CHEMICAL ENGINEERING (COURSE 10)

Department of Chemical Engineering (http://catalog.mit.edu/schools/engineering/chemical-engineering/#undergraduatetext)

Bachelor of Science in Chemical 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>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>Science Requirement</td>
<td>6</td>
</tr>
<tr>
<td>Humanities, Arts, and Social Sciences (HASS) Requirement</td>
<td>8</td>
</tr>
<tr>
<td>Restricted Electives in Science and Technology (REST) Requirement</td>
<td>2</td>
</tr>
<tr>
<td>Laboratory Requirement (12 units)</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.

Required Subjects

<table>
<thead>
<tr>
<th>Foundational Subjects</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>5.12</td>
<td>12</td>
</tr>
<tr>
<td>5.310</td>
<td>12</td>
</tr>
<tr>
<td>5.601</td>
<td>6</td>
</tr>
<tr>
<td>10.10</td>
<td>12</td>
</tr>
<tr>
<td>18.03</td>
<td>12</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Intermediate Subjects</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>10.213</td>
<td>12</td>
</tr>
<tr>
<td>10.301</td>
<td>12</td>
</tr>
<tr>
<td>10.302</td>
<td>12</td>
</tr>
<tr>
<td>Select one of the following:</td>
<td>12</td>
</tr>
</tbody>
</table>

Select one of the following:

- 5.03 Principles of Inorganic Chemistry I

Select one of the following:

- 5.07 Introduction to Biological Chemistry
- 5.13 Organic Chemistry II
- 5.611 Introduction to Spectroscopy
- & 5.612 and Electronic Structure of Molecules
- 7.05 General Biochemistry

Select one of the following:

- 10.26 Chemical Engineering Projects Laboratory (CI-M)
- 10.27 Energy Engineering Projects Laboratory (CI-M)
- 10.28 Chemical-Biological Engineering Laboratory (CI-M)
- 10.29 Biological Engineering Projects Laboratory (CI-M)
- 10.467 Polymer Science Laboratory (CI-M)

Advanced Subjects

- 10.32 Separation Processes
- 10.37 Chemical Kinetics and Reactor Design
- 10.490 Integrated Chemical Engineering

Select one of the following:

- 10.492A Integrated Chemical Engineering Topics I
- 10.492B Integrated Chemical Engineering Topics I
- 10.493 Integrated Chemical Engineering Topics II
- 10.494A Integrated Chemical Engineering Topics III
- 10.494B Integrated Chemical Engineering Topics III

Restricted Electives

Select 21-30 units of restricted electives, including one from each category below:

- One subject of at least 6 units in Chemical Engineering
- One subject of at least 9 units in Chemical Engineering
- One engineering laboratory subject of at least 6 units

Units in Major

174-183

Unrestricted Electives

48

Units in Major That Also Satisfy the GIRs

36

Total Units Beyond the GIRs Required for SB Degree

186-195

The units for any subject that counts as one of the 17 GIR subjects cannot also be counted as units required beyond the GIRs.
2. **18.032 Differential Equations** is also an acceptable option.

2. May be satisfied with a second term of 10.492A, 10.492B, 10.493, 10.494A, 10.494B, or a second term of 10.490 Integrated Chemical Engineering (with permission of instructor).

3. Graduate subjects may not be used as restricted electives. In addition, the following undergraduate subjects may not be used as restricted electives: 10.04, 10.792[J], 10.806, 10.910 and 10.911 Independent Research Problem, 10.UR and 10.URG Undergraduate Research, and 10.THU.

4. Consult the Chemical Engineering Student Office for a list of acceptable subjects.