Architect Engineering Tech (AET)

Courses

AET A100 Fundamentals of Drafting 3 Credits
Basic course in college drafting, designed to provide students with the fundamental skills and knowledge necessary to communicate using language of industry. Matanuska-Susitna College

AET A101 Fundamentals of CADD for Building Construction 4 Credits
Introduces basic computer-aided drafting and design (CADD) skills necessary in civil, architectural, structural, mechanical and electrical modeling within the construction industry. Defines the working relationship between design and construction professionals and technicians.

Registration Restrictions: Proof of eligibility for placement into WRTG A111. Appropriate SAT, ACT or UAA-approved math placement test scores may be used in lieu of MATH A105.

Prerequisites: MATH A105 with a minimum grade of C or concurrent enrollment.

AET A102 Methods of Building Construction 3 Credits
Introduces basic knowledge of building materials, systems and assemblies. Includes site work, structural systems and construction document interpretation. Includes a field project involving student team research of a current building type.

Registration Restrictions: Proof of eligibility for placement into WRTG A111 and MATH A105

AET A108 Technical Graphics and Modeling for Engineers 3 Credits
Introduces and develops skills for projection theory, sketching by hand, AutoCAD drafting, REVIT Systems, and Civil 3D modeling software.

AET A111 Civil Construction Drawings 3 Credits
Introduces technical skills needed by technicians to work with civil engineers and surveyors. Includes office practices, staff relationships and civil drawing production. Develops skills in modeling and mapping used in site development.

Prerequisites: AET A102 and AET A181 with a minimum grade of C.

AET A121 Architectural Construction Drawings 3 Credits
Introduces technical skills needed by architectural technicians to work with architects. Includes office practices, staff relationships and architectural construction drawing production. Develops skills in architectural modeling, symbols, conventions, dimensioning systems, reference systems, sheet organization, code requirements and research methods for detailing light commercial buildings.

Prerequisites: AET A102 and AET A181 with a minimum grade of C.

AET A123 Codes and Standards 3 Credits
Provides an introduction and overview of the fundamental provisions of the building codes used for plan review, life-safety evaluation of the buildings, and community development.

Prerequisites: AET A101 and AET A102 with a minimum grade of C.

AET A131 Structural Construction Drawings 3 Credits
Introduces technical skills needed by structural technicians to work with structural engineers. Includes office practices, staff relationships and structural drawing production. Develops skills in modeling, symbols, conventions, dimensioning systems, sheet organizations, code analysis, and research methods for steel, wood and reinforced concrete buildings.

Prerequisites: AET A102 and AET A181 with a minimum grade of C.

AET A142 Mechanical and Electrical Technology 4 Credits
Introduces the basic mechanical and electrical systems required in all buildings for the safety, health, comfort and convenience of the occupants. Emphasizes design criteria, code requirements, interpretation of construction drawings and building energy usage.

Registration Restrictions: Appropriate SAT, ACT or UAA-approved math placement test scores may be used in lieu of the MATH A105 prerequisite.

Prerequisites: AET A101 and AET A102 and MATH A105 with a minimum grade of C.

AET A143 Mechanical and Electrical Construction Drawings 3 Credits
Introduces technical analysis, theory, code requirements, modeling techniques and construction drawing methodology to produce construction drawings for mechanical and electrical building systems. Includes drawing conventions, symbols, terminology, and research methods for residential and commercial building mechanical and electrical systems and equipment.

Prerequisites: AET A102 and AET A181 with a minimum grade of C.

AET A181 Intermediate CADD for Building Construction 4 Credits
Develops intermediate-level computer-aided design and drafting (CADD) skills for architectural, civil, structural, mechanical and electrical construction drawings used in building construction. Includes 3-D modeling.

Prerequisites: AET A101 with a minimum grade of C.

AET A213 Civil Technology 4 Credits
Outlines elements of civil design, including soils and soil mechanics, foundations, roads, and utilities using local, state and federal regulations. Introduces elements of construction surveying.

Registration Restrictions: Appropriate SAT, ACT or UAA-approved math placement test scores may be used in lieu of the MATH A105 prerequisite.

Prerequisites: AET A111 and MATH A105 with a minimum grade of C.

AET A231 Structural Technology 4 Credits
Examines structural theory and the physical principles that underlie structural behavior. Includes the use of materials in a manner to maintain structural stability against natural forces such as gravity, wind, snow and earthquakes. Covers connection details and code requirements for wood, steel and reinforced concrete.

Registration Restrictions: Appropriate SAT, ACT or UAA-approved math placement test scores may be used in lieu of the MATH A105 prerequisite.

Prerequisites: AET A101 and AET A102 and MATH A105 with a minimum grade of C.
AET A286 Design Project 4 Credits
Provides a culminating problem-solving situation for students from the various certificate programs. The problem will be taken from community-generated enterprise and solved in a project-based learning environment.
Prerequisites: AET A181 and (AET A111 or AET A121 or AET A131 or AET A143).

AET A290 Architectural and Engineering Technology Selected Topics 1-6 Credits
Provides theoretical and/or experiential learning in selected areas of architectural and engineering technology. Provides technical information on current industry trends.
Special Note: May be repeated for credit under different topic.
Registration Restrictions: Department permission required

AET A295 Architectural and Engineering Technology Internship 1-3 Credits
Places students in generalized and specialized architectural, engineering or building construction offices related to student educational program and occupational objectives. Direct supervision by architect, engineer, or contractor professional, program faculty, and Cooperative Education Director.
Registration Restrictions: Sophomore standing and faculty permission.