

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

Math Courses

MATH 19A Calculus I	CSE 16 Discrete Math
MATH 19B Calculus II	AM 10* Engr. Math Methods I or MATH 21 Linear Algebra
MATH 23A Vector Calculus or AM 30 Multivariate Calculus for Engineers	AM 20 Engr. Math Methods II
ECE 103/L Signals & Systems	CSE 107 Probability & Statistics

* Strongly recommended

Core Courses

CSE 20 Beginning Programming in Python	CSE 12/L Computer Systems & Assembly Lang.	CSE 101 Algorithms & Abstract Data Types
CSE 30 Programming Abstractions: Python	CSE 13E Embedded Systems & C Programming or CSE 13S Computer Systems & C Programming	CSE 121/L Microprocessor System Design
CSE 100/L Logic Design	CSE 120 Computer Architecture	ECE 101/L Electronic Circuits
CSE 185E # Technical Writing		

Satisfies the DC requirement

Science Courses

PHYS 5A/L Mechanics	PHYS 5B/M Waves & Optics or ECE 9* Statics, Dynamics, & Biomechanics	PHYS 5C/N Electricity & Magnetism
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* ECE 9 is recommended for the Robotics & Control concentration

Concentrations (choose one)

System Programming	Robotics & Control	Computer Systems	Networks	Digital Hardware
CSE 131 or CSE 130	<i>Two of the following:</i> • ECE 118/L • ECE 141 • ECE 167/L	CSE 131 or CSE 130	CSE 150/L	CSE 125/L
CSE 111 or CSE 115A or CSE 134	<i>Third course from above or any course from Robotics and Control Elective List on the UA website</i>	CSE 125/L or CSE 122***	CSE 156/L	ECE 171/L or CSE 122***
CSE 150/L	Elective%	CSE 111 or CSE 115A or CSE 134	CSE 131 or CSE 130	<i>One of the following:</i> • CSE 122 (if not satisfied above)*** • CSE 220 • ECE 171/L (if not satisfied above) • ECE 173/L**
<i>One of the following:</i> • CSE 113 • CSE 156/L • CSE 110A		Elective*	CSE 151/L or Elective*	
CSE 151/L or Elective*	* Electives can be chosen from the Computer Engineering Elective list on the UA website ** ECE 173 requires the prerequisite ECE 174 *** CSE 222A (with department approval)			Elective*
	% Elective can be chosen from the Computer Engineering or Robotics and Control Elective List			

Capstone (choose one option)

CSE 123A, 123B Eng. Design I & II	CSE 129A, 129B & 129C Capstone Project I, II, & III	CSE 115A, 115B, & 115C Software Capstone Project I, II, & III	CSE 115A & 115D Software Capstone Project I & II	CSE 157 Internet of Things	ECE 118/L Intro to Mechatronics	CSE 195 Senior Thesis
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§ ECE 118/L only allowed as Capstone course if it is not used as a concentration course

Exit Requirements

- 1) Portfolio
- 2) Exit Survey
- 3) Exit Interview – see back for more info

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Fall _____	Winter _____	Spring _____	Summer _____

Fall _____	Winter _____	Spring _____	Summer _____

Fall _____	Winter _____	Spring _____	Summer _____

Fall _____	Winter _____	Spring _____	Summer _____

Upper Division Electives

Please refer to the Undergraduate Advising website for the list of approved electives

Computer Engineering Electives: <https://undergrad.soe.ucsc.edu/computer-engineering-electives>

Robotics and Control Electives: <https://undergrad.soe.ucsc.edu/robotics-and-control-elective-list>

Exit Requirements

1. Portfolio
<https://www.soe.ucsc.edu/departments/computer-science-and-engineering-cse/computer-engineering/undergraduate/undergraduate>
2. Exit Survey
<https://undergrad.soe.ucsc.edu/exit-survey>
3. Exit Interview

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://undergrad.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.
- At most, only one elective upon prior approval may be substituted by an upper-division individual or field study (CSE/ECE 193 or 198). Approval is determined by the department via Course Substitution Petition.

Student Name:

Staff Advisor:

Faculty Advisor:

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