

COURSES

ARC 103 BASIC ARCHITECTURAL DRAWING**1 Lecture Hour 4 Lab Hours 3 Credit Hours**

The basic concepts of drawing lines, lettering, use of instruments, orthographic projection, and pictorials. Plans, elevations, and sections of a single building are prepared. Building materials and construction are included. Emphasis is placed upon drawings that reproduce with a maximum of clarity and detail. Prerequisite: Math A Regents with a grade of 65 or higher or concurrent enrollment in Mat 131 or higher.

ARC 104 INTRO TO COMPUTER GRAPHICS**0 Lecture Hours 3 Lab Hours 1 Credit Hour**

A required introductory course for Architectural and Construction Technology students. Students will gain hands-on experience with AutoCAD, Formit, and REVIT, the computer graphics program used in the Profession.

ARC 105 BLDG MATERIALS/CONST I**2 Lecture Hours 2 Lab Hours 3 Credit Hours**

The study of wood frame construction and materials. Topics include foundations, framing methods, and finish materials for interior and exterior use in wood frame buildings. The laboratory will introduce wood detailing and field applications. Prerequisite: Math A Regents with a grade of 65 or higher or concurrent enrollment in MAT 131 or higher.

ARC 106 BLDG MATERIALS & CONST II**2 Lecture Hours 2 Lab Hours 3 Credit Hours**

A continuation of ARC 105. Topics include masonry and steel in building construction, fabrication and utilization in the structural system, architectural detailing in masonry and steel, and an introduction to structural drawings and detailing. Prerequisite: ARC 105 and ARC 104 (ARC 104 may be taken as a corequisite if necessary, however students are strongly encouraged to complete this course prior to beginning ARC 106.)

ARC 110 ARCHITECTURAL DRAWING**1 Lecture Hour 4 Lab Hours 3 Credit Hours**

A continuation of ARC 103, including site study, use of local and state codes, and structural requirements. Students prepare a design analysis and a complete set of drawings for a small commercial building. Prerequisites: ARC 103, ARC 105, and ARC 104 (ARC 104 may be taken as a corequisite if necessary, however students are strongly encouraged to complete ARC 104 prior to beginning ARC 110.)

ARC 111 ADVANCED COMPUTER GRAPHICS**1 Lecture Hour 2 Lab Hours 2 Credit Hours**

ARC111 is a required course for Architectural Technology students. Students will gain hands-on experience with advanced skills in AutoCAD and REVIT, the computer graphics program used in the profession. Prerequisite: ARC 104

ARC 113 ARCHITECTURE INTRODUCTORY SEM**1 Lecture Hour 0 Lab Hours 1 Credit Hour**

The seminar will introduce the incoming student to the profession of architecture. The course will outline the history of architecture, the educational requirements for becoming an architect and the allied professions available to the graduate.

ARC 122 ARCHITECTURAL PRESENTATION**0 Lecture Hours 4 Lab Hours 2 Credit Hours**

An introduction to black and white and color rendering in architectural presentation. Techniques include using pencil, colored pencils, felt-tip pens, and markers. Students prepare presentation drawings, plans, elevations and perspectives of small-scale projects. The course educates students on the methods of creating an architectural portfolio. Topics include preparation of a portfolio and a presentation of work using conventional and digital design media. Students will receive experience in oral presentation by presenting their portfolios at the end of the semester as part of the course requirement. Prerequisite: ARC 104 (ARC 104 may be taken as a corequisite if necessary, however students are strongly encouraged to complete ARC 104 prior to beginning ARC 122.)

ARC 202 MECHANICS OF STRUCTURES**2 Lecture Hours 0 Lab Hours 2 Credit Hours**

A study of the elements of structures in architecture, using basic physical laws and intuitive reasoning as extended to the mathematical treatment of equilibrium in static structures. Prerequisite: MAT 132 or higher.

ARC 203 ARCHITECTURAL DESIGN**0 Lecture Hours 6 Lab Hours 3 Credit Hours**

Design projects with increasing complexity are selected throughout the semester and culminate in a moderately complex commercial building design project. Emphasis is placed on form, function and presentation of design. Students will work with

computer assisted drawing equipment to prepare a set of design drawings. Students will prepare design models. Pre-requisites: ARC 110, ARC 111, and ARC 216

ARC 205 WORKING DRAWINGS

1 Lecture Hour 6 Lab Hours 4 Credit Hours

Working drawings are prepared for a small building such as a motel, clinic, community center, church or bank. Prerequisites: ARC 110 and 106.

ARC 207 STRUCTURAL ANALYSIS

3 Lecture Hours 0 Lab Hours 3 Credit Hours

This subject includes the study of the stresses and strains that occur in structural members. Shear and bending diagrams, investigation and design of beams, and deflection of beams are included. Investigation is made of the design of simple steel and concrete beams. Prerequisite: ARC 202.

ARC 211 ENVIRONMENTAL SYSTEMS

3 Lecture Hours 0 Lab Hours 3 Credit Hours

An introduction to environmental systems in buildings including: emphasizing major topics of illumination and heating and cooling; minor topics of plumbing; fire protection and life safety; electrical power; and acoustics. An emphasis will be placed on active and passive energy efficiency and sustainable design. 3 Lecture 0 Lab 3 Credit Hours

ARC 214 PROFESSIONAL PRACTICE

2 Lecture Hours 2 Lab Hours 3 Credit Hours

A study of functions performed in the architect's office from the time an architect is commissioned to do a project until the owner assumes occupancy. Topics include contracts, specifications, estimating, organization, job administration and scheduling. An emphasis on cost estimating and computer assisted estimating is included. Co-requisite: ARC 110 and ARC 106, or permission of instructor.

ARC 216 DESIGN THEORY

2 Lecture Hours 2 Lab Hours 3 Credit Hours

This course will provide the student with an opportunity to explore design based on movements in architecture and the theories that form the basis of architectural design, as defined by history, from antiquity to those of contemporary designers. The course exposes students to design problems and guides them through understanding architectural compositions and problem solving processes. Students analyze architecture and use this understanding to synthesize design solutions. Through the creative process, students begin the development of problem solving strategies associated with architectural design and implement them into a series of design projects. Prerequisite: ARC 104 (ARC 104 may be taken as a corequisite if necessary, however students are strongly encouraged to complete ARC 104 prior to beginning ARC 216)

ARC 240 CAPSTONE PROJECT

1 Lecture Hour 6 Lab Hours 4 Credit Hours

ARC240 is a culmination of the Architectural Technology student's studies at the college. Students will work in groups to develop a project from the project development phase through schematic design and design development phases through construction drawings. Both ARC and CNS students will work together for the first half of the semester. For the second half, ARC students will complete construction drawings for the project. CNS students will complete a partial set of the same building and a building materials takeoff of the building. Both groups of students will prepare a booklet of product data sheets for their projects. Building types include small schools, apartment houses, office buildings, department stores, and dining halls. All of the drawings for this course will be prepared on the computer using the AutoCAD system. Prerequisite: ARC 205

ARC 271 SPECIAL STUDY PROJECT I

1 Lecture Hour 0 Lab Hours 1 Credit Hour

A special learning experience designed by one or more students with the cooperation and approval of a faculty member. Study plans will include research, analysis, and presentations or other projects, which advance the student's knowledge and competence in the field of architectural technology. The student's time commitment will be approximately 35-50 hours.

ARC 272 SPECIAL STUDY PROJECT II

2 Lecture Hours 0 Lab Hours 2 Credit Hours

Similar to ARC 271, except that the student's time commitment to the project will be approximately 70-90 hours.

ARC 273 SPECIAL STUDY PROJECT III

3 Lecture Hours 0 Lab Hours 3 Credit Hours

Similar to ARC 271, except that the student's time commitment to the project will be approximately 105-135 hours.