



Electrical Engineering

College of Engineering

The undergraduate electrical engineering degree program seeks to produce graduates who are trained in the theory and practice of electrical and computer engineering and are well prepared to handle the professional and leadership challenges of their careers.

Degree Requirements

The following curriculum meets the requirements for a B.S. in Electrical Engineering, provided the student satisfies University Studies requirements and graduation requirements of the College of Engineering.

Freshman Year

| First Semester | Hours |
|---|-------|
| EE 101 Electrical Engineering Professions Seminar | 1 |
| MA 113 Calculus I | 4 |
| CS 115 Introduction to Computer Programming | 3 |
| ENG 104 Writing: An Accelerated Foundational Course | 4 |
| University Studies – Social Science* | 3 |
| University Studies – Humanities* | 3 |

Second Semester

| | |
|--|---|
| MA 114 Calculus II | 4 |
| PHY 231 General University Physics | 4 |
| PHY 241 General University Physics Laboratory | 1 |
| CHE 105 General College Chemistry I | 3 |
| Oral Communications Elective (select one course from COM 181, COM 252, COM 281, COM 287 | 3 |

Sophomore Year

| First Semester | Hours |
|---|-------|
| MA 213 Calculus III | 4 |
| PHY 232 General University Physics | 4 |
| PHY 242 General University Physics Laboratory | 1 |
| EE 211 Circuits I | 4 |
| EE 280 Design of Logic Circuits | 3 |

Second Semester

| | |
|--|---|
| MA 214 Calculus IV | 3 |
| EE 221 Circuits II | 3 |
| EE 222 Electrical Engineering Laboratory I | 2 |
| EE 360 Introduction to Semiconductor Devices | 3 |
| Engineering/Science Elective [E] | 3 |
| University Studies – Writing Requirement/ Humanities or Cross-Cultural* | 3 |

Junior Year

| First Semester | Hours |
|---|-------|
| EE 415G Electromechanics | 3 |
| EE 421G Signals and Systems | 3 |
| Elective EE Laboratory [L] | 2 |
| EE 380 Computer Organization | 3 |
| EE 461G Introduction to Electronics | 3 |
| MA 320 Introductory Probability | 3 |

Second Semester

| | |
|--|---|
| EE 468G Introduction to Engineering Electromagnetics | 4 |
| Elective EE Laboratory [L] | 2 |
| Engineering/Science Elective [E] | 3 |
| Technical Elective [T] | 3 |
| University Studies – Humanities or Cross-Cultural* | 3 |

Senior Year

| First Semester | Hours |
|--|-------|
| EE Technical Electives*** | 6 |
| Elective EE Laboratory [L] | 2 |
| Math/Statistics Elective [M] | 3 |
| Technical Elective [T] | 3 |
| University Studies – Social Science* | 3 |

Second Semester

| | |
|--|---|
| EE 499 Electrical Engineering Design | 3 |
| EE Technical Electives*** | 6 |
| Supportive Elective** | 3 |
| Engineering/Science Elective [E] | 3 |

*To be selected from University Studies areas in Social Sciences, Oral Communication, Humanities and Cross-Cultural in consultation with the academic advisor.

**Supportive elective is to be chosen from any University courses, excluding more elementary versions of required courses, such as precalculus mathematics or PHY 211.

[M] **Math/Statistics Elective:** Any upper-division (300-level or higher) math or statistics course (3 credit hours total).

[E] **Engineering/Science Electives:** Any engineering, physics, computer science, or math course at the 200-level or higher, other than an electrical engineering course and excluding more elementary versions of required courses (9 credit hours total).

[T] **Technical electives** may be selected from upper division engineering, mathematics, statistics, computer science, physics, or other technically-related fields and excluding more elementary versions of required courses, to be selected in consultation with the academic advisor (6 credit hours total).

[L] **Electrical Engineering Laboratory Elective:** EE 281, EE 462G, EE 422G, EE 416G (6 credit hours total).

***EE Technical Electives: Courses recommended as electrical engineering technical electives are listed below (each course is 3 credit hours):

- EE 511 Introduction to Communication Systems
- EE 512 Digital Communication Systems
- EE 517 Advanced Electromechanics
- EE 518 Electric Drives
- EE 522 Antenna Design
- EE 523 Microwave Circuit Design
- EE 527 Electromagnetic Compatibility
- EE 537 Electric Power Systems I
- EE 538 Electric Power Systems II
- EE 560 Semiconductor Device Design
- EE 561 Electric and Magnetic Properties of Materials
- EE 562 Analog Electronic Circuits
- EE 564 Digital Electronic Circuits
- EE 565 Circuit Design With Analog Integrated Circuits
- EE 567 Introduction to Lasers and Masers
- EE 568 Fiber Optics
- EE 571 Feedback Control Design
- EE 572 Digital Control of Dynamic Systems
- EE 581 Advanced Logical Design
- EE 582 Hardware Description Languages and Programmable Logic
- EE 585 Fault Tolerant Computing
- EE 587 Microcomputer Systems Design
- EE 599 Topics in Electrical Engineering (Subtitle required)