Computer Science B.A. Degree
2017-2018 Curriculum Chart

**Comprehensive Requirement** - Students have two options to fulfill the Computer Science exit requirement:

1. Pass one of the Capstone Courses (which can also fulfill an elective requirement, see capstone list above)
2. Successfully complete a Senior Thesis.

**1. Students must complete three courses from this list:**

- CMPE 110 Computer Architecture
- CMPS 102 Introduction to Analysis of Algorithms
- CMPS 104A Compiler Design
- CMPS 111 Operating Systems
- CMPS 112 Comparative Programming Languages
- CMPS 115 Introduction to Software Engineering
- MATH 19A or MATH 20A Calculus
- MATH 19B or MATH 20B Calculus
- CMPE 12/L Comp. Systems & Assembly Language
- CMPE 16 Discrete Math

**2. Students must complete four additional 5-credit (or more) upper division Computer Science elective courses selected from all upper division CMPS courses except those numbers 191-194 and 196-199.**

Students may substitute two of these upper division Computer Science electives with courses from the following list:

Any 5-credit upper division course offered by the Baskin School of Engineering except those numbered 191 through 194 and 196 through 199. (CMPE, CMPM, and AMS courses strongly recommended.)

Any 5-credit upper division course from the Division of Physical and Biological Sciences except those numbered 190 and above. (MATH, PHYS, CHEM and BIOL courses strongly recommended.)

**Disciplinary Communication**

Students of every major must satisfy the major’s upper-division Disciplinary Communication (DC) Requirement. The DC Requirement for the Computer Science B.A. is satisfied by completing one of the following courses. The DC course can also satisfy an upper division elective:

- CMPS 115 Introduction to Software Engineering
- CMPS 132W** Computability and Computational Complexity
- CMPS 140A/L Artificial Intelligence
- CMPS 140A/L Machine Learning
- CMPS 141A/L Natural Language Processing
- CMPS 141A/L Natural Language Processing
- CMPS 142W** Database Systems
- CMPS 143W** Database Systems
- CMPS 145A/L Technical Writing and Communication in CS
- CMPS 145A/L Technical Writing and Communication in CS
- CMPS 146A/L Technical Writing for CE
- CMPS 146A/L Technical Writing for CE
- CMPS 147W** Data Wrangling and Web Scraping
- CMPS 147W** Data Wrangling and Web Scraping
- CMPS 148W** Software Design Project II
- CMPS 149A/L Introduction to Data Visualization
- CMPS 150A/L Advanced Computer Graphics and Animation
- CMPS 151A/L Data Programming for Visualization
- CMPS 152A/L Database Systems II
- CMPS 153A/L Web Applications
- CMPS 154A/L Data Wrangling and Web Scraping
- CMPS 155A/L Game Design Studio III

**Capstone Courses**

Many Capstone course options require additional prerequisites not already required in major requirements. Advance planning is crucial.

- CMPS 104B Fundamentals of Compiler Design II
- CMPS 117W Software Design Project II
- CMPS 119W Introduction to Data Visualization
- CMPS 120W Advanced Computer Graphics and Animation
- CMPS 121W Data Programming for Visualization
- CMPS 122W Database Systems II
- CMPS 123W Web Applications
- CMPS 124W Data Wrangling and Web Scraping
- CMPS 125W Game Design Studio III

At least 50% of the upper division elective courses must be completed at UCSC.

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Computer Science B.A. Degree
2017-2018 Curriculum Chart

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Notes:
- 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.
- Shaded boxes represent foundation courses. Major qualification requirements for this major can be found at: https://ua.soe.ucsc.edu/major-qualification
- Most upper division Computer Science courses are restricted to enrollment by declared Computer Science majors during first-pass or priority enrollment.
- Many graduate courses can also be used to satisfy electives; however, students will need instructor and department approval.
- The School of Engineering has different major declaration deadlines than the UCSC Academic/Administrative calendar. Our deadlines and process can be found on: http://ua.soe.ucsc.edu/declare

- Course prerequisites.
- Check catalog/SOE course descriptions for additional prerequisites.
- In order for these courses to satisfy the DC requirement, the W section must be completed.

CMPE 185 enrollment restricted to majors in Computer Engineering, Electrical Engineering, Bioengineering, Bioinformatics, Robotics Engineering, or Network and Digital Technology, or by permission of instructor.

Student Name:

Staff Advisor Signature: