ARCHITECTURAL TECHNOLOGY

ARC 100 INTRO TO ARCHITECTURAL DESIGN
1 Lecture  2 Lab  2 Credit Hours(s)
ARC 100 is an introductory course in architectural design intended for the part-time student. The course will explore basic concepts of spatial design in architecture, explain the principles of orthographic drawing and develop designs for small-scale projects. Students who have satisfactorily completed both ARC 100 and ARC 101 may request a waiver for ARC 103 in the Architectural Technology Program.

ARC 101 INTRO ARCHTCTRL WKNG DRWG I
1 Lecture  2 Lab  2 Credit Hours(s)
ARC 101 is an introductory course in architectural working drawings intended for the part-time student. The course will provide instruction in construction techniques and materials and will teach the student how to prepare basic construction documents for a wood-frame building. ARC 100 is not a prerequisite for ARC 101. Students who have satisfactorily completed both ARC 100 and ARC 101 may take ARC 110 in the Architectural Technology Program.

ARC 103 BASIC ARCHITECTURAL DRAWING
1 Lecture  4 Lab  3 Credit Hours(s)
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  3 Lab  1 Credit Hours(s)
A required introductory course for Architectural Technology students. Students will gain hands-on experience with AutoCAD, the computer graphics program used in all Engineering Department programs.

ARC 105 BLDG MATERIALS/CONST I
2 Lecture  2 Lab  3 Credit Hours(s)
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  2 Lab  3 Credit Hours(s)
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.

ARC 107 INTRO ARCHTCTRL DESGN II
1 Lecture  2 Lab  2 Credit Hours(s)
ARC 107 is the second part of an introductory sequence intended for the part-time student. The course will be concerned with the design and presentation of small commercial, institutional or industrial buildings of more than one story. Students who have satisfactorily completed both ARC 107 and ARC 109 may take ARC 203 and ARC 205 in the Architectural Technology Program. Prerequisite: ARC 100 or ARC 103.

ARC 109 INTRO ARCHTCTRL WKNG DRG II
1 Lecture  2 Lab  2 Credit Hours(s)
ARC 109 is the second part of an introductory sequence in working drawings intended for the part-time student. The course will instruct the student in the development of architectural working drawings for multi-level commercial or institutional projects. Students who have satisfactorily completed both ARC 107 and ARC 109 may take ARC 203 and ARC 205 in the Architectural Technology Program. Prerequisite: ARC 101 or ARC 103.

ARC 110 ARCHITECTURAL DRAWING
1 Lecture  4 Lab  3 Credit Hours(s)
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, 105.

ARC 113 ARCHITECTURE INTRODUCTORY SEM
1 Lecture  0 Lab  1 Credit Hours(s)
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 I
0 Lecture  4 Lab  2 Credit Hours(s)
A study of perspective, shades and shadows. Students prepare presentation drawings, plans, elevations, and perspectives of small-scale projects utilizing pencil, pen and ink.

ARC 123 ARCHITECTURAL PRESENTATION II
1 Lecture  3 Lab  2 Credit Hours(s)
An introduction to color in architectural presentation using colored pencils, felt tip pens and washes. The course will provide an introduction to the preparation of rendered plans, evaluations, and perspectives of medium scale buildings using both traditional and computer based drawing techniques.  
Prerequisite: ARC 122.

ARC 202 MECHANICS OF STRUCTURES  
2 Lecture 0 Lab 2 Credit Hours(s)  
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 6 Lab 3 Credit Hours(s)  
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 or permission of instructor

ARC 205 WORKING DRAWINGS  
1 Lecture 6 Lab 4 Credit Hours(s)  
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 0 Lab 3 Credit Hours(s)  
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 MECHANICAL & ELECTRICAL SYSTEM  
3 Lecture 0 Lab 3 Credit Hours(s)  
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 2 Lab 3 Credit Hours(s)  
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 2 Lab 3 Credit Hours(s)  
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.

ARC 240 CAPSTONE PROJECT  
1 Lecture 6 Lab 4 Credit Hours(s)  
ARC 240 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 prepare 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 0 Lab 1 Credit Hours(s)  
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  0 Lab  2 Credit Hour(s)
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  0 Lab  3 Credit Hour(s)
Similar to ARC 271, except that the student's time commitment to the project will be approximately 105-135 hours.