Bachelor of Science in Computer Engineering - Quantitative Reasoning
Category III/IV and ENG 114

128 Total Units Required
Minimum Number of Units in Major: 94

This roadmap is a suggested plan of study and does not replace meeting with an advisor. Please note that students may need to adjust the actual sequence of courses based on course availability. Please consult an advisor in your major program for further guidance.

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Units</th>
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<tbody>
<tr>
<td><strong>First Semester</strong></td>
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<tr>
<td>ENG 114</td>
<td>Writing the First Year: Finding Your Voice (A2)</td>
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<tr>
<td>ENGR 100</td>
<td>Introduction to Engineering (Major Core)</td>
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<td>ENGR 121</td>
<td>Gateway to Computer Engineering (Major Core)</td>
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<td>ENGR 212</td>
<td>Introduction to Unix and Linux for Engineers (Major Core)</td>
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<tr>
<td>MATH 197</td>
<td>Prelude to Calculus I (Prerequisite for MATH 226)</td>
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<tr>
<td>GE Area A: Oral Communication (A1)</td>
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<td>GE Area D</td>
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<tr>
<td><strong>Second Semester</strong></td>
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<td>Select One (Major Core):</td>
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<tr>
<td>CHEM 115</td>
<td>General Chemistry I: Essential Concepts of Chemistry</td>
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<td>CHEM 180</td>
<td>Chemistry for the Energy and the Environment (B1, B3, ES)</td>
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<td>MATH 198</td>
<td>Prelude to Calculus II (Prerequisite for MATH 226, B4)</td>
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<td>GE Area B: Life Science (B2)</td>
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<td>GE Area C</td>
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<tr>
<td>CSC 210</td>
<td>Introduction to Computer Programming (Major Core)</td>
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<td>MATH 226</td>
<td>Calculus I (Major Core, B4)</td>
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<td>GE Area C - Take Two</td>
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<tr>
<td>CSC 220</td>
<td>Data Structures (Major Core)</td>
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<td>CSC 230</td>
<td>Discrete Mathematical Structures for Computer Science (Major Core)</td>
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<td>ENGR 213</td>
<td>Introduction to C Programming for Engineers (Major Core)</td>
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<tr>
<td>MATH 227</td>
<td>Calculus II (Major Core)</td>
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<tr>
<td>PHYS 220 &amp; PHYS 222</td>
<td>General Physics with Calculus I and General Physics with Calculus I Laboratory (Major Core, B1, B3)</td>
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<td>CSC 413</td>
<td>Software Development (Major Core)</td>
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<td>MATH 228</td>
<td>Calculus III (Major Core)</td>
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<tr>
<td>PHYS 230 &amp; PHYS 232</td>
<td>General Physics with Calculus II and General Physics with Calculus II Laboratory (Major Core)</td>
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<tr>
<td>CSC 340</td>
<td>Programming Methodology (Major Core)</td>
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<tr>
<td>ENGR 205</td>
<td>Electric Circuits (Major Core)</td>
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<td>ENGR 206</td>
<td>Circuits and Instrumentation Laboratory (Major Core)</td>
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<tr>
<td>MATH 245</td>
<td>Elementary Differential Equations and Linear Algebra (Major Core)</td>
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<td>GE Area UD-C: Upper-Division Arts and/or Humanities (Consider SF State Studies Course)</td>
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<td>GE Area UD-D: Upper-Division Social Sciences (Consider SF State Studies Course)</td>
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**Seventh Semester**

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<tr>
<td>ENGR 300</td>
<td>Engineering Experimentation (Major Core)</td>
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<td>ENGR 305</td>
<td>Linear Systems Analysis (Major Core)</td>
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<td>ENGR 353</td>
<td>Microelectronics (Major Core)</td>
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<td>ENGR 356</td>
<td>Digital Design (Major Core)</td>
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<td>ENGR 357</td>
<td>Digital Design Laboratory (Major Core)</td>
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<td>Upper-Division Electives (6 units) - Take One</td>
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**Eighth Semester**

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<tr>
<td>ENGR 301</td>
<td>Microelectronics Laboratory (Major Core)</td>
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<td>ENGR 378</td>
<td>Digital Systems Design (Major Core)</td>
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<tr>
<td>ENGR 451</td>
<td>Digital Signal Processing (Major Core)</td>
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<tr>
<td>ENGR 456</td>
<td>Computer Systems (Major Core)</td>
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<td>ENGR 476</td>
<td>Computer Communications Networks (Major Core)</td>
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<td>ENGR 696</td>
<td>Engineering Design Project I (Major Core)</td>
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<tr>
<td>ENGR 494</td>
<td>Control Systems Laboratory (Major Core)</td>
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**Ninth Semester**

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<tr>
<td>ENGR 478</td>
<td>Design with Microprocessors (Major Core)</td>
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<tr>
<td>ENGR 697GW</td>
<td>Engineering Design Project II - GWAR (Major Core)</td>
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<td>Upper-Division Electives (6 units) - Take One</td>
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**Total Units** 134-136