Architecture (ARCH)

Courses

ARCH 1233 Visual Communications: 3 semester hours.
Multimedia techniques in graphics emphasizing orthographic projections, perspective, shade and shadow, and freehand drawing.
Co-requisite: ARCH 1253.

ARCH 1253 Architecture Design: 3 semester hours.
Introduction to basic design issues including forum, space, ordering systems, human use and the architect’s responsibility to society. Students will investigate these issues critically in individual and collaborative projects and communicate findings through visual, oral and written presentations.
Co-requisite: ARCH 1233.

ARCH 1266 Architecture Design II: 6 semester hours.
Basic principles of architectural design and communication including organization, spatial sequence, relationships and problem solving using simple interior and exterior problems.
Prerequisites: ARCH 1253.

ARCH 1273 Multimedia Digital Applications: 3 semester hours.
The goal of this course is to obtain an introductory skill set for using computer base multimedia technologies, such as Adobe Acrobat, PhotoShop, Illustrator, and AutoCad, which will further help assist them in their studies and practices. The primary emphasis is to help improve their research, productivity, presentation communications through the effective use of graphic technology; stimulating their personal capacity creativity.

ARCH 2223 Computer Aided Design: 3 semester hours.
Introduction to the range and potential of computer aided design and electronic media in problem solving and conceptual design.

ARCH 2223 History of Architecture I: 3 semester hours.
Survey of the development of architecture from Renaissance to modern era. This course will also focus on culturally significant Western and Nonwestern architecture that advances critical thought and intellectual curiosity. Required drawing and reading material will enhance the evolution of historical, social and political concepts and foster the ability to write and express ideas graphically and professionally to engage effectively the regional, national and global community with an emphasis on personal as well as social responsibility.

ARCH 2243 History of Architecture II: 3 semester hours.
Survey of the development of architecture from Renaissance to modern era. This course will also focus on culturally significant Western and Nonwestern architecture that advances critical thought and intellectual curiosity. Required drawing and reading material will enhance the evolution of historical, social and political concepts and foster the ability to write and express ideas graphically and professionally to engage effectively the regional, national and global community with an emphasis on personal as well as social responsibility.

ARCH 2256 Architecture Design III: 6 semester hours.
Problem solving and presentation of basic principles, concepts and ideas as applied to simple architectural problems.
Prerequisites: ARCH 1266.

ARCH 2266 Architecture Design IV: 6 semester hours.
Basic architectural design projects with an emphasis on site development, function, form and the design process.
Prerequisites: ARCH 2256.

ARCH 2273 Materials and Methods I: 3 semester hours.
Introduction to the properties and uses of natural and manufactured building materials and the effect of the nature of materials upon design.

ARCH 2313 Digital Drawing: 3 semester hours.
Drawing using both digital and conventional drawing techniques.

ARCH 2323 Digital Illustration: 3 semester hours.
Visual communication strategies, color theory and advanced drawing.

ARCH 3256 Architecture Design V: 6 semester hours.
Building design as it relates to structure, circulation, context and support systems.
Prerequisites: ARCH 2266 and ARCH 3293 (may be taken concurrently).

ARCH 3266 Architecture Design VI: 6 semester hours.
Analysis and design of structures of advanced complexity with emphasis on interrelationships of building systems.
Prerequisites: ARCH 3256.

ARCH 3283 Materials and Methods II: 3 semester hours.
Emphasis on systems of building structures and on the interrelationships among the components of the systems, the assembly processes and project control.

ARCH 3293 Structural Systems I: 3 semester hours.
A study of theory of various structural concepts. Emphasis placed on statics and strength of materials.
Prerequisites: MATH 1123 (may be taken concurrently).
ARCH 3453 Environmental Systems: 3 semester hours.
Fundamentals of environmental systems for buildings: lighting, electrical, heating, ventilating, air conditioning, plumbing, and life safety.

ARCH 3463 Sustainable Building: 3 semester hours.
Issues facing the design and construction industries in creating and maintaining high performance green buildings. Sustainable building projects will be analyzed, green building rating systems of USGBC's LEED system and the DOE's Energy Star program will be studied and researched and presentation of benchmark sustainable case study projects will be accomplished.

ARCH 3473 Ecology and Man: 3 semester hours.
Theoretical frameworks for understanding how the physical and cultural constructs of mankind are integral to the natural world, for the purpose of developing the systems thinking skills that will be required to sustain life.

ARCH 3563 Site and Urban Design: 3 semester hours.
An introduction to urban planning and the analysis of site characteristics, adaptation of building to site, determination of the interrelationship of intended site use with the environment, and the consideration of climate.

ARCH 3643 Presentation Techniques: 3 semester hours.
Basic graphic communications emphasizing good drafting skills in; perspective drawings, rendering techniques and model building. Prerequisite: junior standing.

ARCH 4063 Project Planning and Feasibility: 3 semester hours.
Principles and practice of residential and commercial land development.

ARCH 4333 Intl Education and Travel Init: 3 semester hours.
The study of architecture and building design focusing on historical and/or current projects in the country of _______. Included in the course will be a trip to _______ that will focus on exploring the methods and practice of architecture and construction in this country. Prerequisites: ARCH 2233 and ARCH 2243.

ARCH 4406 Architectural Internship: 6 semester hours.
Approved internship in an architecture office, the building construction industry or a planning or public service agency. Prerequisite: Approval of Director or Dean of the School of Architecture.

ARCH 4423 Urban Planning: 3 semester hours.
Study of theories and concepts concerning the structure and function of urban communities; spatial and temporal aspects of urban development; problems and consequences of planned and unplanned changes in urban society.

ARCH 4433 Structural Systems II: 3 semester hours.
A study of theory, behavior and design of structural systems in steel and timber. Prerequisites: ARCH 3293 and MATH 1123.

ARCH 4443 CAD Construction Documents and Codes: 3 semester hours.
The organization, development and preparation of a complete set of working drawings using computer aided design. Prerequisites: ARCH 2223.

ARCH 4456 Architecture Design VII: 6 semester hours.
Exploration of urban design and the human and environmental impact of individual designs in the built environment. Prerequisites: ARCH 3266.

ARCH 4476 Architecture Design VIII: 6 semester hours.
Advanced problems in architecture and planning. Prerequisites: ARCH 4456.

ARCH 4503 Methods of Research: 3 semester hours.
Study and application of research and programming in architecture.

ARCH 4523 Historic Preservation and Adaptive Reuse: 3 semester hours.
Introduction to the methods and practices of preservation and reuse of architectural heritage.

ARCH 4593 Prof Practice: 3 semester hours.
Overview of the ethical, legal and administrative responsibilities of the architect. The study of relationships between the architect, the client, and the contractor involved in comprehensive architectural services and emerging techniques of practice.

ARCH 4613 Landscape Architecture: 3 semester hours.
Principles of site development as related to climate, topography, and intended use.

ARCH 4633 Net Zero Energy Design I: 3 semester hours.
Passive House Certification principles and methodologies including design strategies, energy modeling and construction details and processes.

ARCH 4643 Net Zero Energy Design II: 3 semester hours.
Passive and active design strategies for reducing energy use in buildings followed by on-site renewable energy applications to achieve net zero energy use.
ARCH 4653 Alternative Energy Design: 3 semester hours.
Optimum energy use strategies for buildings, energy audit methods, solar system applications, passive energy application and life-cycle cost analysis.

ARCH 4663 Regenerative Design: 3 semester hours.
Integrated frameworks for developing regenerative capabilities in the products of design, the process of design, and the individuals who engage in design.

ARCH 4673 Introduction to Interior Design: 3 semester hours.
Introduction to the profession and practice of interior design.

ARCH 4683 Interior Design II: 3 semester hours.
Interior Design II will provide an advanced understanding in designing and detailing interior architecture, exploring the production of interior mechanical, millwork drawings, and Construction Documents.

ARCH 4733 Advanced Computer Aided Design: 3 semester hours.
Comprehensive architectural design and presentation using 2- and 3 - modeling software. Emphasis on the role electronic media in the visualization of design projects.
Prerequisites: ARCH 2223.

ARCH 4743 Building Information Modeling: 3 semester hours.
Introduction to the fundamentals of Building Information Modeling and how they apply to the design and construction industry and a technology enabled workforce. Introduction to the methods of creation, evaluation and exchange of Building Information Models. Leveraging BIM and 4D modeling for construction optimization and sustainable building initiatives.
Prerequisites: ARCH 2223.

ARCH 4753 Introduction to Geographical Information Systems: 3 semester hours.
Concepts and techniques of utilizing geographic information systems to study and model environmental issues including methods of creating, analyzing and displaying GIS data utilizing industry standard software. Global positioning systems (GPS) will be introduced as a means of creating GIS data.

ARCH 4763 Energy Modeling: 3 semester hours.
Utilize energy, solar, and hygrothermal modeling software to determine how to cost effectively achieve high performing buildings.

ARCH 4776 Urban Design Studio: 6 semester hours.
Projects with a focus on urban issues and context.

ARCH 4971 Special Topics: 1 semester hour.
Selected current and emerging topics in architecture.

ARCH 4972 Special Topics: 2 semester hours.
Selected current and emerging topics in architecture.

ARCH 4973 Special Topics: 3 semester hours.
The study of various specialized fields of architecture as they relate to contemporary social issues. Topics vary by semester. Course may be repeated for credit when topics vary.

ARCH 4976 Special Topics: 6 semester hours.
Design studio with a focus on a particular issue or area of architecture. Topics vary by semester. Course may be repeated for credit when topics vary.

ARCH 4986 Special Projects: 6 semester hours.
Unique design studio projects tailored to learning objectives. May be repeated for credit.
Prerequisites: ARCH 2266.

ARCH 4993 Independent Study: 1-3 semester hour.
Readings, research, and/or field work on selected topics.

ARCH 4996 Independent Study: 1-6 semester hour.
Readings, research, and/or field work on selected topics.

ARCH 5423 Urban Planning: 3 semester hours.
Study of theories and concepts concerning the structure and function of urban communities; spatial and temporal aspects of urban development; problems and consequences of planned and unplanned changes in urban society.

ARCH 5483 Structural Systems III: 3 semester hours.
Structural design and analysis of building systems in steel and reinforced concrete; long spans, lateral forces, connections, code requirements, and economics of structural systems.
Prerequisites: ARCH 4433.

ARCH 5506 Internship: 6 semester hours.
Approved summer internship in an architecture office, the building construction industry or a planning or public service agency or approved foreign study program. Appropriate documentation of the experience will be required.

ARCH 5513 Research Seminar: 3 semester hours.
Research and programming for the Comprehensive Project Studio.
ARCH 5523 Historic Preservation and Adaptive Reuse: 3 semester hours.
Introduction to the methods and practices of preservation and reuse of architectural heritage.

ARCH 5566 Architecture Design IX: 6 semester hours.
Advanced design studio with emphasis on comprehensive architectural design projects.

ARCH 5579 Comprehensive Project Studio: 9 semester hours.
A comprehensive design project based on research and programming accomplished in ARCH 5513.

ARCH 5591 Prof Employmnt Dev-Soft Skills: 1 semester hour.
Graduating senior seminar for Architecture majors to provide an introduction to industry options with an emphasis preparing for success in their career by improving their "soft skills.

ARCH 5743 Building Information Modeling: 3 semester hours.
Exploring the fundamentals of Building Information Modeling and how they apply to the design and construction industry and a technology enabled workforce. Exploring the methods of creation, evaluation and exchange of Building Information Models. Leveraging BIM and 4D modeling for construction optimization and sustainable building initiatives.

ARCH 5973 Special Topics: 3 semester hours.
The study of various specialized fields of architecture as they relate to contemporary social or technical issues. Topics vary by semester. Course may be repeated for credit when topics vary.

ARCH 5976 Special Topics: 6 semester hours.
Design studio with a focus on a particular issue or area of architecture. Topics vary by semester. Course may be repeated for credit when topics vary.

ARCH 5986 Special Projects: 6 semester hours.
Design projects of differing lengths and content with group or individual involvement. May be repeated for credit.

ARCH 5996 Independent Study: 1-6 semester hour.
Readings, research, and/or field work on selected topics. Prerequisite: Consent of advisor.