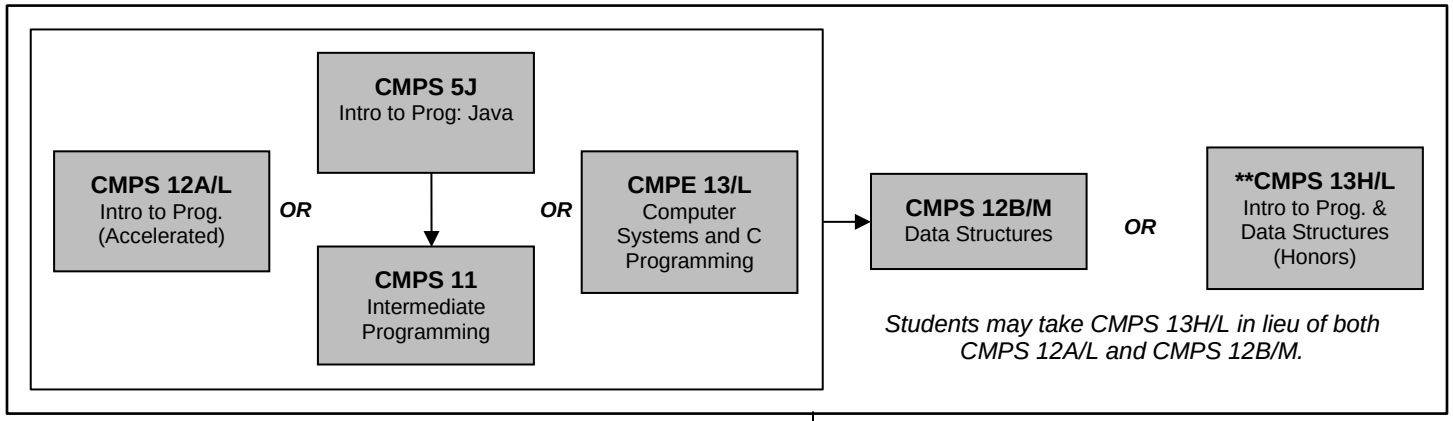
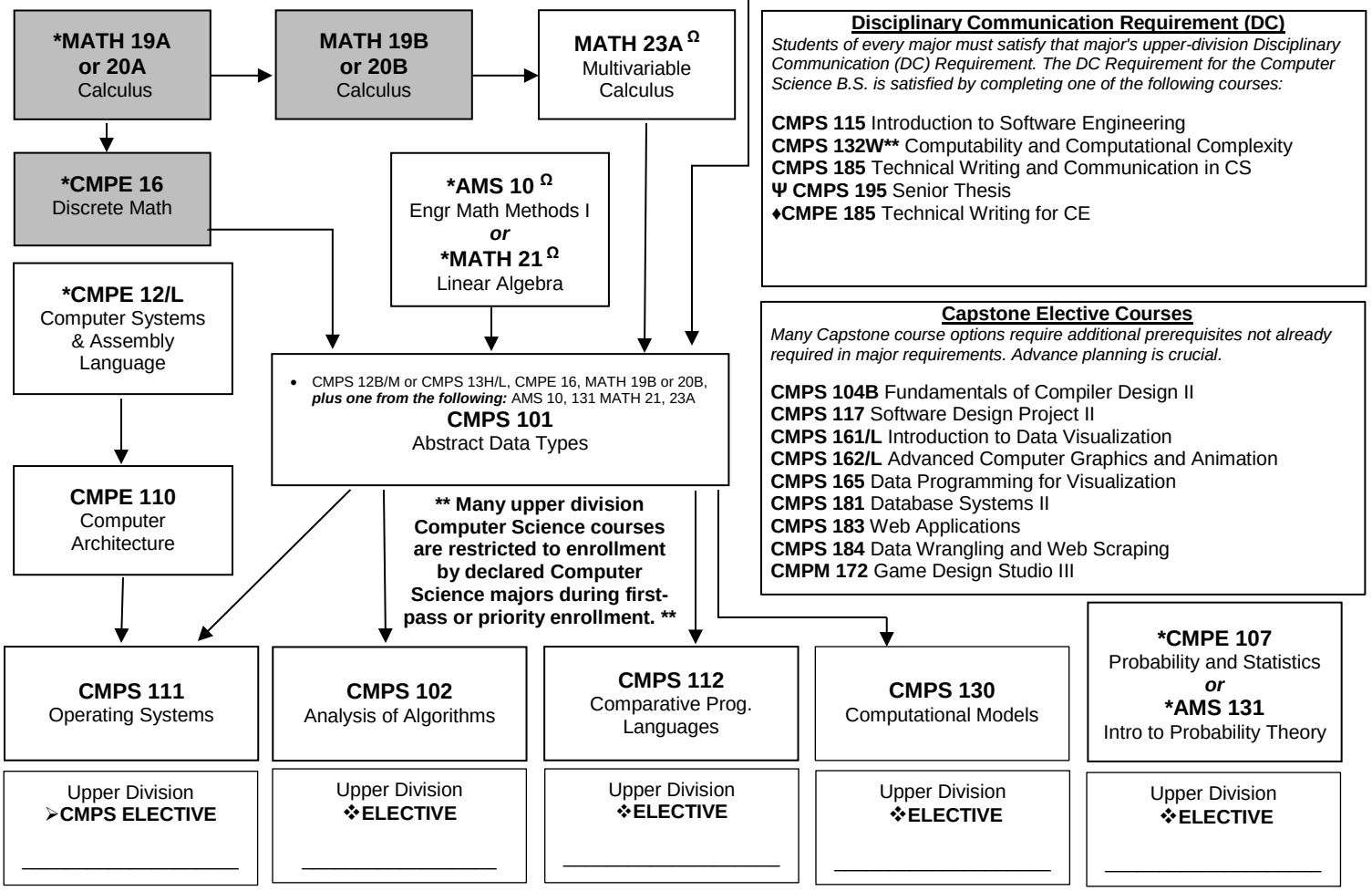
Computer Science B.S. Degree
2018-2019 Curriculum Chart





Disciplinary Communication Requirement (DC)

Students of every major must satisfy that major's upper-division Disciplinary Communication (DC) Requirement. The DC Requirement for the Computer Science B.S. is satisfied by completing one of the following courses:

CMPS 115 Introduction to Software Engineering
CMPS 132W** Computability and Computational Complexity
CMPS 185 Technical Writing and Communication in CS
Ψ CMPS 195 Senior Thesis
♦CMPE 185 Technical Writing for CE

Capstone Elective 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 117 Software Design Project II
CMPS 161/L Introduction to Data Visualization
CMPS 162/L Advanced Computer Graphics and Animation
CMPS 165 Data Programming for Visualization
CMPS 181 Database Systems II
CMPS 183 Web Applications
CMPS 184 Data Wrangling and Web Scraping
CMPM 172 Game Design Studio III

The DC and Capstone courses can count towards the 5 required upper division electives.

➢**CMPS Upper Division Elective:** 5 credit (or more than 5 credit) upper-division computer science (CMPS) courses with course number 190 or below, or CMPS 195.
Ψ CMPS 195 can satisfy both the DC and Capstone requirement, and 1 upper division elective.

❖**Upper Division Electives:** 5 credit (or more than 5 credit) upper-division computer science (CMPS) or computer engineering (CMPE) courses with course number 190 or below, or CMPS 195, or courses from the Computational Media electives on the back of this chart. Up to *two* of these electives may be replaced by upper-division mathematics electives listed on the back.

Comprehensive Requirement - Students have two options to fulfill the Computer Science exit requirement:
1. Pass one of the Capstone Courses _____
2. Successfully complete a Senior Thesis.

Disciplinary Communication Requirement – Students have two options to fulfill the DC requirement:
1. Pass one of the Disciplinary Communication Courses_____
2. Successfully complete a Senior Thesis

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Fall _____	Winter _____	Spring _____	Summer _____

Fall _____	Winter _____	Spring _____	Summer _____

Fall _____	Winter _____	Spring _____	Summer _____

Fall _____	Winter _____	Spring _____	Summer _____

Mathematics Electives List

AMS 114 Introduction to Dynamical Systems
AMS 129 Foundations of Scientific Computing for Scientists and Engineers
AMS 132 Classical and Bayesian Inference
AMS 147 Computational Methods and Applications
MATH 115 Graph Theory
MATH 116 Combinatorics
MATH 117 Advanced Linear Algebra
MATH 134 Cryptography
MATH 148 Numerical Analysis
MATH 160 Mathematical Logic I
MATH 161 Mathematical Logic II
One of the following combinations: [**PHYS 5A** and **PHYS 5B**] OR [**PHYS 5A** and **PHYS 5C**] OR [**PHYS 6A** and **PHYS 6B**] OR [**PHYS 6A** and **PHYS 6C**]***

Computational Media Electives List

CMPM 120 Game Development Experience
CMPM 131 User Experience for Interactive Media
CMPM 146 Game AI
CMPM 163 Game Graphics and Real-Time Rendering
CMPM 164/L Game Engines Lab
CMPM 171 Game Design Studio II
CMPM 172 Game Design Studio III

- **All courses being applied to requirements for the Computer Science major must be taken for a letter grade. Grades of P will not count toward major requirements.**
- 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 major qualification courses. The full major qualification requirements for this major can be found at: **https://ua.soe.ucsc.edu/major-qualification**
- 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-your-major**

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* Course has additional prerequisites. Please consult UCSC General Catalog course descriptions.
** In order for these courses to satisfy the DC requirement, the W section must be completed.
*** Physics courses have required co-requisite labs
♦ Enrollment restricted to majors in Computer Engineering, Electrical Engineering, Bioengineering, Bioinformatics, Robotics Engineering, or Network and Digital Technology, or by permission of instructor.
Ω Only one course (Math 23A or AMS 10/Math 21 or AMS 131) is required as a pre-requisite for CMPS 101 but all of Math 23A and either AMS 131 or CMPE 107 and either AMS 10 or Math 21 must be taken to fulfill the major requirements

Student Name:

Staff Advisor Signature: