

## BIOLOGICAL ENGINEERING (COURSE 20)

Department of Biological Engineering (<http://catalog.mit.edu/schools/engineering/biological-engineering/#undergraduatetext>)

### Bachelor of Science in Biological 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
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 18.03 in the Departmental Program]	2
Laboratory Requirement (12 units) [can be satisfied by 20.109]	1
<b>Total GIR Subjects Required for SB Degree</b>	<b>17</b>

#### 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	Units
<b>Tier I</b>	
5.12 Organic Chemistry I	12
6.00 Introduction to Computer Science and Programming <sup>1</sup>	12
7.03 Genetics	12
18.03 Differential Equations	12
20.110[[ Thermodynamics of Biomolecular Systems	12
<b>Tier II</b>	
5.07[[ Biological Chemistry I or 7.05 General Biochemistry	12
7.06 Cell Biology	12
20.109 Laboratory Fundamentals in Biological Engineering (CI-M)	15

20.309[[ Instrumentation and Measurement for Biological Systems	12
20.320 Analysis of Biomolecular and Cellular Systems	12
<b>Tier III</b>	
20.330[[ Fields, Forces and Flows in Biological Systems	12
20.380 Biological Engineering Design (CI-M)	12
<b>Restricted Electives</b>	
Tracks TBD	33-36
<b>Units in Major</b>	<b>180-183</b>
<b>Unrestricted Electives</b>	<b>48</b>
Units in Major That Also Satisfy the GIRs	(36)
<b>Total Units Beyond the GIRs Required for SB Degree</b>	<b>192-195</b>

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

<sup>1</sup> Combination of 6.0001 Introduction to Computer Science Programming in Python and 6.0002 Introduction to Computational Thinking and Data Science is also acceptable.