

Computer Engineering B.S. Degree 2024-2025 Curriculum Chart

Math Courses

MATH 19A
Calculus I

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

MATH 19B
Calculus II

AM 20 Engr. Math Methods II *or* **MATH 24** Ordinary Differential Equations

CSE 16
Discrete Math

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

ECE 103/L
Signals & Systems

CSE 107 Probability & Statistics *or* **STAT 131** Introduction to Probability Theory

Science Courses

PHYS 5A/L
Mechanics

PHYS 5C/N
Electricity & Magnetism

PHYS 5B/M
Waves & Optics

or
ECE 9
Statics and Mechanics of Materials

Major Qualification Policy

Complete 36 units of the highlighted courses by the end of 5th quarter with at least a 2.8 GPA and no more than seven credits of non-passing grades in those courses. You do not need to complete all highlighted classes for major declaration.

DC Requirement

CSE 185E
Technical Writing

or

CSE 195**
Senior Thesis

Core Courses

CSE 20
Beginning Programming in Python

CSE 30
Programming Abstractions: Python

CSE 12
Computer Systems & Assembly Lang.

CSE 13S*
Computer Systems & C Programming

or **ECE 13**
Computer Systems & C Programming

CSE 100/L
Logic Design

CSE 101
Intro to Data Structures and Algorithms

CSE 120
Computer Architecture

CSE 121
Embedded System Design

ECE 101/L
Electronic Circuits

*CSE 13s is strongly recommended, with exception to those pursuing a Digital Hardware Concentration

Concentrations (choose one)

System Programming

CSE 130

CSE 150

One of the following:

- CSE 111
- CSE 115A
- CSE 134

One of the following:

- CSE 113
- CSE 156/L
- CSE 110A

Elective

Can be chosen from the Computer Engineering Elective list on the UA website.

Computer Systems

CSE 130

CSE 125

CSE 225 can be substituted with department approval.

or

CSE 122

CSE 222A can be substituted with department approval

One of the following:

- CSE 111
- CSE 115A
- CSE 134

Elective

Can be chosen from the Computer Engineering Elective list on the UA website.

Networks

CSE 130

CSE 150

CSE 156/L

Elective

Can be chosen from the Computer Engineering Elective list on the UA website.

Digital Hardware

CSE 125

CSE 225 can be substituted with department approval.

ECE 171/L

or

CSE 122

CSE 222A may be substituted for CSE 122 with department approval

One of the following:

- CSE 122** (if not satisfied above)
- CSE 220**
- CSE 228A**
- ECE 171/L** (if not satisfied above)
- ECE 173** (Prerequisite: ECE 174)

Elective

Can be chosen from the Computer Engineering Elective list or the approved Digital Hardware Grad- Level Course List

Capstone (choose one option)

CSE 123A, 123B
Eng. Design, I & II
Prerequisites:
CSE 121 and previous or concurrent enrollment in CSE 185E

CSE 157*
Internet of Things
Prerequisites:
CSE 121 and CSE 150

ECE 118 *
Intro to Mechatronics
Prerequisites: ECE 101/L, CSE 100/L, and ECE 13

CSE 195**
Senior Thesis
*Satisfies the DC requirement
Special approval needed,
see capstone note below*

Please see catalog for full list of approved capstones. Capstones not listed on this curriculum chart have additional enrollment restrictions or are not consistently offered.

*CSE 157 & ECE 118 can NOT be used as elective and capstone. **CSE 195 also requires the submission of an approved senior thesis.

Computer Engineering B.S. Degree 2024-2025 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:
<https://undergrad.engineering.ucsc.edu/curriculum-charts/>

The prerequisites listed on this curriculum chart are accurate as of August 15, 2024 according to UCSC's general catalog. Prerequisites listed on this chart are subject to change and students should refer to the catalog for the most up to date requirements.