructor's permission. 3 lecture hours.

### AP 241 Architectural Delineation 3 Credits

A studio course in advanced graphic methods. Various rendering techniques, definitive design development, and the principles of construction drawings and architectural detailing are presented and explored through individual projects. One hour of lecture and two 2-hour studios per week. 1 lecture hour and 4 studio hours.

### AP 311 Architectural Design III 5 Credits

The development of the comprehensive building process as a synthesis of spatial, functional, and contextual concerns with emphases on building systems and materials. Individual and group problems are of a limited and defined scope. One hour of lecture and three 4-hour studios per week. Prerequisites: AP 212 and AP 325. Corequisites: AP 327.

### AP 312 Architectural Design IV 5 Credits

This fourth course in the design studio sequence continues the development of a comprehensive building design process with problems of complex but limited scope. The synthesis of spatial, functional, and contextual concerns, as directly linked to the understanding and employment of building systems, continues to provide a framework. One 1-hour lecture and three 4-hour studios per week. Prerequisite: AP 311. 1 lecture hour and 12 studio hours.

### AP 325 Materials, Construction, and Design 3 Credits

An introduction to the processes by which construction materials and systems are evaluated, selected, incorporated, and detailed in building design. Both measurable and immeasurable design responses to environmental energies are explored in soils, concrete, masonry, wood, and metals. Three hours of lecture per week. Prerequisite: AP 225. 3 lecture hours.

### AP 327 Active Building Systems I 3 Credits

A survey of contemporary mechanical building equipment and systems, including heating, ventilation and air conditioning. Emphasis is placed on comparisons of design parameters, interfaces, and impacts on overall building form. Energy efficiency is addressed. Prerequisites: AP 225 and MA 107. 3 lecture hours.

**AP 328 Active Building Systems II 3 Credits**

A continuation of AP 327, surveying contemporary electrical, lighting, and plumbing equipment and systems. Emphasis is placed on comparisons of design parameters, interfaces, and impacts on overall building form. Energy efficiency and building codes are addressed. Prerequisite: AP 327. 3 lecture hours.

**AP 403 Architectural Seminar in History and Theory 3 Credits**

As both an art and a science, the profession of architecture is continually undergoing change and reassessment. This elective seminar focuses on one or more specific issues and topics regarding the historic and philosophical contexts that influence architecture today. Typically these topics range from the study of specific historic periods or schools of thought regarding design to the diverse trends in current architectural thinking. AP 504 shall require a graduate-level paper or project. This course may be repeated for credit. Three hours of lecture/discussion per week. 3 lecture hours.

**AP 406 Architectural Theory 3 Credits**

**AP 411 Architectural Design V 5 Credits**

Comprehensive problem-oriented design studio offered to fourth year students by various faculty members. The extension of the comprehensive design proves to include problems of an expanded scope and large scale, including building complexes and urban design. Individual and group problems emphasize the complex relationships of environmental factors, human concerns, and architectural form. This studio is considered the undergraduate capstone course in the undergraduate portion of the Architecture Program. A design portfolio, covering all seven semesters of studio work and including a written paper, is required to be submitted at the completion of this course. Prerequisite: AP 312. 1 lecture hour and 12 studio hours.

**AP 412 Architectural Design VI 5 Credits**

Elective problem-oriented studios offered to fourth year students by various faculty members. The extension of the comprehensive design process to include problems of expanded scope and large scale, including building complexes and urban design. Individual and group problems emphasize the complex interrelationships of environmental factors, human concerns, and architectural form. One hour of lecture and three 4-hour studios per week. Prerequisite: AP 312. 1 lecture hour and 12 studio hours.

**AP 414 Architectural Seminar In Design 3 Credits**

This elective seminar investigates in a non-studio setting one or more specific concepts, issues, or topics related to architectural design and its associated disciplines, such as urban, landscape, interior, and visual design. AP 514 shall require a graduate level paper or project. This course may be repeated for credit. Three hours of lecture/discussion per week. Prerequisite: approval of instructor. Cross listed with AP 520.

**AP 424 Architectural Seminar in Technology 3 Credits**

As both an art and science, the profession of architecture is continually undergoing change and reassessment. This elective seminar focuses on one or more of the specific issues, topics, or skills related to technologies in architecture today. Typically, these specific semester topics range from advanced materials and construction systems to energy-conserving design; from environmental issues to hands-on building experiences. AP520 shall require a graduate-level paper or project. This course may be repeated for credit. Three hours of lecture/discussion per week. Prerequisites: AP114, AP325, or approval of instructor. Cross listed with AP520.

**AP 431 Design Thinking and Innovation 3 Credits**

This course explores the experience and practice of innovation by examining creativity as the ability to turn ideas into action. It examines the development, management, evolution, and broad context of emerging technologies and associated ventures. Students will complete innovation challenges from start to finish and leave with an understanding of the key tenets of design thinking and a sense for ways they can incorporate them into their work. This 'hands-on', project-based course involves students in the design and development of 'visual brand languages' for emerging technologies, foundation exercises in creativity, and case studies based on pivotal products from the past 50 years. Prerequisite: Not open to freshmen students.

**AP 434 Architectural Seminar in Process 3 Credits**

As both an art and science, the profession of architecture is continually undergoing change and reassessment. This elective seminar focuses on one or more specific topics regarding the current and future practice of architecture: what architects do, and how they do it. Typically, these topics range from design techniques to office management and from specialties within the practice, to the legal environmental, and social forces that influence it. AP 534 seminar shall require a graduate-level paper or project. This course may be repeated for credit. Three hours of lecture/discussion per week. Prerequisite: instructor's approval. Cross listed with AP 534.

**AP 436 Project Delivery and Documentation 4 Credits**

Relationships between the formal methods of project delivery and the architectural office form the basic investigation of this course. The project delivery process and the methods of communication and the documentation involved provide a detail study of typical office procedures. The studio component of this course provides practical experience of the typical project delivery process. Documentation is approached as the fundamental means of architectural communication. This communication is multi-layered acting as a foundation for the means of production of contemporary architecture. Various tools will be utilized ranging from computer aided design to conceptual organization schema in both the practice of typical architectural project delivery and the development of new means of communication and production. Two hours of lecture and four hours of studio per week. 2 lecture and 4 studio hours.

**AP 455 Special Projects in Architecture 1-3 Credit**

An execution of a singular project related to architectural design, history/theory, process, or technology selected by the individual student. The course focuses on in-depth independent research, development, and a formal written and/or graphic presentation of an architecturally-related topic not otherwise covered in course offerings. The student must secure a faculty member who will agree to serve as advisor/evaluator for the project. Limited to Architecture majors who have completed at least the first two years of the curriculum. Hours and credits to be arranged. 1 to 3 lecture hours.

**AP 456 Senior Project 4 Credits**

**AP 499 Sketching School 3 Credits**

**AP 499L Advanced Seminar: Sketching 0 Credits**