

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	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 5.12, 5.07[J] or 7.05, 5.611/5.612, 10.301, and 18.03 in the Departmental Program]	2
Laboratory Requirement (12 units) [can be satisfied by 5.310]	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
Foundational Subjects	
5.12 Organic Chemistry I	12
5.310 Laboratory Chemistry (CI-M)	12
5.601 Thermodynamics I	6
10.10 Introduction to Chemical Engineering	12
18.03 Differential Equations ¹	12
Intermediate Subjects	
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>	12
5.03 Principles of Inorganic Chemistry I	

5.07[J] 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	
<i>Select one of the following:</i>	15
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	9
10.37 Chemical Kinetics and Reactor Design	12
10.490 Integrated Chemical Engineering	9
<i>Select one of the following:</i> ^{2,3}	6
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: 21-30

One subject of at least 6 units in Chemical Engineering ^{2,3}	
One subject of at least 9 units in Chemical Engineering ³	
One engineering laboratory subject of at least 6 units ⁴	
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.

CHEMICAL ENGINEERING (COURSE 10)

- ¹ 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.