MINOR IN COMPUTER ENGINEERING

The purpose of the Minor in Computer Engineering is to give students who are interested in the computer technology a good basic background in software development, digital electronics, computer organization, and microprocessor applications. Additional knowledge of computer networks, multimedia systems, real-time systems, etc. may be acquired through electives. Students interested in the computer engineering minor must meet with the program coordinator and complete the Computer Engineering Minor Program Approval Form. Revision of the form requires the approval of the program coordinator.

Computer Engineering Minor – 21 units
Prerequisite Requirements (25 units)
The minor is intended for students who have satisfied the following prerequisite requirements.

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>MATH 226</td>
<td>Calculus I</td>
<td>4</td>
</tr>
<tr>
<td>MATH 227</td>
<td>Calculus II</td>
<td>4</td>
</tr>
<tr>
<td>MATH 228</td>
<td>Calculus III</td>
<td>4</td>
</tr>
<tr>
<td>MATH 245</td>
<td>Elementary Differential Equations and Linear Algebra</td>
<td>3</td>
</tr>
<tr>
<td>PHYS 220 &amp; PHYS 222</td>
<td>General Physics with Calculus I and General Physics with Calculus I Laboratory</td>
<td>4</td>
</tr>
<tr>
<td>PHYS 230 &amp; PHYS 232</td>
<td>General Physics with Calculus II and General Physics with Calculus II Laboratory</td>
<td>4</td>
</tr>
<tr>
<td>ENGR 212</td>
<td>Introduction to Unix and Linux for Engineers</td>
<td>2</td>
</tr>
</tbody>
</table>

The minor may be satisfied by a minimum of 21 units (not including prerequisite units) distributed as follows:

Core Requirements (15 units)

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENGR 213</td>
<td>Introduction to C Programming for Engineers</td>
<td>3</td>
</tr>
<tr>
<td>ENGR 205</td>
<td>Electric Circuits</td>
<td>3</td>
</tr>
<tr>
<td>ENGR 206</td>
<td>Circuits and Instrumentation Laboratory</td>
<td>1</td>
</tr>
<tr>
<td>ENGR 356</td>
<td>Digital Design</td>
<td>3</td>
</tr>
<tr>
<td>ENGR 357</td>
<td>Digital Design Laboratory</td>
<td>1</td>
</tr>
<tr>
<td>ENGR 478</td>
<td>Design with Microprocessors</td>
<td>4</td>
</tr>
</tbody>
</table>

Electives (6 units)
Approved upper division computer engineering courses. No upper division course from the major can be double-counted toward meeting the elective requirements of the minor or second major. There must be prior approval from the program head.

To earn the Minor in Computer Engineering, a student must complete at least 12 of the required 21 core and elective units at SF State. Each of the courses in the minor must be taken for a letter grade (CR/NC is not acceptable).