COMPUTER SCIENCE, MINOR

College of Letters & Science

The Major Program

The Department of Computer Science administers two majors: Computer Science & Engineering (CSE), in the College of Engineering, and Computer Science (CS), in the College of Letters & Science. It also administers two minors: Computer Science, in the College of Letters & Science, and Computational Biology, in the College of Engineering. For information on the Computer Science & Engineering curriculum and the minor in Computational Biology, see Computer Science Engineering (https://catalog.ucdavis.edu/departments-programs-degrees/computer-science-engineering/computer-science-engineering-bs/).

The primary differences between the CSE and CS majors are the extent of hardware coverage and curricular flexibility. The CSE major develops a solid understanding of the entire machine, including hands-on experience with its hardware components. The CS major teaches some hardware, at the digital-design level, on simulators. The CSE major has fewer free electives. The CS major’s more generous electives make it easier to complete a minor or double major.

Students in the CS major receive a solid grounding in the fundamentals of computer languages, operating systems, computer architecture, and the mathematical abstractions underpinning computer science. Students are prepared for both industry and postgraduate study.

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Units</th>
</tr>
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<tbody>
<tr>
<td>Choose any three upper division Computer Science Engineering (ECS) courses ¹</td>
<td>11-12</td>
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<tr>
<td>Choose any two upper division ECS courses or any upper division course in MAT. ²</td>
<td>8-10</td>
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<tr>
<td>EEC 100</td>
<td>Circuits II</td>
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<tr>
<td>EEC 171</td>
<td>Parallel Computer Architecture</td>
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<tr>
<td>EEC 172</td>
<td>Embedded Systems</td>
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<tr>
<td>EEC 180</td>
<td>Digital Systems II</td>
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<td>ECN 122</td>
<td>Theory of Games &amp; Strategic Behavior</td>
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<tr>
<td>STA 131A</td>
<td>Introduction to Probability Theory</td>
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<tr>
<td>STA 131B</td>
<td>Introduction to Mathematical Statistics</td>
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<tr>
<td>STA 141B</td>
<td>Data &amp; Web Technologies for Data Analysis</td>
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<td>STA 141C</td>
<td>Big Data &amp; High Performance Statistical Computing</td>
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<tr>
<td>PSC 120</td>
<td>Agent-Based Modeling</td>
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<tr>
<td>LIN 127</td>
<td>Text Processing &amp; Corpus Linguistics</td>
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<tr>
<td>LIN 177</td>
<td>Computational Linguistics</td>
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</table>

Total Units 19-22

¹ A single approved course of 3-5 units from ECS 192 or ECS 199 is allowed.
² Excluding MAT 111.