Bachelor of Science in Computer Science and Molecular Biology

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
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. | 8
Restricted Electives in Science and Technology (REST) Requirement [can be satisfied by 5.12 and 6.042[J] in the Departmental Program] | 2
Laboratory Requirement (12 units) [can be satisfied by 7.02[J] or 20.109 in the Departmental Program] | 1
Total GIR Subjects Required for SB Degree | 17

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 | Units
---|---
**Mathematics and Introductory**
6.00 | Introduction to Computer Science and Programming ¹ | 12

**Chemistry**
5.12 | Organic Chemistry I | 12
5.60 | Thermodynamics and Kinetics | 12
or 20.110[J] | Thermodynamics of Biomolecular Systems

**Introductory Laboratory**
Select one of the following: | 15-18
6.129[J] | Biological Circuit Engineering Laboratory (CI-M)

Restricted Electives

Computational Biology
6.047 | Computational Biology: Genomes, Networks, Evolution 12
or 6.802[J] | Foundations of Computational and Systems Biology

Biology
Select one subject from the list of Biology Restricted Electives 12

Advanced Undergraduate Project
Select one of the following: 9-12
6.UAR | Seminar in Undergraduate Advanced Research (12 units, CI-M)
6.UAT | Oral Communication (CI-M)

Units in Major | 168-174
Unrestricted Electives | 48
Units in Major That Also Satisfy the GIRs | (36)
Total Units Beyond the GIRs Required for SB Degree | 180-186

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 who enter MIT with sufficient programming experience may substitute 6.031 Elements of Software Construction (15 units) after taking 6.009.
² 5.07[J] Biological Chemistry I is also an acceptable option.
<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
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<tbody>
<tr>
<td>7.28</td>
<td>Molecular Biology</td>
<td>12</td>
</tr>
<tr>
<td>7.29</td>
<td><strong>Cellular and Molecular Neurobiology</strong></td>
<td>12</td>
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<tr>
<td>7.30A</td>
<td><strong>Fundamentals of Ecology I</strong></td>
<td>12</td>
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<tr>
<td>&amp; 7.30B</td>
<td><strong>Fundamentals of Ecology II</strong></td>
<td>12</td>
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<tr>
<td>7.31</td>
<td><strong>Current Topics in Mammalian Biology: Medical Implications</strong></td>
<td>12</td>
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<tr>
<td>7.32</td>
<td>Systems Biology</td>
<td>12</td>
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<tr>
<td>7.33</td>
<td><strong>Evolutionary Biology: Concepts, Models and Computation</strong></td>
<td>12</td>
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<tr>
<td>7.37</td>
<td><strong>Molecular and Engineering Aspects of Biotechnology</strong></td>
<td>12</td>
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<tr>
<td>7.371</td>
<td><strong>Biological and Engineering Principles Underlying Novel Biotherapeutics</strong></td>
<td>12</td>
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<tr>
<td>7.41</td>
<td>Principles of Chemical Biology</td>
<td>12</td>
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<tr>
<td>7.45</td>
<td>The Hallmarks of Cancer</td>
<td>12</td>
</tr>
<tr>
<td>7.49</td>
<td>Developmental Neurobiology</td>
<td>12</td>
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