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 t**he 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/ENGT 100 Intro. to Engineering	**2**			
ENGR 141 *Materials Science Engineering and	**3**			
ENGR 141L *Materials Science Engineering Lab	**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	**5**			
MATH 260 *Linear Algebra OR	**4**			
MATH 270 *Differential Equations OR	**4**			
MATH 260 *Linear Algebra AND	**4**			

Course	Units			
MATH 270 *Differential Equations	4			
PHY 212 *Physics for Scientists & Engineers – II	4			
Electrical Engineering				
ENGR/ENGT 100 Introd. to Engineering	2			
ENGR 141 *Materials Science Engineering and	3			
ENGR 141L *Materials Science Engineering Lab	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	4			
CIT 127 *Python Programming I or	3			
CIT 135 Introduction to Java Programming	4			
CHEM 130 *General Chemistry I	5			
MATH 250 *Calculus III	4			
MATH 251 *Linear Algebra and Differential Equations OR	5			
MATH 260 *Linear Algebra OR	4			
MATH 270 *Differential Equations OR	4			
MATH 260 *Linear Algebra AND	4			
MATH 270 *Differential Equations	4			
PHY 212 *Physics for Scientists & Engineers – II	4			
Civil Engineering				
ENGR/ENGT 100 Intro. to Engineering	2			
ENGR 141 *Materials Science Engineering and	3			
ENGR 141L *Materials Science Engineering Lab	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	5			
MATH 260 *Linear Algebra OR	4			
MATH 270 *Differential Equations OR	4			
MATH 260 *Linear Algebra AND	4			

MATH 270 *Differential Equations	**4**				
PHY 212 *Physics for Scientists & Engineers – II	**4**				
Computer, Software Engineering					
ENGR/ENGT 100 Intro. to Engineering	**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 or **CIT 135** Introduction to Java Programming	**4** **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 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**				
Chemical Engineering					
ENGR/ENGT 100 Introduction to Engineering	**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 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**				
Total major units needed for Associate of Science	**36-38**				
*Prerequisite/Corequisite					