# 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 |
| --- | --- | --- |
| **General Education** | | |
| Area I: Communications | | |
| English Composition - Level 1 | | |
| ENGL 1110G | Composition I | 4 |
| English Composition - Level 2 | | |
| Choose one from the following: | | 3 |
| ENGL 2210G | Professional & Technical Communication | |
| ENGL 2221G | Writing in the Humanities and Social Science | |
| Oral Communication | | |
| COMM 1130G | Public Speaking | 3 |
| or COMM 1115G | Introduction to Communication | |
| Area II: Mathematics | | |
| MATH 1511G | Calculus and Analytic Geometry I [1] | 4 |
| Area III/IV: Laboratory Sciences and Social/Behavioral Sciences | | 11 |
| CHEM 1215G | General Chemistry I Lecture and Laboratory for STEM majors | |
| PHYS 1310G & PHYS 1310L | Calculus -Based Physics I and Calculus - Based Physics I Laboratory | |
| Area IV: Social/Behavioral Sciences Course (3 credits) [2] | | |
| Area V: Humanities [2] | | 3 |
| Area VI: Creative and Fine Arts [2] | | 3 |
| General Education Elective [2] | | 3-4 |
| **Core Curriculum Requirements** | | |
| 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 |
| **Major Requirements** | | |
| Engineering Degree Electives (9-12 credits) | | 9-12 |
| Select any three from the following: | | |
| MATH 1521G | Calculus and Analytic Geometry II | |
| PHYS 1320G & PHYS 1320L | Calculus-Based Physics II and Calculus-Based Physics II Laboratory | |
| 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 | |
| M E 159 | Graphical Communication and Design | |
| M E 210 | Electronics and System Engineering | |
| **Total Hours** | | **61-65** |

[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]

If Either 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 |
| --- | --- | --- |
| **First Year** | | |
| **Fall** | | |
| 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 |
| | **Hours** | **15** |
| **Spring** | | |
| MATH 1511G | Calculus and Analytic Geometry I [1] | 4 |
| ENGR 111 | Mathematics for Engineering Applications | 3 |
| ENGR 230 | AC Circuit Analysis | 4 |
| Area IV: Social/Behavioral Sciences Course [2] | | 3 |
| | **Hours** | **14** |
| **Second Year** | | |
| **Fall** | | |
| ENGR 140 | Introduction to Programming and Embedded Systems | 4 |
| PHYS 1310G & PHYS 1310L | Calculus -Based Physics I and Calculus - Based Physics I Laboratory | 4 |
| Choose one from the following: | | 3 |
| ENGL 2210G or ENGL 2221G | Professional & Technical Communication or Writing in the Humanities and Social Science | |
| ENGR Elective [3] | | 3-4 |
| Area VI: Creative and Fine Arts [2] | | 3 |
| | **Hours** | **17-18** |
| **Spring** | | |
| COMM 1115G or COMM 1130G | Introduction to Communication or Public Speaking | 3 |
| ENGR Elective [3] | | 3-4 |
| ENGR Elective [3] | | 3-4 |
| Area V: Humanities [2,4] | | 3 |
| General Education Elective [2,4] | | 3-4 |
| | **Hours** | **15-18** |
| | **Total Hours** | **61-65** |

**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.