Bachelor of Science in Computer Science

The Bachelor of Science in Computer Science (BSCS) is designed for students planning a career in computing. Students working toward a BSCS degree must meet all requirements for an applied science degree (http://bulletin.wustl.edu/undergrad/engineering/requirements/) from the McKelvey School of Engineering. In addition, there are the following departmental course requirements:

- **Computer Science Core Requirements**:

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>CSE 131</td>
<td>Introduction to Computer Science</td>
<td>3</td>
</tr>
<tr>
<td>CSE 132</td>
<td>Introduction to Computer Engineering</td>
<td>3</td>
</tr>
<tr>
<td>CSE 240</td>
<td>Logic and Discrete Mathematics</td>
<td>3</td>
</tr>
<tr>
<td>or Math 310</td>
<td>Foundations for Higher Mathematics</td>
<td></td>
</tr>
<tr>
<td>CSE 247</td>
<td>Data Structures and Algorithms</td>
<td>3</td>
</tr>
<tr>
<td>CSE 332S</td>
<td>Object-Oriented Software Development Laboratory</td>
<td>3</td>
</tr>
<tr>
<td>CSE 347</td>
<td>Analysis of Algorithms</td>
<td>3</td>
</tr>
</tbody>
</table>

**Total Units**: 18

Each of these core courses must be passed with a grade of C- or better.

- **Computer Science Technical Elective Requirements**:

In addition to the core courses, at least 24 additional units in computer science or computer science-related courses with an S, M, T or A suffix must be taken, of which at least one must be a systems (S) course and at least one must be a machine (M) or application (A) course. Students may use up to 6 units of approved independent work (CSE 400E, CSE 497, CSE 498, CSE 499) as part of their computer science electives. Such independent work can be classified as S, M, T or A, with approval.

- **Math Requirements**:

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>Math 131</td>
<td>Calculus I</td>
<td>3</td>
</tr>
<tr>
<td>Math 132</td>
<td>Calculus II</td>
<td>3</td>
</tr>
<tr>
<td>Math 233</td>
<td>Calculus III</td>
<td>3</td>
</tr>
<tr>
<td>Math 309</td>
<td>Matrix Algebra</td>
<td>3</td>
</tr>
<tr>
<td>or ESE 318</td>
<td>Engineering Mathematics A</td>
<td></td>
</tr>
<tr>
<td>ESE 326</td>
<td>Probability and Statistics for Engineering</td>
<td>3</td>
</tr>
<tr>
<td>or Math 3200</td>
<td>Elementary to Intermediate Statistics and Data Analysis</td>
<td></td>
</tr>
</tbody>
</table>

**Total Units**: 15

Upon completing a course in the calculus sequence (Math 131-Math 132-Math 233) with a grade of C+ or better, the student may apply to receive credit for the preceding courses in the calculus sequence by following the mathematics and statistics department's back credit policy (https://artsci.wustl.edu/resources/back-credit-policy/).

- **Additional Departmental Requirements**:

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>One themed writing course from the College Writing Program</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Engr 310</td>
<td>Technical Writing</td>
<td>3</td>
</tr>
<tr>
<td>Natural sciences electives</td>
<td>8</td>
<td></td>
</tr>
<tr>
<td>Humanities and social sciences electives</td>
<td>18</td>
<td></td>
</tr>
</tbody>
</table>

**Total Units**: 32

The College Writing Program, humanities and social sciences requirements are those required of all students in the McKelvey School of Engineering. For information about how to fulfill the school's English proficiency requirement, please visit the Degree Requirements page (http://bulletin.wustl.edu/undergrad/engineering/requirements/#engprofreq).

The natural sciences requirement is for 8 units designated NSM (Natural Sciences and Mathematics) from any of the following departments: Anthropology, Biology, Chemistry, Earth and Planetary Sciences, Environmental Studies or Physics. The College Writing Program and natural sciences courses must be completed with a grade of C- or better.

All courses taken to meet any of the above requirements (with the exception of the humanities and social sciences electives) cannot be taken on a pass/fail basis.