# Electrical and Computer Engineering

## Mathematics (12 Units)
- **MATH 129**: Calculus II*
- **MATH 229**: Calculus III
- **MATH 245**: Mathematics of Phys. and Engr. I

## Physics (12 Units)
- **PHYS 171**: Applied Physics I: Mechanics
- **PHYS 172L**: Applied Physics II: Electricity, Magnetism and Optics
- **PHYS 173L**: Applied Physics III: Topics in Modern Physics

## General Education (32 Units)
- **GE A**: The Arts (1 Course)*
- **GE B**: Humanistic Inquiry (2 Courses)
- **GE C**: Social Analysis (2 Courses)
- **GE D**: Life Sciences (1 Course)*
- **GE E**: Physical Sciences (1 Course)*
- **GE F**: Quantitative Reasoning (1 Course)*
- **GE G,H**: Global Perspectives (2 Courses)*
- **GESM**: General Education Seminar (1 Course)

## Writing (8 Units)
- **WRIT 150**: Writing and Critical Reasoning
- **WRIT 340**: Advanced Writing

## Engineering (56 Units)
- **EE 105**: Intro. to Electrical Engineering
- **EE 109**: Intro. to Embedded Systems
- **EE 141**: Applied Linear Algebra for Engineering
- **EE 155**: Intro. to Comp. Programming for EE
- **EE 202L**: Linear Circuits
- **EE 250L**: Distributed Systems for the Internet of Things
- **EE 301L**: Linear Systems
- **EE 370**: Electromagnetics for Engineering Systems
- **EE 355**: Software Design for Engineers
- **EE 364**: Intro to Probability & Statistics
- **ENGR 102**: Engineering Freshman Academy
- **EE ELECTIVES**
- **CAPSTONE DESIGN ELECTIVE**

## Other Courses (15 Units)
- **REQUIRED ELECTIVES**
- **OPTIONAL ELECTIVES**

## Special Notes
- Courses with the * symbol may be satisfied with AP, IB, or A-Level exams. See page 16 for more information.
- **GESM**: GESM can be taken from GE categories: A, B, C, or D. Courses listed in the guide are options for a four-year course plan.
- **GE**: Engineering students are encouraged to satisfy GE G and GE H with a course that also satisfies a Core Literacy. GE H may be satisfied by AP/IB. Additionally, your GESM course should be taken in categories A, B, C, or D only. See page 15 for more information and consult your advisor for detailed assistance.
- **REQUIRED ELECTIVE**: Required electives are needed to meet minimum unit requirement and can be met with AP/IB and transfer credit.
- **EE ELECTIVES**: Minimum 16 units of advisor-approved, upper-division EE Electives, including the Capstone Design Elective.
- **CAPSTONE**: Take one Capstone Course.
Electrical and Computer Engineering

Electrical and Computer Engineering offers three areas of specialization: Computer Engineering; Circuits, Signals, and Systems; and Electrical Sciences. Within each area of specialization, students can choose entry-level and advanced electives based on their interests.

- Computer Engineering focuses on software engineering, digital hardware, embedded systems, and VLSI design.
- Circuits, Signals, and Systems covers VLSI design, media and audio systems, wireless communications, adaptive control, and mixed-signal integrated circuits.
- Electrical Sciences focuses on communications hardware, integrated-circuit technology, energy sources and management, and mixed-signal integrated circuits.

**CORE CURRICULUM:** Required courses

**EE ELECTIVES:** Take minimum 16.0 units of advisor-approved, upper-division electives

**CAPTSTONE:** Take 1 course from your chosen specialization or Thesis (EE 494ab)