

## CHEMICAL-BIOLOGICAL ENGINEERING (COURSE 10-B)

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

### Bachelor of Science in Chemical-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 from among 5.07[] or 7.05, 5.12, 5.60, 7.03, 10.301, and 18.03 in the Departmental Program]	2
Laboratory Requirement (12 units) [can be satisfied by 10.702[]]	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 Subjects	Units
<b>Foundational Subjects</b>	
5.12 Organic Chemistry I	12
5.60 Thermodynamics and Kinetics	12
7.03 Genetics	12
10.10 Introduction to Chemical Engineering	12
10.702[] Introduction to Experimental Biology and Communication (CI-M)	18
18.03 Differential Equations <sup>1</sup>	12
<b>Intermediate Subjects</b>	
7.05 General Biochemistry	12
or 5.07[] Biological Chemistry I	
7.06 Cell Biology	12

10.213	Chemical and Biological Engineering Thermodynamics	12
10.301	Fluid Mechanics	12
10.302	Transport Processes	12
<i>Select one of the following:</i>		15
10.27	Energy Engineering Projects Laboratory (CI-M)	
10.28	Chemical-Biological Engineering Laboratory (CI-M)	
10.29	Biological Engineering Projects Laboratory (CI-M)	

#### Advanced Subjects

10.37	Chemical Kinetics and Reactor Design	9
10.490	Integrated Chemical Engineering I	8
10.491	Integrated Chemical Engineering II	8
<i>Select two of the following:</i>		8
10.492	Integrated Chemical Engineering Topics I	
10.493	Integrated Chemical Engineering Topics II	
10.494	Integrated Chemical Engineering Topics III	

<b>Units in Major</b>	186
<b>Unrestricted Electives</b>	48
Units in Major That Also Satisfy the GIRs	(36)
<b>Total Units Beyond the GIRs Required for SB Degree</b>	<b>198</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> 18.032 Differential Equations is also an acceptable option.