Elective Requirements:
In addition to the above, Electrical Engineering majors must complete 4 additional upper-division courses (minimum of 3 courses from one track). Unlisted graduate-level courses may be used to fulfill an elective requirement with prior department approval. Most elective courses have additional prerequisites. They are subject to change frequently. Please visit https://catalog.ucsc.edu/Current/General-Catalog/Courses/ECE-Electrical-and-Computer-Engineering to ensure you have met them.

Design Elective: One of the four concentration courses chosen must include at least one of the following design electives: ECE 118, ECE 157/L, ECE 121, or ECE 173/L. The design elective must be taken before ECE 129A.

Electives:

**Communications, Signals, & Systems**
- ECE 118 Intro to Mechatronics
- ECE 130/L / 230 Intro to Optoelectronics & Photonics
- ECE 136 Engineering Electromagnetics (Strongly Recommended)
- ECE 141 / 241 Feedback Control Systems
- ECE 152 / 252 Intro to Wireless Communications
- ECE 153 / 250 Digital Signal Processing
- ECE 237 Image Processing and Reconstruction
- ECE 251 Principles of Digital Communications
- ECE 252 Introduction to Information Theory
- ECE 255 Error Control Coding
- ECE 256 Statistical Signal Processing
- ECE 150/L Intro Computer Networks

**Electronics & Optics**
- ECE 104 Bioelectronics
- ECE 115 Introduction to Solid Mechanics
- ECE 118 Intro to Mechatronics
- ECE 121 Microcontroller System Design
- ECE 130/L / 230 Intro to Optoelectronics & Photonics
- ECE 136 Engineering Electromagnetics
- ECE 141 / 241 Feedback Control Systems
- ECE 157/L RF Hardware Design/Lab
- ECE 167 Sensing and Sensor Technologies / Lab
- ECE 172 / 221 Advanced Analog Integrated Circuits
- ECE 173/L High Speed Digital Design / Lab
- ECE 175/L Energy Generation and Control / Lab
- ECE 176/L Energy Conversion and Control / Lab
- ECE 177/L Power Electronics / Lab
- ECE 178 Device Electronics
- ECE 180J Advanced Renewable Energy Sources
- ECE 201 Introduction to Nanotechnology
- ECE 203 Nanocharacterization of Materials
- ECE 231 Optical Electronics

**Comprehensive Requirement (ECE 129ABC or ECE 129A & ECE 195):**
- ECE 129A Capstone Project I
- ECE 129B Capstone Project II
- ECE 129C Capstone Project III
- ECE 195 (10 units) Senior Thesis

**Exit Requirements:**
1. Exit Survey: https://undergrad.soe.ucsc.edu/exit-survey
2. Exit Interview
3. Maintain a 2.5 cumulative GPA in all required and elective courses for the major, OR submit a Portfolio for Department Review, OR submit a Senior Thesis with department approval.
### Electrical Engineering B.S. Degree
#### 2021-2022 Curriculum Chart

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**Key Legend**

- Course Prerequisite
- ** Requires additional pre-requisites
- ^ This course is waived for Transfer students.
- ∞ AM 10 and AM 20 recommended for Electrical Engineering majors.
- Ω ECE 118 is a 10-unit course. Students are recommended not to pair this course with another major requirement.

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Student Name:

Staff Advisor: