



UC Santa Cruz

Electrical Engineering

Electrical Engineering, B.S.

Major Description

The Electrical Engineering curriculum provides a balance of engineering science and design and allows students to specialize in both the traditional topics and the latest subjects in electrical engineering, such as nanotechnology and bioengineering. Students may concentrate their electives in the areas of electronics and optics or communications, signals, systems and controls. The major is designed to attract motivated students who, upon graduation, will be sought by employers in the high-tech industry.

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.

- Calculus (full sequence)
- Multivariable Calculus
- Second course in Multivariable Calculus
- Linear Algebra
- Differential Equations
- Discrete Mathematics
- Calculus-based Physics (full sequence)
- Physics
- Circuits
- Introduction to Programming (C, C++ or Java)
- Computer Systems and Assembly Language
- Modern Electronic Technology
- Ethics

!!! 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 Cruz 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, 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 most or all of the following foundation courses prior to transfer: Calculus (full sequence), Linear Algebra, Differential Equations, Calculus-based Physics (full sequence).

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.

- Completion of lower-division major-preparation courses should take precedence over completion of GE requirements.
- 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.