



# UC San Diego

## Electrical Engineering

### Electrical Engineering, B.S.

## Major Description

The Electrical Engineering program provides our students with training in the fundamental science and mathematics that underlie engineering, and with a general breadth and depth in engineering and in engineering design so that they are prepared for graduate school and for engineering careers. Students should have both proficiency in a specific technical area and the flexibility and broad knowledge base needed for lifelong engineering careers in a changing technical environment.

## 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)
- Calculus (full sequence for Science and Engineering majors)
- Vector Calculus (Students who have taken Vector Calculus at a non-UC campus must pass the MATH 20 E Requirement Fulfillment Exam to demonstrate an appropriate level of comprehension to satisfy this requirement; additional information is available on the following website: [www.math.ucsd.edu/programs/undergraduate/math\\_20E\\_exam](http://www.math.ucsd.edu/programs/undergraduate/math_20E_exam).)
- Linear Algebra
- Differential Equations
- Calculus-based Physics (full sequence for Science and Engineering majors)
- Circuits
- Components and Circuits Lab
- Computer Programming (highest level language offered)

**!!! 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)

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- Engineering Computation
- Introduction to Analog Design
- Introduction to Computer Engineering
- Introduction to Digital Design

## Becoming Competitive for Admission to Electrical Engineering

### Selection Requirements

Below are the lower-division requirements that this campus advises applicants to complete 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.

- It is **strongly** recommended that you complete the following courses prior to transfer: Calculus (full sequence for Science and Engineering majors), Differential Equations, Linear Algebra, Calculus-based Physics (full sequence for Science and Engineering majors) and the highest level of introductory computer programming language available at the community college.

## 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.

- While completing your lower-division major-preparation courses, you are advised to work toward completion of IGETC or UCSD’s GE requirements. If you are unable to complete IGETC prior to transfer, you are advised to satisfy as many UCSD GE requirements as possible. IGETC is accepted at John Muir, Earl Warren, Thurgood Marshall and Sixth colleges only. Students completing IGETC are welcomed at Eleanor Roosevelt and Revelle colleges; however, they **must** also fulfill the specific GE requirements of those colleges. At UCSD, all majors are available to students in each college, so students who choose IGETC will not be restricted in their choice of major.

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## Related Majors

Preparation for the following majors may be similar to the Electrical Engineering major described above (consult the campus catalog and [www.assist.org](http://www.assist.org)).

- Computer Engineering, B.S.
- Engineering Physics, B.S.