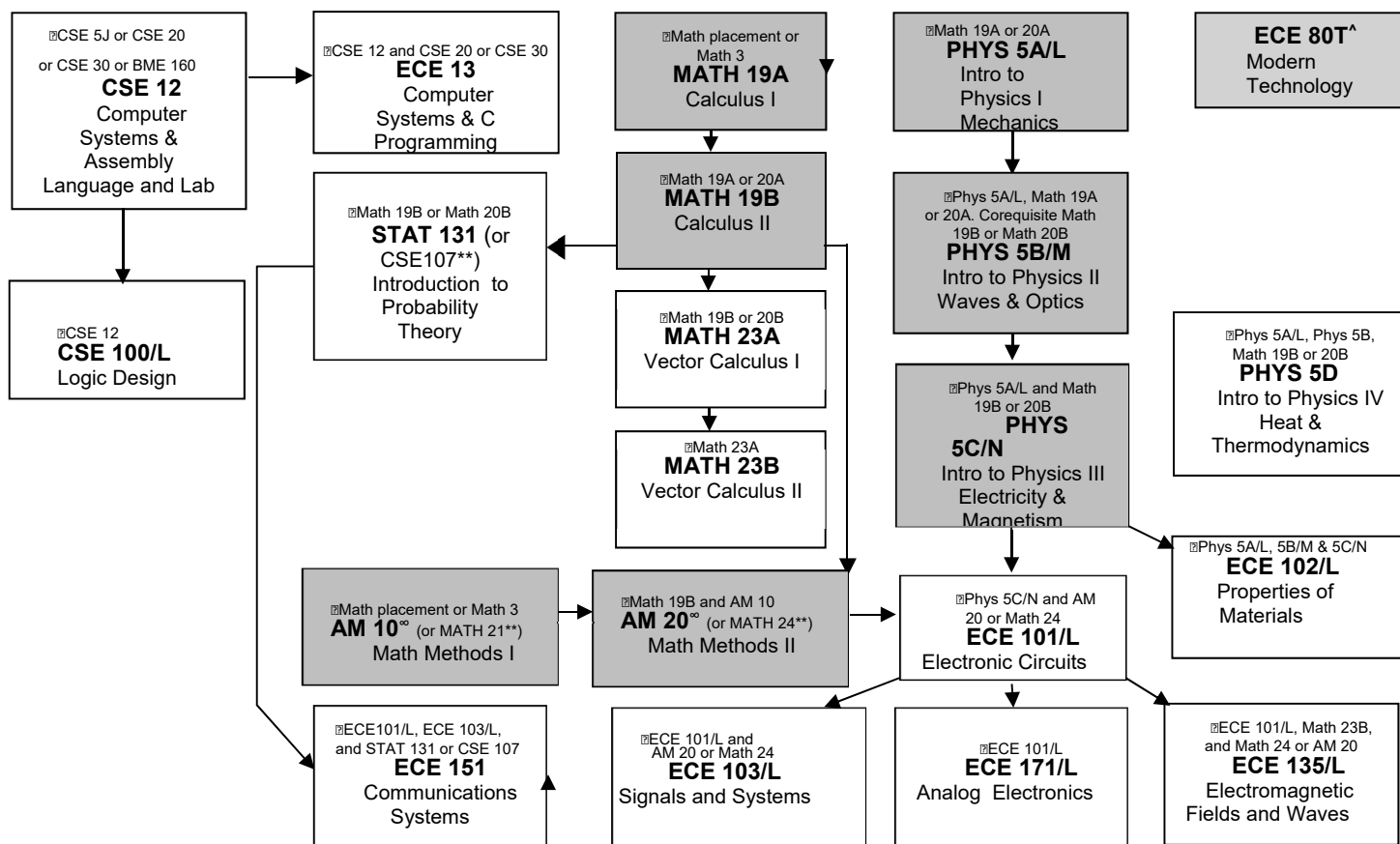


Electrical Engineering B.S. Degree 2022-2023 Curriculum



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 pre-requisites. 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. *The design elective must be taken before ECE 129A.*

Communications, Signals, & Systems	Electronics / Optics
ECE 118 Intro to Mechatronics ² ECE 130/L / 230 Intro to Optoelectronics & Photonics ECE 136 Engineering Electromagnetics (<i>Strongly Recommended</i>) 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 253 Introduction to Information Theory ECE 255 Error Control Coding ECE 256 Statistical Signal Processing CSE 150 Intro Computer Networks	ECE 104 Bioelectronics ECE 115 Introduction to Solid Mechanics ECE 118 Intro to Mechatronics ² 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 ECE 172 / 221 Advanced Analog Circuits ECE 173 High Speed Digital Design 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 (ECE129ABC or ECE 129A & ECE 195):	
(ECE171, CSE100 and at least one design elective) ECE 129A Capstone Project I	
(ECE 129A) ECE 129B Capstone Project II (ECE 129B)	(ECE 129A) ECE 195 (10 units) Senior Thesis
ECE 129C Capstone Project III	

Exit Requirements:
<ol style="list-style-type: none"> 1. 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 2022-2023 Curriculum

Fall _____	Winter _____	Spring _____	Summer _____

Fall _____	Winter _____	Spring _____	Summer _____

Fall _____	Winter _____	Spring _____	Summer _____

Fall _____	Winter _____	Spring _____	Summer _____

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.
- ***Three classes intended to introduce the discipline of modern power engineering. ECE175: *Power systems* treat the generation, transmission and regulation of AC and DC power, both at the grid and micro-grid levels. ECE176: *Electric Drives* combine the modern use of traditional and advanced electric motors with sophisticated mixed-signal feedback control systems to solve modern energy conversion and control problems. ECE177: *Power Electronics* deals principally with the application of modern high power non-linear switching devices to the engineering design of power systems.

Student Name: _____

Staff Advisor: _____