



DIVISION OF MATHEMATICS, SCIENCES, AND ENGINEERING

ENGINEERING

ASSOCIATE OF SCIENCE DEGREE

The **Associate of Science Degree in Engineering** will prepare those students interested in laying a foundation for further study and for a bachelor's degree in an engineering field from a four-year college or university.

This degree program is for the **Associate of Science Degree in Engineering** only and fulfills many of the requirements and foundation courses for transfer to baccalaureate engineering-related majors, but does not satisfy all transfer requirements for specific institutions. Students should consult with a counselor for major preparation for specific universities and colleges.

To acquire the **Associate of Science Degree in Engineering**, students must complete the required major courses below with a grade of "C" or better along with one of the following:

- o RHC GE and Proficiency requirements
- o CSU GE (California State University General Education Breadth)
- o IGETC (Intersegmental General Education Transfer Curriculum)

Required Courses	Units	N	IP	C
MATH 190/H *Calculus I/Honors	4			
MATH 191 *Calculus II	4			
PHY 211 *Physics for Scientists & Engineers I	4			
PHY 213 *Physics for Scientists & Engineers III	4			
Plus a minimum of 20 units from one of the following areas of specialization, including at least 3 units of Engineering courses listed in that area.				
Areas of Specialization:				
Mechanical, Aerospace, and Manufacturing Engineering				
ENGR 100 Introduction to Engineering (Same as ENGT 100)	2			
ENGR 141 *Materials Science Engineering and ENGR 141L *Materials Science Engineering Lab	3 1			
ENGR 212 *Computational Methods in MATLAB/Octave	4			
ENGR 217 *Electric Circuit Analysis	3			
ENGR 217L * Electric Circuit Analysis Lab	1			
ENGR 235 *Engineering Mechanics: Statics	3			
ENGR 240 *Strength of Materials	3			
ENGR 245 *Engineering Mechanics: Dynamics	3			
ENGT 122 Intermediate Engineering Design: Geometric Dimensioning & Tolerancing	3			
CHEM 130 *General Chemistry I	5			
CHEM 140 *General Chemistry II	5			
MATH 250 *Calculus III	4			
MATH 251 *Linear Algebra and Differential Equations OR MATH 260 *Linear Algebra OR MATH 270 *Differential Equations OR MATH 260 *Linear Algebra AND	5 4 4 4			

MATH 270 *Differential Equations	4			
PHY 212 *Physics for Scientists & Engineers – II	4			
Electrical Engineering				
ENGR 100 Introduction to Engineering (Same as ENGT 100)	2			
ENGR 141 *Materials Science Engineering and ENGR 141L *Materials Science Engineering Lab	3 1			
ENGR 212 *Computational Methods in MATLAB/Octave	4			
ENGR 217 *Electric Circuit Analysis	3			
ENGR 217L * Electric Circuit Analysis Lab	1			
ENGR 235 *Engineering Mechanics: Statics	3			
CIT 125 Introduction to C++ Programming or CIT 127 *Python Programming I or CIT 135 Introduction to Java Programming	4 3 4			
CHEM 130 *General Chemistry I	5			
MATH 250 *Calculus III	4			
MATH 251 *Linear Algebra and Differential Equations OR MATH 260 *Linear Algebra OR MATH 270 *Differential Equations OR MATH 260 *Linear Algebra AND MATH 270 *Differential Equations	5 4 4 4 4			
PHY 212 *Physics for Scientists & Engineers – II	4			
Civil Engineering				
ENGR 100 Introduction to Engineering (Same as ENGT 100)	2			
ENGR 141 *Materials Science Engineering and ENGR 141L *Materials Science Engineering Lab	3 1			
ENGR 212 *Computational Methods in MATLAB/Octave	4			
ENGR 217 *Electric Circuit Analysis	3			
ENGR 235 *Engineering Mechanics: Statics	3			
ENGR 240 *Strength of Materials	3			
ENGR 245 *Engineering Mechanics: Dynamics	3			
CIV 140 Civil Engineering & Construction Fundamentals	4			
CIV 142 Introduction to Land Surveying and GPS	4			
CHEM 130 *General Chemistry I	5			
MATH 250 *Calculus III	4			
MATH 251 *Linear Algebra and Differential Equations OR MATH 260 *Linear Algebra OR MATH 270 *Differential Equations OR MATH 260 *Linear Algebra AND	5 4 4 4			

MATH 270 *Differential Equations	4			
PHY 212 *Physics for Scientists & Engineers – II	4			
Computer, Software Engineering				
ENGR 100 Introduction to Engineering (Same as ENGT 100)	2			
ENGR 212 *Computational Methods in MATLAB/Octave	4			
ENGR 217 *Electric Circuit Analysis	3			
ENGR 217L * Electric Circuit Analysis Lab	1			
CIT 125 Introduction to C++ Programming	4			
or				
CIT 135 Introduction to Java Programming	4			
CIT 127 *Python Programming I	3			
CIT 128 *Python Programming II	3			
CS 152 *Discrete Structures	3			
MATH 250 *Calculus III	4			
MATH 251 *Linear Algebra and Differential Equations	5			
OR				
MATH 260 *Linear Algebra	4			
OR				
MATH 270 *Differential Equations	4			
OR				
MATH 260 *Linear Algebra	4			
AND				
MATH 270 *Differential Equations	4			
PHY 212 *Physics for Scientists & Engineers – II	4			
Chemical Engineering				
ENGR 100 Introduction to Engineering (Same as ENGT 100)	2			
ENGR 212 *Computational Methods in MATLAB/Octave	4			
ENGR 217 *Electric Circuit Analysis	3			
ENGR 217L * Electric Circuit Analysis Lab	1			
ENGR 235 *Engineering Mechanics: Statics	3			
CHEM 130 *General Chemistry I	5			
CHEM 140 *General Chemistry II	5			
CHEM 230 *Organic Chemistry I	5			
CHEM 231 *Organic Chemistry II	5			
MATH 250 *Calculus III	4			
MATH 251 *Linear Algebra and Differential Equations	5			
OR				
MATH 260 *Linear Algebra	4			
OR				
MATH 270 *Differential Equations	4			
OR				
MATH 260 *Linear Algebra	4			
AND				
MATH 270 *Differential Equations	4			
PHY 212 *Physics for Scientists & Engineers – II	4			
Total major units needed for Associate of Science	36-38			
*Prerequisite/Corequisite				