Robotics Engineering B.S. Degree
2019-2020 Curriculum Chart

Math Courses

- MATH 19A: Calculus I
- MATH 19B: Calculus II
- MATH 23A: Vector Calculus
- AM 30: Multivariate Calculus for Engineers
- MATH 21: Linear Algebra
- MATH 10*: Engr. Math Methods I
- AM 10*: Engr. Math Methods II

Science Courses

- PHYS 5A/L: Mechanics
- ECE 9: Intro. to Statics, Dynamics & Biomechanics
- PHYS 5C/N: Electricity & Magnetism
- ECE 10: Fundamentals of Robot Kinematics & Dynamics

Digital Electronics

- CSE 100/L: Logic Design
- ECE 101/L: Electronic Circuits
- CSE 121/L: Microprocessor System Design

Robotics

- ECE 118/L: Intro to Mechatronics
- ECE 141: Feedback Control Systems
- ECE 167/L: Sensing & Sensor Technologies

Electives

- CSE 12/L: Computer Systems & Assembly Language
- CSE 13E: Embedded Systems & C Programming
- CSE 20: Beginning Programming in Python
- CSE 101: Algorithms & Abstract Data Types
- CSE 107: Probability & Statistics

Elective*

* Please refer to the UA website for the list of approved courses for this elective requirement

Programming

- CSE 16: Discrete Math
- ECE 103/L: Signals & Systems

Exit Requirement

1. Portfolio: https://www.soe.ucsc.edu/departments/computer-engineering/undergraduate/undergraduate-portfolio
2. Exit Survey: https://ua.soe.ucsc.edu/exit-survey
3. Exit Interview

# The Disciplinary Communication requirement (DC) is satisfied by completing one of the capstone options.

Capstone (choose one option) #

- ECE 129A, 129B, & 129C: Capstone Project I, II, & III
- ECE 129A & CMPE 195: Senior Thesis (10 credits)

Exit Requirements

1. Portfolio: https://www.soe.ucsc.edu/departments/computer-engineering/undergraduate/undergraduate-portfolio
2. Exit Survey: https://ua.soe.ucsc.edu/exit-survey
3. Exit Interview
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**Approved List of Upper Division Electives**
Please refer to the Undergraduate Advising website for the list of approved courses

**Approved List of Advanced Robotic Electives**
Please refer to the Undergraduate Advising website for the list of approved courses

**Notes:**
- The School of Engineering has different major declaration deadlines than the UCSC Academic/Administrative calendar. Our deadlines and process can be found on: [https://ua.soe.ucsc.edu/declare-your-major](https://ua.soe.ucsc.edu/declare-your-major)
- All students admitted to a School of Engineering major, or seeking admission to a major, must take all courses required for that major for a letter grade.
- Courses in which you receive a grade of C-, D+, D, or D- earn credit toward graduation, but cannot be used to satisfy a major requirement or a general education requirement, and cannot satisfy a prerequisite for another course.
- In addition to this list, any 5-unit CSE or ECE graduate course (200+) may also be used as an elective.
- At most, only one elective may be substituted by an upper-division individual or field study (CSE, ECE 193 or 198) with approval from the undergraduate director.

Student Name:
Staff Advisor:
Faculty Advisor:

☐ I have discussed the BS/MS program with my advisor.