



UC Santa Barbara

Electrical Engineering

Electrical Engineering, B.S.

Major Description

The undergraduate curriculum in Electrical Engineering is designed to provide students with a solid background in mathematics, physical sciences and traditional electrical engineering topics: electronic devices and fabrication, electronic circuits and systems, computer hardware and software, electromagnetics and optics, communications, signal processing and control systems. A wide range of program options, including computer engineering; microwaves; communications, control and signal processing; and solid state, is offered.

Starting Your Electrical Engineering Degree

Lower-Division Major Requirements in Electrical Engineering

From UC's perspective, community college is where you begin working on the first two years of your bachelor's degree. This includes taking lower-division coursework specifically related to your field of study that may be applied toward graduation in your major.

Listed below are the lower-division requirements for **Electrical Engineering, B.S.** that may be satisfied with approved community college courses unless otherwise noted. To find out which of these requirements are shared by other UC campuses, see the UC Statewide Transfer Preparation Path in Electrical Engineering.

- General Chemistry (full sequence)
- Calculus (full sequence)
- Multivariable Calculus
- Linear Algebra
- Differential Equations
- Calculus-based Physics (full sequence)
- Introduction to Matlab and C Programming
- Programming Methods in C
- Circuits, Devices and Systems (full sequence)
- Logic Design

!!! IMPORTANT !!!
All of these requirements do not necessarily have to be completed **before** you transfer. See the next section of this path for what you must do to be competitive for admission.

FIND YOUR COURSES
Every course at your community college that can be used to meet any of the lower-division major requirements is listed at www.assist.org

UC Santa Barbara Electrical Engineering

Becoming Competitive for Admission to Electrical Engineering

Selection Requirements

Below are the lower-division requirements that this campus advises applicants to complete—and by when and with what GPA—to be competitive for admission to the major. It is important to note that meeting these requirements does not necessarily guarantee admission to the campus or major. The stronger your major preparation, the more competitive you will be.

- A selective major
- You **must** complete a majority of the following base-preparation courses prior to transfer: Calculus (full sequence), Linear Algebra, Differential Equations, Calculus-based Physics (full sequence; mechanics; electricity and magnetism; waves, sound, heat, optics and modern) and Computer Programming (C or C++ with Matlab).
- Recent successful applicants completed both the required base preparation courses and most of the additional strongly recommended courses with a GPA of 3.1 or higher.

Satisfying General Education in Electrical Engineering

General Education Requirements

While all UC campuses urge you to focus on your lower-division major requirements while in community college, it is important to remember that general education (GE), or “breadth,” requirements for your bachelor’s degree may also be met with approved community college courses. In fact, some majors require completion of lower-division general education coursework as part of your preparation prior to transfer. The good news is you may be able to double-count some of your lower-division major coursework for related GE requirements.

The Intersegmental General Education Transfer Curriculum (IGETC) is a series of courses at California community colleges that students may complete to satisfy the GE requirements. Certain students, however, may not be well served by following this GE option. Specific information about satisfying GE requirements as an Electrical Engineering major is listed below.

- You are **strongly** advised to complete lower-division major-preparation requirements as a priority over GE requirements prior to transfer.
- IGETC is **not** recommended for this major.

Related Majors

Preparation for the following major may be similar to the Electrical Engineering major described above (consult the campus catalog and www.assist.org).

- Computer Engineering, B.S.