ENGINEERING, ASSOCIATE IN SCIENCE

The Associate in Science in Engineering develops and advances the ability to apply knowledge of mathematics, science, and engineering to identify, formulate, and solve engineering problems, and to evaluate solutions of these problems based on engineering concepts and principles.

Completing the Associate in Science in Engineering will prepare students for transferring to universities as well as entry-level engineering positions for those seeking immediate employment.

To earn an Associate in Science in Engineering, students must complete 41-46 specified units, plus General Education Degree Requirements.

In addition to General Education degree requirements, complete the following:

Course ID	Title	Units/ Hours
General Education		
Required Courses		
CHEM M01A/M01AH	General Chemistry I	5
ENGR M04	Engineering Design/CAD	3
ENGR M12	Engineering Materials	3
ENGR M12L	Engineering Materials Laboratory	1
MATH M25A/M25AH	Calculus with Analytic Geometry I	5
MATH M25B	Calculus with Analytic Geometry II	5
MATH M25C	Calculus with Analytic Geometry III	5
PHYS M20A	Mechanics of Solids and Fluids	4
PHYS M20AL	Mechanics of Solids and Fluids Laboratory	1
PHYS M20B	Thermodynamics, Electricity, and Magnetism	4
PHYS M20BL	Thermodynamics, Electricity, and Magnetism Laboratory	1
Units from Electives with at least 4 units from engineering course work		4-9
Total Units		**41-46**

Course ID	Title	Units/ Hours
Electives		
ENGR M01	Introduction to Engineering	2
ENGR M07	SolidWorks I-Engr Mech Design	3
ENGR M08	SolidWorks II-Engr Design Practicum	3
ENGR M10	Programming and Problem-Solving in MATLAB	3
ENGR M16	Engineering Statics and Strength of Materials	4
ENGR M18	Engineering Dynamics	3
ENGR M20	Electrical Engineering Fundamentals	3
ENGR M20L	Electrical Engineering Fundamentals Laboratory	1
PHYS M20C	Wave Motion, Optics, and Modern Physics	4
PHYS M20CL	Wave Motion, Optics, and Modern Physics Laboratory	1
Total Required Major Units: 41 - 46		
MC General Education Pattern: 28		
Double-Counted Units: 6		
Electives to meet 60 associate degree units: 0		
Total Required for the AS Degree: 63 - 68		

Upon successful completion of this program, students will be able to:

- discuss engineering concepts and principles, and apply engineering formulas.
- devise logical approaches to solving engineering problems, and assess the reasonableness of the solutions according to engineering concepts and principles.
- explain and apply the engineering design process.
- demonstrate effective oral and written communication skills.
- conduct reliable independent work and develop the skills necessary for effective teamwork.