Bachelor of Science in Computer Science and Engineering

**General Institute Requirements (GIRs)**
The General Institute Requirements include a Communication Requirement that is integrated into both the HASS Requirement and the requirements of each major; see details below.

**Summary of Subject Requirements**

<table>
<thead>
<tr>
<th>Subjects</th>
<th>Subjects</th>
</tr>
</thead>
<tbody>
<tr>
<td>Science Requirement</td>
<td>6</td>
</tr>
<tr>
<td>Humanities, Arts, and Social Sciences (HASS)</td>
<td>8</td>
</tr>
<tr>
<td>Requirement [one subject can be satisfied by 6.805[J] in the Departmental Program]; at least two of these subjects must be designated as communication-intensive (CI-H) to fulfill the Communication Requirement.</td>
<td></td>
</tr>
<tr>
<td>Restricted Electives in Science and Technology (REST) Requirement [can be satisfied by 6.004 and 6.042[J] [if taken under joint number 18.062[J]] in the Department Program]</td>
<td>2</td>
</tr>
<tr>
<td>Laboratory Requirement (12 units) [satisfied by 6.01, 6.02, or 6.03 in the Departmental Program]</td>
<td>1</td>
</tr>
<tr>
<td>Total GIR Subjects Required for SB Degree</td>
<td>17</td>
</tr>
</tbody>
</table>

**Physical Education Requirement**
Swimming requirement, plus four physical education courses for eight points.

**Departmental Program**
Choose at least two subjects in the major that are designated as communication-intensive (CI-M) to fulfill the Communication Requirement.

**Departmental Requirements**

<table>
<thead>
<tr>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>6.0001 Introduction to Computer Science</td>
</tr>
<tr>
<td>Programming in Python</td>
</tr>
<tr>
<td>6.UAT Oral Communication (CI-M)</td>
</tr>
<tr>
<td>Select one of the following:</td>
</tr>
<tr>
<td>6.01 Introduction to EECS via Robotics</td>
</tr>
<tr>
<td>6.02 Introduction to EECS via Communications Networks</td>
</tr>
<tr>
<td>6.03 Introduction to EECS via Medical Technology</td>
</tr>
</tbody>
</table>

**Elective Subjects**
Select two Advanced Undergraduate Subjects 24-30
Select one subject from the departmental list of EECS subjects 1

**Units in Major**
162-168

**Unrestricted Electives**
48-66

**Units in Major That Also Satisfy the GIRs**
(36-48)

**Total Units Beyond the GIRs Required for SB Degree**
180

The units for any subject that counts as one of the 17 GIR subjects cannot also be counted as units required beyond the GIRs.

1 6.UAR Seminar in Undergraduate Advanced Research is also an acceptable option.

2 Of the three required AUS and EECS subjects, at least one must be from the list of Independent Inquiry Subjects.


**Advanced Undergraduate Subjects**

<table>
<thead>
<tr>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>6.004 Computation Structures</td>
</tr>
<tr>
<td>6.006 Introduction to Algorithms</td>
</tr>
<tr>
<td>6.009 Fundamentals of Programming</td>
</tr>
<tr>
<td>6.031 Elements of Software Construction</td>
</tr>
<tr>
<td>6.033 Computer System Engineering (CI-M)</td>
</tr>
<tr>
<td>6.034 Artificial Intelligence</td>
</tr>
<tr>
<td>Introduction to Machine Learning</td>
</tr>
<tr>
<td>6.045[J] Automata, Computability, and Complexity</td>
</tr>
<tr>
<td>or 6.046[J] Design and Analysis of Algorithms</td>
</tr>
<tr>
<td>6.025[J] Medical Device Design (CI-M)</td>
</tr>
<tr>
<td>6.035 Computer Language Engineering</td>
</tr>
<tr>
<td>6.047 Computational Biology: Genomes, Networks, Evolution</td>
</tr>
<tr>
<td>6.061 Introduction to Electric Power Systems</td>
</tr>
<tr>
<td>6.101 Introductory Analog Electronics</td>
</tr>
<tr>
<td>Laboratory (CI-M)</td>
</tr>
<tr>
<td>6.111 Introductory Digital Systems</td>
</tr>
<tr>
<td>Laboratory</td>
</tr>
<tr>
<td>6.115 Microcomputer Project Laboratory</td>
</tr>
<tr>
<td>(CI-M)</td>
</tr>
<tr>
<td>6.131 Power Electronics Laboratory (CI-M)</td>
</tr>
<tr>
<td>6.172 Performance Engineering of Software Systems</td>
</tr>
<tr>
<td>Course Code</td>
</tr>
<tr>
<td>------------</td>
</tr>
<tr>
<td>6.175</td>
</tr>
<tr>
<td>6.301</td>
</tr>
<tr>
<td>6.302</td>
</tr>
<tr>
<td>6.602</td>
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<tr>
<td>6.701</td>
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<tr>
<td>6.801</td>
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<tr>
<td>6.803</td>
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<td>6.806</td>
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<tr>
<td>6.813</td>
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<tr>
<td>6.814</td>
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<tr>
<td>6.815</td>
</tr>
<tr>
<td>6.816</td>
</tr>
<tr>
<td>6.819</td>
</tr>
<tr>
<td>6.837</td>
</tr>
<tr>
<td>6.905</td>
</tr>
</tbody>
</table>

**Independent Inquiry Subjects**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>6.035</td>
<td>Computer Language Engineering</td>
<td>12</td>
</tr>
<tr>
<td>6.047</td>
<td>Computational Biology: Genomes, Networks, Evolution</td>
<td>12</td>
</tr>
<tr>
<td>6.100</td>
<td>Electrical Engineering and Computer Science Project</td>
<td>12</td>
</tr>
<tr>
<td>6.111</td>
<td>Introductory Digital Systems Laboratory</td>
<td>12</td>
</tr>
<tr>
<td>6.1151</td>
<td>Microcomputer Project Laboratory - Independent Inquiry (CI-M)</td>
<td>15</td>
</tr>
<tr>
<td>6.129[J]</td>
<td>Biological Circuit Engineering Laboratory (CI-M)</td>
<td>12</td>
</tr>
<tr>
<td>6.1311</td>
<td>Power Electronics Laboratory - Independent Inquiry (CI-M)</td>
<td>15</td>
</tr>
<tr>
<td>6.161</td>
<td>Modern Optics Project Laboratory (CI-M)</td>
<td>12</td>
</tr>
<tr>
<td>6.163</td>
<td>Strobe Project Laboratory (CI-M)</td>
<td>12</td>
</tr>
<tr>
<td>6.170</td>
<td>Software Studio</td>
<td>12</td>
</tr>
<tr>
<td>6.172</td>
<td>Performance Engineering of Software Systems</td>
<td>18</td>
</tr>
<tr>
<td>6.182</td>
<td>Psychoacoustics Project Laboratory (CI-M)</td>
<td>12</td>
</tr>
<tr>
<td>6.806</td>
<td>Advanced Natural Language Processing</td>
<td>12</td>
</tr>
<tr>
<td>6.811[J]</td>
<td>Principles and Practice of Assistive Technology</td>
<td>12</td>
</tr>
<tr>
<td>6.819</td>
<td>Advances in Computer Vision</td>
<td>12</td>
</tr>
<tr>
<td>6.905</td>
<td>Large-scale Symbolic Systems</td>
<td>12</td>
</tr>
</tbody>
</table>