Architecture (ARCH)

ARCH Courses

ARCH 101. Survey of Architectural Education and Practice. 1 unit
CR/NC
Term Typically Offered: F, W, SP
Exploration of the major paradigms which have guided the development of architectural education and the profession. Survey of the roles of the architects and an introduction to curricula and programs designed to prepare students for careers in architecture. Credit/No Credit grading only. 1 lecture. Total credit limited to 3 units.

ARCH 105. Architectural Practice I. 1 unit
Term Typically Offered: TBD
Shop safety, machine and tool operation and small-scale design and construction. 1 laboratory.

ARCH 106. Materials of Construction. 2 units
Term Typically Offered: TBD
Use and application of construction processes and materials. 2 lectures.

ARCH 131. Design and Visual Communication 1.1. 4 units
Term Typically Offered: F
Concurrent: EDES 101.
An introduction to the issues, concepts, processes and skills pertaining to two- and three-dimensional design and the freehand, constructed and digital representation and visual communication of ideas, objects and environments. Purchase of a laptop computer, software and peripherals is highly recommended to participate in this course. 4 laboratories.

ARCH 132. Design and Visual Communication 1.2. 4 units
Term Typically Offered: W
Prerequisite: ARCH 131.
Continuation of ARCH 131 plus the issues, concepts, processes and skills pertaining to color theory and the design and visual communication of architectural space. Purchase of a laptop computer, software and peripherals is highly recommended to participate in this course. 4 laboratories.

ARCH 133. Design and Visual Communication 1.3. 4 units
Term Typically Offered: SP
Prerequisite: ARCH 132.
Continuation of ARCH 131 and ARCH 132 plus the issues, concepts, processes and skills pertaining to the analysis and design of architectural form, space and organizations. Purchase of a laptop computer, software and peripherals is highly recommended to participate in this course. 4 laboratories.

ARCH 160. Digital Tools for Architecture. 4 units
Term Typically Offered: TBD
Substantive introduction to the use of digital tools in architectural design and visual communication in the areas of 3-D modeling, 2-D drawing, image editing and page layout. 4 seminars.

ARCH 204. Architectural Theory. 3 units
Term Typically Offered: TBD
Prerequisite: EDES 101 or EDES 123.
Theories of architectural design. 3 lectures.

ARCH 207. Environmental Control Systems I. 4 units
Term Typically Offered: SP
Theory and application of climate, energy use and comfort as determinants of architectural form in small-scale buildings. Emphasis on architectural methods of ventilating, cooling, heating, and lighting for envelope-load dominated buildings. 2 lectures, 2 activities.

ARCH 217. History of World Architecture: Prehistory - Middle Ages. 4 units
GE Area C3
Term Typically Offered: F
Architecture and urbanism in the ancient world, from prehistory to the Middle Ages. Social, cultural and physical conditions that influenced the built environment to the Mediterranean basin, plus Europe, Asia, Africa and Pre-Columbian America. 4 lectures. Fulfills GE C3.

ARCH 218. History of World Architecture: Middle Ages - 18th Century. 4 units
GE Area C3
Term Typically Offered: W
World architecture and urbanism from the Middle Ages until the end of the 18th century Baroque. Social, cultural and physical conditions which influenced the built environment of Europe, Asia, and the Pre-Columbian and Colonial Americas. 4 lectures. Fulfills GE C3.

ARCH 219. History of World Architecture: 18th Century - Present. 4 units
GE Area C3
Term Typically Offered: SP, SU
Architecture and urbanism of the modern world, from the 18th century to the present. Social, cultural and physical conditions influencing the built environment of Europe, Asia, Africa and the Americas. 4 lectures. Fulfills GE C3.

ARCH 241. Architectural Practice 2.1. 4 units
Term Typically Offered: F
Prerequisite: ARCH 133. Corequisite: ARCH 251.
The language, principles and materials of construction with an emphasis on the origin, history, and application of traditional and emergent materials. 2 lectures, 2 activities.

ARCH 242. Architectural Practice 2.2. 4 units
Term Typically Offered: W
Prerequisite: ARCH 241. Corequisite: ARCH 252.
A continuation of ARCH 241 with an emphasis on the fundamental aspects of construction systems and the basics of construction documentation. 2 lectures, 2 activities.

ARCH 251. Architectural Design 2.1. 5 units
Term Typically Offered: F
Prerequisite: ARCH 133. Corequisite: ARCH 241.
Continuation of ARCH 251 in terms of materiality and the theories, concepts, processes and skills pertaining to the analysis and design of architectural form, space and organizations to communicate intended concepts and meanings. 5 laboratories.
ARCH 252. Architectural Design 2.2. 5 units
Term Typically Offered: W
Continuation of ARCH 251 plus the theories, concepts, processes and skills pertaining to light, construction and function as determinants that shape the built environment and support the communication of intended concepts and meanings. 5 laboratories.

ARCH 253. Architectural Design 2.3. 5 units
Term Typically Offered: SP
Prerequisite: ARCH 252 and ARCH 242. Corequisite: ARCH 207.
Continuation of ARCH 251 and ARCH 252 plus the theories, concepts, processes and skills pertaining to context, structure and climate as determinants that shape the built environment and support the communication of intended concepts and meanings. 5 laboratories.

ARCH 270. Selected Topics. 1-4 units
Term Typically Offered: TBD
Directed group study of selected topics. The Schedule of Classes will list title selected. Open to first-, second-, third-year students. Total credit limited to 8 units. 1 to 4 lectures.

ARCH 302. Theories of Architectural Design. 3 units
Term Typically Offered: TBD
Prerequisite: ARCH 253.
Theories of architecture and their application in architectural design. 3 lectures.

ARCH 307. Environmental Control Systems 2. 4 units
Term Typically Offered: W
Prerequisite: ARCH 207. Concurrent: ARCH 352.
Continuation of ARCH 207 plus theory and application of climate, energy use and comfort as determinants of architectural form in large-scale buildings. Emphasis on architectural and mechanical methods of ventilating, cooling, heating, lighting, acoustics, and water and waste systems for internal-load dominated buildings. 2 lectures, 2 discussions.

ARCH 313. Advanced Delineation. 2 units
Term Typically Offered: SP
Prerequisite: ARCH 253.
Development of proficiency in architectural presentation. Projects and critiques. 2 laboratories.

ARCH 320. Topics in Architectural History. 4 units
GE Area C4
Term Typically Offered: TBD
Prerequisite: Junior standing; GE Area A1 and one of the following Area C3 courses: ARCH 217, 218, 219, or ART 112.
In-depth examination of a significant region, movement or period in architectural history, theory and criticism. The material covered will vary depending upon the topic. The Schedule of Classes will list topic selected. Total credit limited to 8 units. 4 lectures. Fullfills GE C4 except for Architecture majors.

ARCH 326. Native American Architecture and Place. 4 units
GE Area C4; USCP
Term Typically Offered: TBD
Prerequisite: Junior standing; completion of GE Areas A and C1.
The role of culture and setting in the construction of spatial, material and landscape concepts and artifacts, through the introduction of selected North American cultures, with focus from 1300 AD through contemporary time. 4 lectures. Crosslisted as ARCH/ES 326. Fulfills GE C4. Fulfills USCP.

ARCH 337. Photographic Presentation. 2 units
Term Typically Offered: TBD
Prerequisite: ARCH 133.
Media presentations in architecture with emphasis on black and white and color print photographic presentations, forms, and techniques applicable to architecture subjects and to design communication. 1 lecture, 1 laboratory.

ARCH 340. Architectural Photography. 4 units
Term Typically Offered: TBD
Prerequisite: ARCH 337.
Photography specifically related to architecture and design. Advancement of students technical skills in communicating design through the medium of photography. 2 lectures, 2 laboratories.

ARCH 341. Architectural Practice 3.1. 4 units
Term Typically Offered: F
Prerequisite: ARCH 242 and ARCH 253. Corequisite: ARCH 351.
Continuation of ARCH 242 plus the concepts, methods and processes and building systems that pertain to the detailing and construction of large-scale masonry, steel, concrete and combination structures. 2 lectures, 2 discussions.

ARCH 342. Architectural Practice 3.2. 4 units
Term Typically Offered: SP
Prerequisite: ARCH 341. Corequisite: ARCH 353.
Continuation of ARCH 341 plus the concepts, methods, and processes pertaining to the preparation of outline specifications, production of design development drawings, life safety, building systems integration and building envelope and fabrication systems that inform the design and development of large scale buildings. 2 lectures, 2 discussions.

ARCH 351. Architectural Design 3.1. 5 units
Term Typically Offered: F
Prerequisite: ARCE 212, ARCH 253, ARCH 207 and PHYS 122 or PHYS 132, or consent of department head. Corequisite: ARCH 341.
Continuation of ARCH 253 plus the development and exploration of architectural theories, building systems, and design concepts and processes involved in creating architecture with an emphasis on implications of the program and space planning issues as building form generator. 1 lecture, 4 laboratories.

ARCH 352. Architectural Design 3.2. 5 units
Term Typically Offered: W
Continuation of ARCH 351 plus the development and exploration of architectural theories, building systems, and design concepts and processes involved in creating sustainable architecture with an emphasis on implications of ecological, environmental and site issues as building form generator. 1 lecture, 4 laboratories.
ARCH 353. Architectural Design 3.3. 5 units
Term Typically Offered: SP
Prerequisite: ARCH 352, ARCH 307. Corequisite: ARCH 342.
Continuation of ARCH 352 plus the development and exploration of architectural theories, building systems, and design concepts and processes involved in creating large-scale architecture with an emphasis on implications of socio-cultural and comprehensive/life safety systems integration issues as building form generator. 1 lecture, 4 laboratories.

ARCH 363. Off-Campus Orientation Seminar. 2 units
CR/NC
Term Typically Offered: SP
Prerequisite: Consent of instructor.
Preparation for off-campus architectural study programs includes cultural orientation, an introduction to basic language skills, travel and housing protocols as well as academic and financial advising. Credit/No Credit grading only. Total credit limited to 4 units, with a maximum of 2 units per quarter. 2 seminars.

ARCH 400. Special Problems for Advanced Undergraduates. 1-2 units
CR/NC
Term Typically Offered: F,W,SP,SU
Prerequisite: Consent of instructor.
Individual investigation, research, studies, or surveys of selected problems. Total credit limited to 4 units, with a maximum of 2 units per quarter. Credit/No Credit grading only.

ARCH 401. Toward a Barrier-Free Environment. 3 units
Term Typically Offered: TBD
Prerequisite: Junior standing or consent of instructor.
Exploring the interface between the built environment and human behavior. Physical and psychological design determinants. Attitudes towards deviancy, accessible environments and persons with disabilities. Legal, ethical, human factors. 3 lectures.

ARCH 420. Seminar in Architectural History, Theory and Criticism. 4 units
Term Typically Offered: F, W, SP
Prerequisite: ARCH 217, ARCH 218, and ARCH 219.
Special topics based on the exploration of specific approaches, periods of time, and cultural or geographic areas. The Schedule of Classes will list topic selected. Total credit limited to 12 units; repeatable in same term. 4 seminars.

ARCH 443. Issues in Contemporary Professional Practice. 4 units
Term Typically Offered: W
Prerequisite: ARCH 342, ARCH 353.
An exploration of topics related to the practice of architecture, including financial considerations, client obligations, project and practice management, leadership, legal responsibilities, ethics and professional judgment, and community and social responsibility, as well as the process and requirements for internship and licensure. 2 lectures, 2 discussions.

ARCH 445. Urban Design in Architecture. 3 units
Term Typically Offered: TBD
Prerequisite: ENGL 134.
Design role of the urban architect. Economic, environmental and technological forces impacting on architectural practice in urban areas. 3 lectures.

ARCH 451. Architectural Design 4.1. 5 units
Term Typically Offered: F
Prerequisite: ARCE 316, ARCH 353, ARCH 342.
Problems of increasing architectural complexity involving the comprehensive integration of architectural theory, design processes, and building systems with emphasis placed on multifunction singular buildings. 5 laboratories.

ARCH 452. Architectural Design 4.2. 5 units
Term Typically Offered: W
Prerequisite: ARCE 316, ARCH 353, ARCH 342.
Problems of increasing architectural complexity involving the comprehensive integration of architectural theory, design processes, and building systems with emphasis placed on multifunctional projects. 5 laboratories.

ARCH 453. Architectural Design 4.3. 5 units
Term Typically Offered: SP
Prerequisite: ARCE 316, ARCH 353, ARCH 342.
Problems of increasing architectural complexity involving the comprehensive integration of architectural theory, design processes, and building systems with emphasis placed on multifunctional projects in an urban context. Total credit limited to 10 units and may substitute for ARCH 451 or ARCH 452. 5 laboratories.

ARCH 457. Computer Graphics in Architecture. 4 units
Term Typically Offered: TBD
Prerequisite: Fourth year standing.
Two-dimensional drawing systems in architectural practice with particular emphasis on office productivity in the production side of the design process; includes drawing database administration, local area networks, management and cost issues. 2 lectures, 2 laboratories.

ARCH 460. Computer Graphics Applications III. 3 units
Term Typically Offered: TBD
Prerequisite: ARCH 133 or ARCH 160 or consent of instructor.
Advanced methods in the application of computer graphics and multimedia techniques in architectural design. 2 lectures, 1 activity.

ARCH 461. Advanced Computer-Aided Fabrication in Architecture. 4 units
Term Typically Offered: TBD
Prerequisite: Junior standing or consent of instructor.
Applications of computer-aided manufacturing in architectural design with emphasis on subtractive and additive fabrication methods, material assemblies, and advanced techniques in digital design software. 2 lectures, 2 activities.
ARCH 462. Topics in Architectural Practice. 3-4 units
Term Typically Offered: W
Prerequisite: ARCH 342 or consent of instructor.
Selected topics addressing various aspects of Architectural Practice for advanced students in CAED. Topics may include strategic planning, managing quality, ethics, and legal considerations. Open to undergraduate and graduate students. The Schedule of Classes will list topic selected. Total credit limited to 8 units; repeatable in same term. 3-4 lectures.

ARCH 464. Computer Applications in Design. 3 units
Term Typically Offered: TBD
Prerequisite: Junior standing.
Exposure to aspects of computer-aided design. Class Schedule will list topic selected. Total credit limited to 12 units. 3 lectures.

ARCH 465. Design Related Media. 3 units
Term Typically Offered: TBD
Prerequisite: Junior standing and current participation in Washington Alexandria Architectural Consortium off-campus program.
The role of various media of visual communication as tools of documentation, analysis and creation in the design visual environment. Skills in graphics, photography, product design, film, video techniques, and printmaking graphics will be developed in specific relation to environmental design study and presentation. Class Schedule will list topic selected. Total credit limited to 12 units. 3 lectures.

ARCH 466. Topics in Architectural History and Theory. 3 units
Term Typically Offered: TBD
Prerequisite: Junior standing and current participation in Washington Alexandria Architectural Consortium off-campus program.
Design from its beginning with the crafts design period to its expression of industrial design in its present form. Various stages in the evolution of design explored through analyzing the influences and contributions of leading artists. Class Schedule will list topic selected. Total credit limited to 12 units. 3 lectures.

ARCH 467. Undergraduate Research. 3 units
Term Typically Offered: TBD
Prerequisite: Junior standing and current participation in Washington Alexandria Architectural Consortium off-campus program.
Architecture and urban theoretical intentions and results in the context of the Capitol of the United States - Washington, DC. This theoretical and historical study will not occur within the confines of the classroom, but directly within the 'laboratory' of the city. Class Schedule will list topic selected. Total credit limited to 12 units. 3 lectures.

ARCH 468. Advanced Environmental Building Systems. 3 units
Term Typically Offered: TBD
Prerequisite: Junior standing and current participation in Washington Alexandria Consortium off-campus program.
Technologies which provide a 'well building' environment by engaging in: weather protection; thermal/moisture control; natural and artificial lighting; and electrical and other 'energy source' utility service. 3 lectures.

ARCH 469. Topics in Design Methods. 3 units
Term Typically Offered: TBD
Prerequisite: Junior standing and current participation in the Washington Alexandria Architectural Consortium off-campus program.
Relationship of art and architecture addressed to encourage critical debate. Historically, the 'art' and the 'architecture' were not as polarized as today. Both historical perspective and practical issues concerning collaboration. Class Schedule will list topic selected. Total credit limited to 12 units. 3 lectures.

ARCH 470. Selected Advanced Topics. 1-4 units
Term Typically Offered: TBD
Prerequisite: Consent of instructor.
Directed group study of selected topics for advanced students. The Schedule of Classes will list title selected. Total credit limited to 16 units. 1 to 4 lectures.

ARCH 471. Selected Advanced Laboratory. 1-4 units
Term Typically Offered: TBD
Prerequisite: Consent of instructor.
Directed group laboratory study of selected topics for advanced students. Open to undergraduate and graduate students. Class Schedule will list topic selected. Total credit limited to 8 units. 1 to 4 laboratories.

ARCH 472. Housing Design Concepts. 3-4 units
Term Typically Offered: TBD
Prerequisite: Third-year standing or consent of instructor.
For students preparing for further study or practice relating to housing, urban design and new communities. This course will address design objectives, concepts, and current theories and forms in housing and mixed-use projects. 3-4 lectures.

ARCH 480. Special Studies in Architecture. 1-12 units
Term Typically Offered: F,W,SP,SU
Prerequisite: Junior standing.
Special issues and problems through research, field trips, design projects, and other forms of investigation and involvement. Course requirements are determined prior to each individual project through a contractual agreement between students and department. The departmental Off Campus Study Guidelines apply except when superseded by guidelines and practices of the London Study Program of the College of Liberal Arts. Total credit limited to 36 units.

ARCH 481. Senior Architectural Design Project. 5 units
Term Typically Offered: F, W, SP
Prerequisite: ARCH 451, ARCH 452 and ARCH 453.
Comprehensive building design and research project in an architectural concentration area. Demonstration of professional competency in integration of architectural theory, principles and practice with creative, organizational and technical abilities in architectural programming, design and design research. Total credit limited to 15 units. 5 laboratories.
ARCH 485. Cooperative Education Experience. 4-8 units  
CR/NC  
Term Typically Offered: F,W,SP,SU  
Prerequisite: Sophomore standing and consent of instructor.  
Part-time work experience in business, industry, government, and other areas of student career interest. Positions are paid. Formal report and evaluation by work supervisor required. Major credit limited to 20 units; total credit limited to 24 units. Credit/No Credit grading only.

ARCH 486. Internship Education Experience. 4-8 units  
CR/NC  
Term Typically Offered: F,W,SP,SU  
Prerequisite: Sophomore standing and consent of instructor.  
Part-time work experience in business, industry, government, and other areas of student career interest. Positions are unpaid and usually require relocation. Formal report and evaluation by work supervisor required. Major credit limited to 20 units; total credit limited to 24 units. Credit/No Credit grading only.

ARCH 492. Senior Design Thesis. 3 units  
Term Typically Offered: F  
Prerequisite: ARCH 451, ARCH 452 and ARCH 453. Concurrent: First quarter of ARCH 481.  
Development of the framework and format of a thesis project proposal related to the specific design option. Work to include: research topic, intent, scope, methodology, assumptions, outline of work program and documentation. 3 seminars.

ARCH 495. Cooperative Education Experience. 12 units  
CR/NC  
Term Typically Offered: F,W,SP,SU  
Prerequisite: Sophomore standing and consent of instructor.  
Full-time work experience in business, industry, government, and other areas of student career interest. Positions are paid. Formal report and evaluation by work supervisor required. Major credit limited to 20 units; total credit limited to 24 units. Credit/No Credit grading only.

ARCH 496. Internship Education Experience. 12 units  
CR/NC  
Term Typically Offered: F,W,SP,SU  
Prerequisite: Sophomore standing and consent of instructor.  
Full-time work experience in business, industry, government, and other areas of student career interest. Positions are unpaid and usually require relocation. Formal report and evaluation by work supervisor required. Major credit limited to 20 units; total credit limited to 24 units. Credit/No Credit grading only.

ARCH 510. Environmental Design Methods. 3 units  
Term Typically Offered: TBD  
Prerequisite: Graduate standing.  
Application of systematic, step-by-step procedures to rational and intuitive judgmental tasks. Methods for formulation, idea production, evaluation, and testing applied to planning, testing, design information systems, communication between designer and client, user participation in design, and other current topics. 511 focuses on specific problem area among topics and may be repeated up to 9 units. 3 lectures.

ARCH 532. Research Methods in Architecture. 3 units  
Term Typically Offered: TBD  
Prerequisite: Graduate standing.  
Roles of research and analysis in architecture. Approaches to research, hypothesis testing, design process, and systems for design. Use of research findings in various decision-making systems. 3 seminars.

ARCH 533. Architectural Programming. 3 units  
Term Typically Offered: TBD  
Prerequisite: ARCH 453.  
Information management in the design process. Techniques for gathering, analyzing, and transforming data for use as design information. Variety of approaches to pre-design planning. 3 seminars.

ARCH 551. Architectural Design. 5 units  
Term Typically Offered: F, W, SP  
Prerequisite: Graduate standing.  
Professional initiative and responsibility in integrating architectural design theory and practice with fields influencing the total environment. Building types considered as the coordinating factor. Total credit limited to 15 units with no more than 5 units in any one quarter. 5 laboratories.

ARCH 561. Advanced Design. 3 units  
Term Typically Offered: F, W  
Prerequisite: Graduate standing.  
Continuation of ARCH 551. Advanced studies integrating architectural design theory and practice with fields influencing the shaping of the total environment. Total credit limited to 9 units. 3 laboratories.

ARCH 570. Selected Advanced Topics. 1-4 units  
Term Typically Offered: TBD  
Prerequisite: Graduate standing or consent of instructor.  
Directed group study of selected topics for graduate students. Open to undergraduate and graduate students. The Schedule of Classes will list title selected. Total credit limited to 8 units. 1-4 lectures.

ARCH 580. Seminar in Theory of Architecture. 3 units  
Term Typically Offered: TBD  
Prerequisite: Graduate standing.  
Directed group study of selected topics in the theory of architecture for graduate students. The Schedule of Classes will list title selected. Total credit limited to 9 units. 3 seminars.

ARCH 598. Master's Design Project. 3-6 units  
Term Typically Offered: F, W, SP  
Prerequisite: Consent of graduate advisor.  
Completion of a master project demonstrating in-depth research ability at a graduate level. Total credit limited to 9 units. 3 or 6 laboratories.

ARCH 599. Master's Thesis. 1-9 units  
Term Typically Offered: TBD  
Prerequisite: Consent of graduate advisor.  
Completion of a thesis embodying original research in an area of environmental design. Total credit limited to 9 units.