AS Engineering

Engineering is one of the largest professions in the United States with over one million jobs in fields ranging from airplane design to pollution control. The four largest branches are civil, computer, electrical and mechanical engineering. All engineering branches place a heavy emphasis on problem solving. Engineering education focuses on teaching mathematical, scientific and engineering principles and their application to the creative and effective solution of problems.

Career Opportunities

Engineering is one of the highest paid professions in the country. Engineering graduates work in a variety job functions (research and development, testing, design, construction, manufacturing, sales, consulting, management) and a variety of industry sectors (aerospace, computers/electronics manufacturing, electrical/electronics manufacturing, electrical equipment manufacturing, metals, machinery, architectural, engineering and related services, chemical, drugs, plastics, biotechnology, computers and technical consulting, research and development, professional and technical services, utilities.

Program Learning Outcomes

Students completing this program will be able to:

1. Apply knowledge of math, science, and engineering or computer science to identify, formulate, and solve engineering/computer science problems.
2. Communicate effectively and work well in situations that require teamwork.
3. Design and perform tests or experiments, analyze and interpret data, and prepare a report summarizing the results of the tests or experiments.
4. Develop a design or system given a set of requirements and specifications.
5. Use techniques, skills, and modern engineering and computer tools necessary for engineering or computer science practice

AS Degree Requirements
Major: Core and Selective Requirements

Complete Core Courses, 23 units		Units
CHEM 210	General Chemistry I	5 units
MATH 251	Analytical Geometry and Calculus I	5 units
MATH 252	Analytical Geometry and Calculus II	5 units
PHYS 250	Physics with Calculus I	4 units
PHYS 260	Physics with Calculus II	4 units

Selective Courses, choose a minimum of 16-20 units from the following:

List A, complete 6-8 units from the following:		Units
ENGR 100	Introduction to Engineering	3 units
ENGR 210	Engineering Graphics	4 units
ENGR 215	Computational Methods for Engineers and Scientists	3 units
ENGR 230	Statics	3 units
ENGR 240	Engineering Dynamics	3 units
ENGR 260	Circuits and Devices	3 units
ENGR 261	Circuits and Devices Laboratory	1 unit
ENGR 270	Materials Science	4 units

List B, complete 10-12 units from the following:		Units
Any courses from List A not already chosen		1 - 4 units
CHEM 220	General Chemistry II	5 units
CIS 250	Introduction to Object Oriented Programming: C++	3 units
CIS 284	Introduction to Object Oriented Programming- Java	3 units
MATH 253	Analytic Geometry and Calculus III	5 units
MATH 270	Linear Algebra	3 units
MATH 275	Ordinary Differential Equations	3 units
PHYS 270	Physics with Calculus III	4 units

And required General Education coursework and electives as needed to meet the minimum 60 units required for the Associate degree.