## Computer Science B.A. Degree
### 2018-2019 Curriculum Chart

**CMPS 5J** Intro to Prog: Java

**CMPS 11** Intermediate Programming

**CMPS 13/L** Computer Systems and C Programming

**CMPS 12B/M** Data Structures

**CMPS 13H/L** Intro to Prog. & Data Structures (Honors)

Students may take CMPS 13H/L in lieu of both CMPS 12A/L and CMPS 12B/M.

---

### Breadth Elective

- CMPS 12A/L Intro to Prog. (Accelerated)
- CMPE 12/L Comp. Systems & Assembly Language
- *CMPS 12/L* Intro to Prog. (Accelerated)
- *CMPE 12/L* Comp. Systems & Assembly Language

### MATH 19A or MATH 20A
- Calculus

### MATH 19B or MATH 20B
- Calculus

### *CMPE 16*
- Discrete Math

### CMPS 13H/L
- Intro to Prog. & Data Structures (Honors)

---

1. **Students must complete three courses from this Breadth 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

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.**

   - **Upper Division Computer Science Elective**
   - **Upper Division Computer Science Elective**
   - **Upper Division Computer Science Elective**
   - **Upper Division Computer Science Elective**

---

### Disciplinary Communication

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

### 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 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

---

### 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.

---

**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,
<table>
<thead>
<tr>
<th>Fall _______</th>
<th>Winter _______</th>
<th>Spring _______</th>
<th>Summer _______</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Upper Division Elective 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.)
- ART 118 Computer Art: Theories, Methods, and Practices
- ART 120/121 Advanced Projects in Computer Art I/II
- ECON 100M Intermediate Microeconomics, Math Intensive
- ECON 100N Intermediate Macroeconomics, Math Intensive
- ECON 101 Managerial Economics
- ENVS 115A/L Geographic Information Systems
- FILM 170A Fundamentals of Introduction to Digital Media Production
- FILM 177 Digital Media Workshop: Computer as Medium
- LING 112/113/114 Syntax I/II/III
- LING 116/118 Semantics II/III
- LING 125 Foundations of Linguistic Theory
- MUSC 123 Electronic Sound Synthesis
- MUSC 124 Intermediate Electronic Sound Synthesis
- MUSC 125 Advanced Electronic Sound Synthesis

- 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](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](http://ua.soe.ucsc.edu/declare-your-major)

Student Name:

Staff Advisor Signature:

http://undergrad.soe.ucsc.edu • advising@soe.ucsc.edu • (831) 459-5840 • 7/6/18