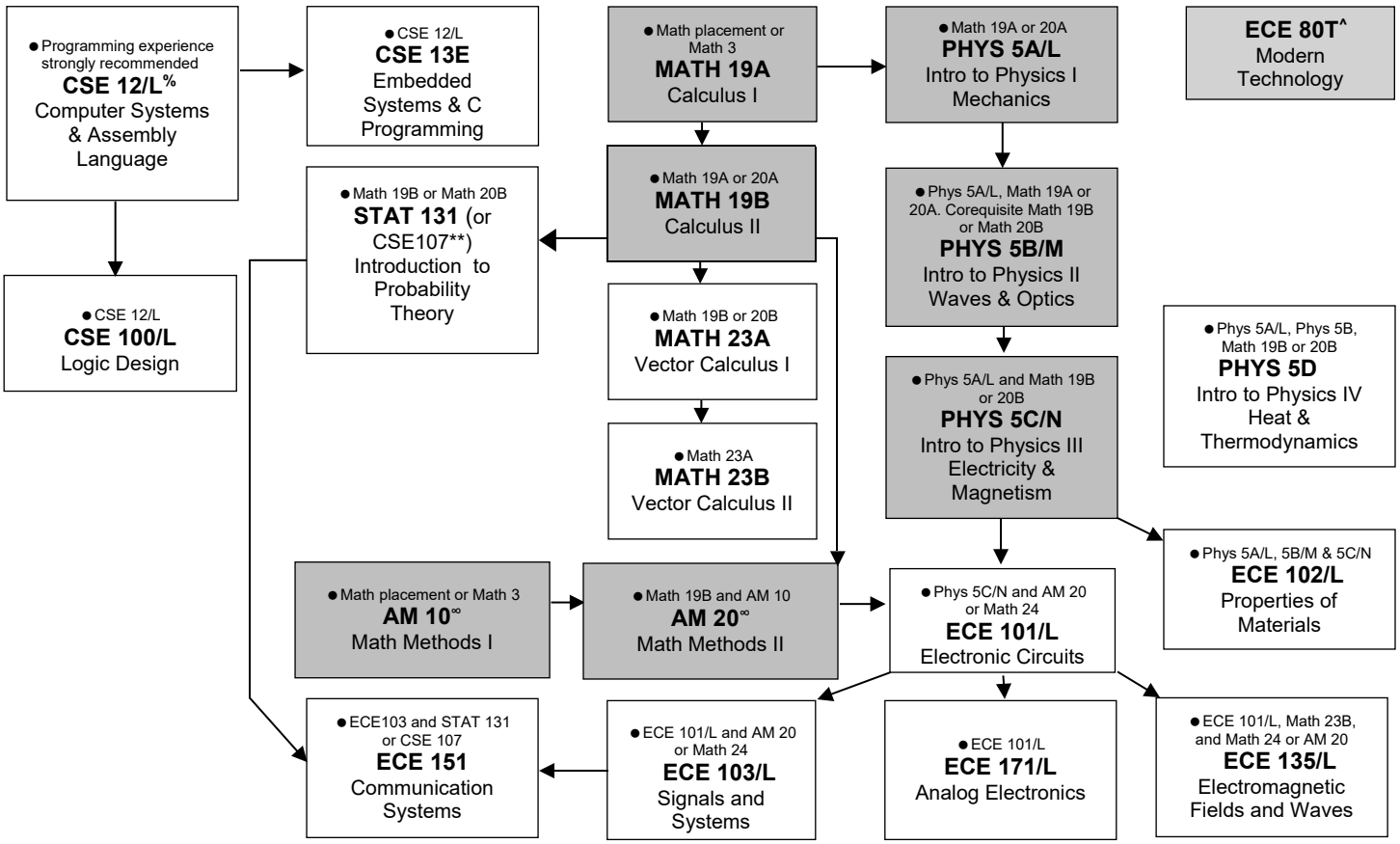
Electrical Engineering B.S. Degree
2020-2021 Curriculum Chart



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/L, ECE 157/L, ECE 121, or ECE 173/L. *This course must be taken before ECE 129A*.

Communications, Signals, Systems & Controls	Electronics & Optics
ECE 118/L Intro to Mechatronics	ECE 104 Bioelectronics
ECE 130/L / 230 Intro to Optoelectronics & Photonics	ECE 115 Introduction to Solid Mechanics
ECE 136 Engineering Electromagnetics *(Strongly Recommended)*	ECE 118/L Intro to Mechatronics
ECE 141 / 241 Feedback Control Systems	ECE 121 Microcontroller System Design
ECE 152 / 252 Intro to Wireless Communications	ECE 130/L / 230 Intro to Optoelectronics & Photonics
ECE 153 / 250 Digital Signal Processing	ECE 136 Engineering Electromagnetics
ECE 237 Image Processing and Reconstruction	ECE 141 / 241 Feedback Control Systems
ECE 251 Principles of Digital Communications	ECE 157/L RF Hardware Design/Lab
ECE 253 Introduction to Information Theory	ECE 167/L Sensing and Sensor Technologies
ECE 255 Error Control Coding	ECE 172 / 221 Advanced Analog Integrated Circuits
ECE 256 Statistical Signal Processing	ECE 173/L High Speed Digital Design
CSE 150/L Intro Computer Networks	ECE 175/L Energy Generation and Control
	ECE 176/L Energy Conversion and Control
	ECE 177/L Power Electronics
	ECE 178 Device Electronics
	ECE 180J Advanced Renewable Energy Sources
	ECE 201 Introduction to Nanotechnology
	ECE 203 Nanocharacterization of Materials
	ECE 231 Optical Electronics

Senior Design Project (Choose ECE129BC or ECE 129A & ECE195):

(● ECE171, CSE100 and at least one design elective)
ECE 129A Engineering Design Project I

(● ECE 129A) **ECE 129B** Engineering Design Project II (● ECE 129B) **ECE 129C** Engineering Design Project III	(● ECE 129A) **ECE 195 (10 units)** Senior Thesis

Exit Requirements:

1. Exit Survey https://undergrad.soe.ucsc.edu/exit-survey
2. Exit Interview with a designated ECE faculty
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.

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Fall _____	Winter _____	Spring _____	Summer _____

Fall _____	Winter _____	Spring _____	Summer _____

Fall _____	Winter _____	Spring _____	Summer _____

Fall _____	Winter _____	Spring _____	Summer _____

Key Legend
● Course Prerequisite
% Students with no prior programming experience are strongly recommended to take course CSE 20 or equivalent before taking this class.
** Requires additional pre-requisites
^ This course is waived for Transfer students.
∞ AM 10 can be substituted by MATH 21. AM 20 can be substituted by MATH 24.

Student Name:

Staff Advisor:

Faculty Advisor: