SCHOOL OF ENGINEERING AND COMPUTING

# Electrical and Computer Engineering

The minimum number of credit hours for the Bachelor of Science in Electrical and Computer Engineering is 129

## Freshman (First Year)

### First Semester

| | | |
|---|---|---|
| AIU 100 | The AIU Experience (EX) | 1 |
| EGR 100 | Design in Engineering | 3 |
| ENG 101 | College Writing (EC) | 3 |
| MAT 121 | Calculus I | 4 |
| PHY 120 | Physics I (NS) | 3 |
| PHY 121 | Physics I Laboratory (NS) | 1 |
| **Total Credit Hours** | | **15** |

### Second Semester

| | | |
|---|---|---|
| AIU 111/112 | Wellness (WL) | 1 |
| CHM 110 | General Chemistry I | 3 |
| CHM 111 | General Chemistry I Laboratory | 1 |
| CSC 101 | Computer Essentials (CS) | 3 |
| MAT 122 | Calculus II | 4 |
| PHY 122 | Physics II (NS) | 3 |
| PHY 123 | Physics II Laboratory (NS) | 1 |
| **Total Credit Hours** | | **16** |

## Sophomore (Second Year)

### First Semester

| | | |
|---|---|---|
| CSC 102 | Intro to Programming | 3 |
| ECE 200 | Electrical Circuits I | 3 |
| ECE 201 | Electrical Circuits I Laboratory | 1 |
| EGR 150 | Probability & Statistics in Engineering (MA) | 3 |
| MAT 221 | Calculus III | 4 |
| PHL 112 | Professional Ethics (AH) | 3 |
| **Total Credit Hours** | | **17** |

### Second Semester

| | | |
|---|---|---|
| ECE 260 | Digital Logic Design | 3 |
| ECE 261 | Digital Logic Design Laboratory | 1 |
| ECE 300 | Electrical Circuits II | 3 |
| ECE 301 | Electrical Circuits II Laboratory | 1 |
| ECO 201 | Principles of Microeconomics (SS) | 3 |
| ENG 301 | Technical Writing (EC) | 3 |
| MAT 230 | Differential Equations and Matrix Algebra | 4 |
| **Total Credit Hours** | | **18** |

## Junior (Third Year)

### First Semester

| | | |
|---|---|---|
| ECE 262 | Microcomputers | 4 |
| ECE 320 | Electronics I | 3 |
| ECE 330 | Linear Systems and Signals | 3 |
| ECE 361 | Electromagnetics | 3 |
| ECE 395 | Electrical Engineering Seminar | 1 |
| EGR 250 | Numerical Methods with MATLAB | 3 |
| **Total Credit Hours** | | **17** |

### Second Semester

| | | |
|---|---|---|
| AIU 300 | Internship & Career Preparation (EX) | 1 |
| ECE 350 | Electronics II | 3 |
| ECE 351 | Electronics II Laboratory | 1 |
| ECE 447 | Control Systems | 3 |
| ENG 302 | Technical Presentations (OC) | 3 |
| Engineering Technical Elective | | 3 |
| MAT 200 | Discrete mathematic | 3 |
| **Total Credit Hours** | | **17** |
| **Summer Semester -** EGR 490 Internship | | **1** |

## Senior (Fourth Year)

### First Semester

| | | |
|---|---|---|
| ECE 410 | Power Systems | 3 |
| ECE 420 | Digital Signal Processing | 3 |
| ECE 495 | Senior Project I | 1 |
| GenEd AH course | | 3 |
| Specialization course 1 | | 3 |
| **Total Credit Hours** | | **13** |

### Second Semester

| | | |
|---|---|---|
| ECE 400 | Communication Theory | 3 |
| ECE 496 | Senior Project II | 3 |
| GenEd SS course | | 3 |
| Specialization course 2 | | 3 |
| Specialization course 3 | | 3 |
| **Total Credit Hours** | | **15** |

This is a recommended plan of study for the Bachelor of Science in Electrical and Computer Engineering.
Please see the 2022-2023 Undergraduate Catalog for a complete explanation of degree requirements.