PROGRAMS

ENGINEERING - AS

Associate in Science in Engineering

Image:	
Title:	**Engineering Dept**
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Engineers design and create the future. They use the principles of math, science, and engineering to design and build new products or to develop large-scale systems such as a transportation network or a water treatment plant. Engineering problems usually involve teams of people, so engineers must work well with others and communicate effectively.

The Associate in Science in Engineering is designed to prepare students for transfer to engineering programs at four-year universities. Upon completion of the Associate in Science in Engineering, students will possess the knowledge and skills required for upper-division coursework in Engineering.

Program Learning Outcomes

- Students will analyze and interpret experimental results and/or data to make engineering problem decisions.
- Students will use math, science, and engineering concepts to describe, formulate, and solve engineering problems.
- Students will communicate the results of design and/or analysis orally and through text and graphics.
- Students will work effectively in teams.

To Earn this Degree, Meet the Following Requirements

1. Completion of 60 degree applicable units with an overall GPA of 2.0.
2. Completion of a minimum of 18 semester units in the major with a grade of C (or P) or better.
3. Completion of the AS Graduation Requirements, CSU GE-B or IGETC.

NOTES:

- *Requirements here apply to the current catalog year and are subject to change. Visit DegreeWorks in My Mission Portal to view requirements based your catalog year.*
- *Not all classes are offered each semester.*

Required Core Curriculum (35.0 units)

EGR 010H and MAT 003AH can be taken in lieu of EGR 010 and MAT 003A

Code	Class	Units
EGR 010	Introduction to Engineering (3.0 Lecture/1.0 Lab)	4.0
MAT 003A	Analytic Geometry and Calculus I (5.0 Lecture)	5.0
MAT 003B	Analytic Geometry and Calculus II (5.0 Lecture)	5.0
MAT 004A	Multivariable Calculus (5.0 Lecture)	5.0
MAT 004B	Differential Equations (4.0 Lecture)	4.0
PHY 004A	Engineering Physics-Mechanics (4.0 Lecture/1.0 Lab)	5.0
PHY 004B	Engineering Physics-Electricity and Magnetism (3.0 Lecture/1.0 Lab)	4.0
PHY 004C	Engineering Physics-Light and Heat (3.0 Lecture/1.0 Lab)	4.0

Select One of the Following Tracks

Mechanical, Aerospace, Manufacturing Engineering Track (22.0-23.0 units)

CHM 001AH can be taken in lieu of CHM 001A.

Code	Class	Units
CHM 001A	General Chemistry (3.0 Lecture/2.0 Lab)	5.0
EGR 023	Mechanics - Statics (3.0 Lecture)	3.0
EGR 024	Introduction to Circuit Analysis (3.0 Lecture)	3.0
EGR 025	Engineering Graphics and Design (3.0 Lecture/1.0 Lab)	4.0
EGR 026	Engineering Materials (3.0 Lecture/1.0 Lab)	4.0

Plus Choose One

Code	Class	Units
EGR 030	Introduction to Computing for Engineers (3.0 Lecture/1.0 Lab)	4.0
MAT 005	Programming and Problem-Solving in MATLAB (2.0 Lecture/1.0 Lab)	3.0

Civil Engineering Track (22.0-23.0 units)

CHM 001AH can be taken in lieu of CHM 001A.

Code	Class	Units
CHM 001A	General Chemistry (3.0 Lecture/2.0 Lab)	5.0
EGR 023	Mechanics - Statics (3.0 Lecture)	3.0
EGR 024	Introduction to Circuit Analysis (3.0 Lecture)	3.0
EGR 025	Engineering Graphics and Design (3.0 Lecture/1.0 Lab)	4.0
EGR 026	Engineering Materials (3.0 Lecture/1.0 Lab)	4.0
EGR 030	Introduction to Computing for Engineers (3.0 Lecture/1.0 Lab)	4.0
MAT 005	Programming and Problem-Solving in MATLAB (2.0 Lecture/1.0 Lab)	3.0

Plus Choose One

Code	Class	Units
EGR 030	Introduction to Computing for Engineers (3.0 Lecture/1.0 Lab)	4.0
MAT 005	Programming and Problem-Solving in MATLAB (2.0 Lecture/1.0 Lab)	3.0

Electrical Engineering Track (13.0 units)

CHM 001AH can be taken in lieu of CHM 001A.

Code	Class	Units
CHM 001A	General Chemistry (3.0 Lecture/2.0 Lab)	5.0
EGR 024	Introduction to Circuit Analysis (3.0 Lecture)	3.0
EGR 024L	Introduction to Circuit Analysis Laboratory (1.0 Lab)	1.0
EGR 030	Introduction to Computing for Engineers (3.0 Lecture/1.0 Lab)	4.0

Computer, Software Engineering Track (16.0 units)

Code	Class	Units
CIS 044	Intro to Data Structures Using Java (3.0 Lecture/1.0 Lab)	4.0
EGR 024	Introduction to Circuit Analysis (3.0 Lecture)	3.0
EGR 024L	Introduction to Circuit Analysis Laboratory (1.0 Lab)	1.0
EGR 030	Introduction to Computing for Engineers (3.0 Lecture/1.0 Lab)	4.0
MAT 019	Discrete Mathematics (4.0 Lecture)	4.0

Required Units for the Major

	Units
Required Units for the Major	48.0-58.0
plus completion of general education requirements and electives as needed to reach 60 units.	
Total required units	63.0-76.0