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

Math Courses

MATH 19A Calculus I

MATH 19B Calculus II

MATH 23A Vector Calculus or **AM 30** Multivariate Calculus for Engineers

ECE 103/L Signals & Systems

CSE 16 Discrete Math

AM 10* Engr. Math Methods I *or* **MATH 21** Linear Algebra

AM 20 Engr. Math Methods II

CSE 107 Probability & Statistics

* *Strongly recommended*

Core Courses

CSE 20 Beginning Programming in Python

CSE 30 Programming Abstractions: Python

CSE 100/L Logic Design

CSE 185E # Technical Writing

CSE 12/L Computer Systems & Assembly Lang.

CSE 13E Embedded Systems & C Programming or **CSE 13S** Computer Systems & C Programming

CSE 120 Computer Architecture

CSE 101 Algorithms & Abstract Data Types

CSE 121/L Microprocessor System Design

ECE 101/L Electronic Circuits

 # 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

** ECE 9 is recommended for the Robotics & Control concentration*

Concentrations (choose one)

System Programming

CSE 131 *or* **CSE 130**

CSE 111 *or* **CSE 115A** *or* **CSE 134**

CSE 150/L

One of the following:
- CSE 113
- CSE 156/L
- CSE 110A

CSE 151/L or Elective*

Robotics & Control

Two of the following:
- ECE 118/L
- ECE 141
- ECE 167/L

Third course from above or any course from Robotics and Control Elective List on the UA website

Elective*

Computer Systems

CSE 131 *or* **CSE 130**

CSE 125/L *or* **CSE 122*****

CSE 111 *or* **CSE 115A** *or* **CSE 134**

Elective*

Networks

CSE 150/L

CSE 156/L

CSE 131 *or* **CSE 130**

CSE 151/L *or* **Elective***

Digital Hardware

CSE 125/L

ECE 171/L *or* **CSE 122*****

One of the following:
- CSE 122 (if not satisfied above)***
- CSE 220
- ECE 171/L (if not satisfied above)
- ECE 173/L**

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)*

Capstone (choose one option)

CSE 123A, 123B Eng. Design I & II

CSE129A, 129B & 129C Capstone Project I, II, & III

CSE 115A, 115B, & 115C Software Capstone Project I, II, & III

CSE 195 Senior Thesis

ECE 118/L $ Intro to Mechatronics

$ 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

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

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.