Bachelor of Science in 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; at least two of these subjects</td>
<td></td>
</tr>
<tr>
<td>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</td>
<td>2</td>
</tr>
<tr>
<td>[can be satisfied by 1.000 and 18.03 in the Departmental Program]</td>
<td></td>
</tr>
<tr>
<td>Laboratory Requirement (12 units) [can be satisfied from among 1.101 and 1.102 or 1.106 and 1.107 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.

General Department Requirements (GDRs)

<table>
<thead>
<tr>
<th>Subjects</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.000 Introduction to Computer Programming</td>
<td>12</td>
</tr>
<tr>
<td>and Numerical Methods for Engineering</td>
<td></td>
</tr>
<tr>
<td>Applications</td>
<td></td>
</tr>
<tr>
<td>1.010A Probability: Concepts and Applications</td>
<td>6</td>
</tr>
<tr>
<td>1.013 Senior Civil and Environmental</td>
<td>12</td>
</tr>
<tr>
<td>Engineering Design (CI-M)</td>
<td></td>
</tr>
<tr>
<td>1.073 Introduction to Environmental Data</td>
<td>6</td>
</tr>
<tr>
<td>Analysis</td>
<td></td>
</tr>
<tr>
<td>or 1.074 Multivariate Data Analysis</td>
<td></td>
</tr>
<tr>
<td>1.101 Introduction to Civil and Environmental Engineering Design I</td>
<td>6</td>
</tr>
</tbody>
</table>

Core Subjects
Select one area of core coursework

<table>
<thead>
<tr>
<th>Environment</th>
<th>54-66</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.018[J] Fundamentals of Ecology</td>
<td></td>
</tr>
<tr>
<td>1.060 Fluid Mechanics</td>
<td></td>
</tr>
<tr>
<td>1.061A Transport Processes in the Environment I</td>
<td></td>
</tr>
<tr>
<td>1.070A[J] Introduction to Hydrology and Water Resources</td>
<td></td>
</tr>
<tr>
<td>1.080 Environmental Chemistry</td>
<td></td>
</tr>
<tr>
<td>1.091 Traveling Research Environmental eXperience (TREX): Fieldwork</td>
<td></td>
</tr>
<tr>
<td>1.106 Environmental Fluid Transport Processes and Hydrology Laboratory</td>
<td></td>
</tr>
<tr>
<td>1.107 Environmental Chemistry Laboratory (CI-M)</td>
<td></td>
</tr>
</tbody>
</table>

Mechanics/Materials

<table>
<thead>
<tr>
<th>Mechanics/Materials</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1.035 Mechanics of Materials</td>
<td></td>
</tr>
<tr>
<td>1.036 Structural Mechanics and Design</td>
<td></td>
</tr>
<tr>
<td>1.050 Solid Mechanics</td>
<td></td>
</tr>
<tr>
<td>1.056[J] Introduction to Structural Design</td>
<td></td>
</tr>
<tr>
<td>1.060 Fluid Mechanics</td>
<td></td>
</tr>
<tr>
<td>1.102 Introduction to Civil and Environmental Engineering Design II (CI-M)</td>
<td></td>
</tr>
</tbody>
</table>

Systems

<table>
<thead>
<tr>
<th>Systems</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1.020 Engineering Sustainability: Analysis and Design</td>
<td></td>
</tr>
<tr>
<td>1.022 Introduction to Network Models</td>
<td></td>
</tr>
<tr>
<td>1.041[J] Transportation: Foundations and Methods</td>
<td></td>
</tr>
<tr>
<td>1.075 Water Resource Systems</td>
<td></td>
</tr>
<tr>
<td>1.102 Introduction to Civil and Environmental Engineering Design II (CI-M)</td>
<td></td>
</tr>
</tbody>
</table>

Elective Subjects with Engineering Content

Students are required to take at least four Restricted Electives selected from subjects offered within or outside CEE to form a coherent program of study under supervision by CEE faculty.

<table>
<thead>
<tr>
<th>Units in Major</th>
<th>156-180</th>
</tr>
</thead>
<tbody>
<tr>
<td>Unrestricted Electives</td>
<td>48-60</td>
</tr>
<tr>
<td>Units in Major That Also Satisfy the GIRs</td>
<td>(36)</td>
</tr>
<tr>
<td>Total Units Beyond the GIRs Required for SB Degree</td>
<td>180-198</td>
</tr>
</tbody>
</table>

The units for any subject that counts as one of the 17 GIR subjects cannot also be counted as units required beyond the GIRs.
Students are expected to take 6-unit 1.013 twice.

In order to reach the 180 units beyond the GIRs required, students may need to take more than 48 units of Restricted and/or Unrestricted Electives. Direct requests for more information to cee-apo@mit.edu.