



# Electrical Engineering

## Electrical Engineering, B.S.

### Major Description

Electrical systems and computers form the backbone of many of the structures central to contemporary life. Communication, medicine, education, space exploration, defense and other critical sectors of our society and economy depend on electrical engineers for their design, analysis and effective use. As an Electrical Engineering major, you will work closely with top-ranked faculty to gain an understanding of the fundamental knowledge and theories that underpin modern engineering. You will also put your learning into practice with innovative hands-on projects that will challenge and inspire you.

### 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 (one semester or equivalent)
- Modern Physics
- Calculus (full sequence)
- Multivariable Calculus
- Linear Algebra
- Differential Equations
- Vector Analysis
- Calculus-based Physics (full sequence)
- Circuits
- Introduction to Programming/Problem Solving (C language)

**!!! 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](http://www.assist.org)

# UC Davis Electrical Engineering

- Object-Oriented Programming (C++ language)
- Engineering Problem Solving
- Assembly Language or Computer Organization
- Public Speaking or Interpersonal Communications
- English Composition (one course; however, the University requires two courses in English composition for admissions eligibility)

## 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. Majors designated as “highly selective” receive many more qualified applicants than there are spaces available. The stronger your major preparation, the more competitive you will be for these slots.

- A **highly selective** major
- To be a competitive applicant, you **must** have an overall transfer GPA of 3.1 or higher.
- You **must** complete all lower-division major-preparation courses if they are offered at your community college. You will be denied admission if you are missing three or more of the required courses. Courses **must** be taken for a letter grade, with no grade less than a C.

## 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 GE 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 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 **must** complete the required lower-division major-preparation coursework as a priority over GE requirements. Admission is based on completion of courses for your major, not GE courses. The College of Engineering strongly discourages the use of IGETC. Although completing IGETC satisfies the campus’s general education requirements, it does not always cover the full set of GE courses specified for the College of Engineering. All students are required to complete two upper-division GE courses for the Davis campus.