**ENGINEERING (COURSE 1-ENG)**

Department of Civil and Environmental Engineering (http://catalog.mit.edu/schools/engineering/civil-environmental-engineering/#undergraduatetext)

**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

**Subjects**

- **Science Requirement**: 6 units
- **Humanities, Arts, and Social Sciences (HASS) Requirement**: at least two of these subjects must be designated as communication-intensive (CI-H) to fulfill the Communication Requirement.
- **Restricted Electives in Science and Technology (REST) Requirement**: can be satisfied by 1.00 or 1.000, and 18.03 in the Departmental Program.
- **Laboratory Requirement (12 units)**: can be satisfied from among 1.101 and 1.102 or 1.106 and 1.107 in the Departmental Program.

**Total GIR Subjects Required for SB Degree**: 17 units

### 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.

<table>
<thead>
<tr>
<th>General Department Requirements (GDRs)</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.00 Engineering Computation and Data Science</td>
<td>12</td>
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<tr>
<td>or 1.00 Computer Programming for Engineering Applications</td>
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<tr>
<td>1.010 Probability and Causal Inference</td>
<td>12</td>
</tr>
<tr>
<td>1.013 Senior Civil and Environmental Engineering Design (CI-M)</td>
<td>12</td>
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<tr>
<td>1.073 Introduction to Environmental Data Analysis</td>
<td>6</td>
</tr>
<tr>
<td>or 1.074 Multivariate Data Analysis</td>
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<tr>
<td>18.03 Differential Equations</td>
<td>12</td>
</tr>
</tbody>
</table>

### Core Subjects

Select one area of core coursework 54-63 units

#### Environment

- 1.018[J] Fundamentals of Ecology
- 1.060 Fluid Mechanics
- 1.061A Transport Processes in the Environment I
- 1.070A[J] Introduction to Hydrology and Water Resources
- 1.080 Environmental Chemistry
- 1.091 Traveling Research Environmental eXperience (TREX): Fieldwork
- 1.106 Environmental Fluid Transport Processes and Hydrology Laboratory
- 1.107 Environmental Chemistry Laboratory (CI-M)

#### Mechanics/Materials

- 1.035 Mechanics of Materials
- 1.050 Solid Mechanics
- 1.060A Fluid Mechanics I
- 1.036 Structural Mechanics and Design
- 1.101 Introduction to Civil and Environmental Engineering Design I
- 1.102 Introduction to Civil and Environmental Engineering Design II (CI-M)

#### Systems

- 1.020 Engineering Sustainability: Analysis and Design
- 1.022 Introduction to Network Models
- 1.041 Transportation Systems Modeling
- 1.075 Water Resource Systems
- 1.101 Introduction to Civil and Environmental Engineering Design I
- 1.102 Introduction to Civil and Environmental Engineering Design II (CI-M)

### Elective Subjects with Engineering Content

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

#### Units in Major

165-168 units

#### Unrestricted Electives

48-60 units

#### Units in Major That Also Satisfy the GIRs

36 units

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

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