

# ENGINEERING - ASSOCIATE OF SCIENCE

Students must complete all College degree requirements, which include: General Education requirements and elective credits to total at least 61-65 credits. Developmental coursework will not count towards the degree requirements and/or elective credits, but may be needed in order to take the necessary English and Mathematics coursework.

All courses must be completed with a C- or higher.

Code	Title	Hours
<b>General Education</b>		
Area I: Communications		
English Composition - Level 1		4-3
ENGL 1110G	Composition I	
English Composition - Level 2		3
ENGL 2210G	Professional & Technical Communication	
or ENGL 222 Writing in the Humanities and Social Science		
Oral Communication		3
COMM 1130G	Public Speaking	
or COMM 11 Introduction to Communication		
Area II: Mathematics		3
MATH 1220G	College Algebra (Core Curriculum Requirement) <sup>1</sup>	
Area III: Laboratory Science		8
CHEM 1215G	General Chemistry I Lecture and Laboratory for STEM majors (Core Curriculum Requirement) <sup>1</sup>	
PHYS 1310G	Calculus -Based Physics I	
& PHYS 1310L and Calculus - Based Physics I Laboratory (Core Curriculum Requirement) <sup>1</sup>		
Area IV: Social/Behavioral Sciences Course <sup>2</sup>		3
Area V: Humanities <sup>2</sup>		3
Area VI: Creative and Fine Arts <sup>2</sup>		3
Area VII: Flexible 3 (General Education Elective) <sup>2</sup>		3-4
<b>Core Curriculum Requirements</b>		
ENGR 100 G	Introduction to Engineering	3
ENGR 111	Mathematics for Engineering Applications	3
ENGR 120	DC Circuit Analysis	4
ENGR 140	Introduction to Programming and Embedded Systems	4
ENGR 230	AC Circuit Analysis	4
MATH 1511G	Calculus and Analytic Geometry I <sup>1</sup>	4
Engineering Degree Electives, choose courses from list below:		6-9
C E 151	Introduction to Civil Engineering	
C E 233	Mechanics-Statics	
ENGR 130	Digital Logic	
I E 151	Computational Methods in Industrial Engineering	
I E 217	Manufacturing Processes	
MATH 1250G	Trigonometry & Pre-Calculus	
MATH 1521G	Calculus and Analytic Geometry II	
M E 159	Graphical Communication and Design	
M E 210	Electronics and System Engineering	

PHYS 1320G Calculus-Based Physics II  
& PHYS 1320L and Calculus-Based Physics II Laboratory

**Total Hours** **61-64**

1

Course is Core Curriculum Requirement and must be completed regardless of transfer credits awarded.

2

See the General Education section of the catalog for a full list of courses.

3

If either MATH 1250G, MATH 1521G or PHYS 1320G/PHYS 1320L are selected as an elective, the course will also count for the General Education Elective requirement.

## A Suggested Plan of Study

Additional classes may be needed based on placement test results and course prerequisites. Visit with an advisor for help with creating a customized plan.

Course	Title	Hours
<b>First Year</b>		
<b>Fall</b>		
CHEM 1215G	General Chemistry I Lecture and Laboratory for STEM majors	4
ENGR 100 G	Introduction to Engineering	3
ENGR 120	DC Circuit Analysis	4
ENGL 1110G	Composition I	4
		<b>Hours</b>
		<b>15</b>
<b>Spring</b>		
MATH 1511G	Calculus and Analytic Geometry I <sup>1</sup>	4
ENGR 111	Mathematics for Engineering Applications	3
ENGR 230	AC Circuit Analysis	4
Area IV: Social/Behavioral Sciences Course <sup>2</sup>		3
		<b>Hours</b>
		<b>14</b>
<b>Second Year</b>		
<b>Fall</b>		
ENGR 140	Introduction to Programming and Embedded Systems	4
PHYS 1310G	Calculus -Based Physics I	4
& PHYS 1310L and Calculus - Based Physics I Laboratory		
Choose one from the following:		3
ENGL 2210G	Professional & Technical Communication	
or ENGL 2221G or Writing in the Humanities and Social Science		
ENGR Elective <sup>3</sup>		3-4
Area VI: Creative and Fine Arts <sup>2</sup>		3
		<b>Hours</b>
		<b>17-18</b>
<b>Spring</b>		
COMM 1115G	Introduction to Communication	3
or COMM 1130G or Public Speaking		
ENGR Elective <sup>3</sup>		3-4
ENGR Elective <sup>3</sup>		3-4
Area V: Humanities <sup>2,4</sup>		3
General Education Elective <sup>2,4</sup>		3-4
		<b>Hours</b>
		<b>15-18</b>
<b>Total Hours</b>		<b>61-65</b>

## 2 Engineering - Associate of Science

1

MATH 1511G Calculus and Analytic Geometry I is required for the degree but students may need to take any prerequisites needed to enter MATH 1511G first.

2

See the General Education section of the catalog for a full list of courses.

3

### **Engineering Electives:**

- MATH 1521G Calculus and Analytic Geometry II
- PHYS 1320G Calculus-Based Physics II/PHYS 1320L Calculus-Based Physics II Laboratory
- C E 151 Introduction to Civil Engineering
- C E 233 Mechanics-Statics
- I E 151 Computational Methods in Industrial Engineering
- I E 217 Manufacturing Processes
- M E 159 Graphical Communication and Design
- M E 210 Electronics and System Engineering

4

If either MATH 1521G Calculus and Analytic Geometry II or PHYS 1320G Calculus-Based Physics II/PHYS 1320L Calculus-Based Physics II Laboratory are selected as an elective, the course will also count for the General Education Elective requirement.