MECHANICAL ENGINEERING (COURSE 2)

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

Bachelor of Science in Mechanical 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 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)</td>
<td>2</td>
</tr>
<tr>
<td>Requirement [can be satisfied by 2.001 and 18.03 in the Departmental Program]</td>
<td></td>
</tr>
<tr>
<td>Laboratory Requirement (12 units) [can be satisfied by 2.671 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.

Required Core Subjects

<table>
<thead>
<tr>
<th>Course</th>
<th>Subject</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>2.001</td>
<td>Mechanics and Materials I</td>
<td>12</td>
</tr>
<tr>
<td>2.002</td>
<td>Mechanics and Materials II</td>
<td>12</td>
</tr>
<tr>
<td>2.003[j]</td>
<td>Dynamics and Control I</td>
<td>12</td>
</tr>
<tr>
<td>2.004</td>
<td>Dynamics and Control II</td>
<td>12</td>
</tr>
<tr>
<td>2.005</td>
<td>Thermal-Fluids Engineering I</td>
<td>12</td>
</tr>
<tr>
<td>2.006</td>
<td>Thermal-Fluids Engineering II</td>
<td>12</td>
</tr>
<tr>
<td>2.007</td>
<td>Design and Manufacturing I</td>
<td>12</td>
</tr>
<tr>
<td>or 2.017[j]</td>
<td>Design of Electromechanical Robotic Systems</td>
<td>12</td>
</tr>
<tr>
<td>2.008</td>
<td>Design and Manufacturing II</td>
<td>12</td>
</tr>
<tr>
<td>2.009</td>
<td>The Product Engineering Process (CI-M)</td>
<td>12</td>
</tr>
<tr>
<td>2.086</td>
<td>Numerical Computation for Mechanical Engineers</td>
<td>12</td>
</tr>
<tr>
<td>2.670</td>
<td>Mechanical Engineering Tools</td>
<td>3</td>
</tr>
<tr>
<td>2.671</td>
<td>Measurement and Instrumentation (CI-M)</td>
<td>12</td>
</tr>
<tr>
<td>18.03</td>
<td>Differential Equations</td>
<td>12</td>
</tr>
<tr>
<td>2.THU</td>
<td>Undergraduate Thesis</td>
<td>6</td>
</tr>
</tbody>
</table>

Restricted Electives
Select two of the following:

- 2.016 Hydrodynamics
- 2.017[j] Design of Electromechanical Robotic Systems
- 2.019 Design of Ocean Systems (CI-M)
- 2.050[j] Nonlinear Dynamics: Chaos
- 2.092 Finite Element Analysis of Solids and Fluids I
- 2.12 Introduction to Robotics
- 2.14 Analysis and Design of Feedback Control Systems
- 2.184 Biomechanics and Neural Control of Movement
- 2.370 Fundamentals of Nanoengineering
- 2.51 Intermediate Heat and Mass Transfer
- 2.60[j] Fundamentals of Advanced Energy Conversion
- 2.650[j] Introduction to Sustainable Energy
- 2.71 Optics
- 2.72 Elements of Mechanical Design
- 2.797[j] Molecular, Cellular, and Tissue Biomechanics
- 2.813 Energy, Materials, and Manufacturing
- 2.96 Management in Engineering

Units in Major

Unrestricted Electives

Units in Major That Also Satisfy the GIRs

Total Units Beyond the GIRs Required for SB Degree

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 Students may fulfill this requirement by completing an alternative Course 2 CI-M subject (e.g., 2.013, 2.750[j], or 2.760). No substitutions are allowed for 2.671.
2 Consult the MechE Undergraduate Office, Room 1-110, regarding substitutions.
3 To encourage more substantial research, design, or independent study, the department permits up to 15 units of 2.THU credit, subject to approval of the student’s thesis advisor.
4 The department suggests that students select a basic electronics subject (e.g., 2.678, 6.002, or 22.071) as early as possible in their program.