

Associate in Science Degree: Engineering

The Engineering AS degree is designed to prepare students for transfer into an accredited engineering program at a 4-yr college. The program provides curriculum in the fundamentals of mechanics, electrical theory, and materials that can be applied to all disciplines within engineering. Students develop critical thinking skills, a creative imagination, and excellent communication skills to effectively function in the professional environment. Career options include: mechanical engineer, civil engineer, electrical engineer, computer engineer, aerospace engineer, biomedical engineer, automotive engineer, and manufacturing engineer.

Degree Student Learning Outcome:

Students will be able to demonstrate transfer level engineering skills including physical and mathematical reasoning, the ability to analyze and evaluate engineering concepts, and the ability to interpret and prepare technical reports.

Program Requirements:

Units Required: 47 - 51

	Units:
ENGR-101 Introduction to Engineering	2.0
MATH-211 Calculus I	5.0
MATH-212 Calculus II	5.0
MATH-213 Calculus III	5.0
MATH-215 Differential Equations	4.0
PHYSIC-220 Physics for Scientists and Engineers: Mechanics of Solids and Fluids	4.0
PHYSIC-221 Physics for Scientists and Engineers: Electricity and Magnetism	4.0

Plus Completion of One of the Following Tracks:

Mechanical Engineering Track:

CHEM-201 General Chemistry I	5.0
OR	
CHEM-201H General Chemistry I – Honors	5.0
ENGR-110 Introduction to Engineering Graphics with AutoCAD	3.0
OR	
ENGR-114 Solids Modeling for Mechanical Drafting	3.0
ENGR-151 Materials of Engineering	3.0
ENGR-151L Materials of Engineering Lab	1.0
ENGR-152 Statics	3.0
ENGR-220 Programming and Problem-Solving in MATLAB	3.0
ENGR-260 Electrical Circuits I	3.0
ENGR-260L Electrical Circuits I Laboratory	1.0

Civil Engineering Track:

CHEM-201 General Chemistry I	5.0
OR	
CHEM-201H General Chemistry I – Honors	5.0
ENGR-110 Introduction to Engineering Graphics with AutoCAD	3.0

OR		
ENGR-114	Solids Modeling for Mechanical Drafting	3.0
ENGR-151	Materials of Engineering	3.0
ENGR-151L	Materials of Engineering Lab	1.0
ENGR-152	Statics	3.0
ENGR-220	Programming and Problem-Solving in MATLAB	3.0
ENGR-260	Electrical Circuits I	3.0
AND		
ENGR-260L	Electrical Circuits I Laboratory	1.0
OR		
SURV-101A	Introduction to Land Surveying	3.0
AND		
SURV-101L	Introduction to Land Surveying Laboratory	1.0

Electrical Engineering Track:

CHEM-201	General Chemistry I	5.0
OR		
CHEM-201H	General Chemistry I – Honors	5.0
CMPSCI-111	Introduction to Algorithms and Programming/Java	3.0
CMPSCI-111L	Introduction to Algorithms and Programming Lab	1.0
CMPSCI-235	‘C’ Programming	3.0
ENGR-220	Programming and Problem-Solving in MATLAB	3.0
ENGR-260	Electrical Circuits I	3.0
ENGR-260L	Electrical Circuits I Laboratory	1.0

Computer Engineering Track:

CMPSCI-111	Introduction to Algorithms and Programming/Java	3.0
CMPSCI-111L	Introduction to Algorithms and Programming Lab	1.0
CMPSCI-182	Data Structures and Program Design	3.0
CMPSCI-182L	Data Structures and Program Design Lab	1.0
CMPSCI-235	‘C’ Programming	3.0
CMPSCI-256	Discrete Structures	3.0
ENGR-260	Electrical Circuits I	3.0
ENGR-260L	Electrical Circuits I Laboratory	1.0