

Chemical and Biological Engineering (2020)

for International Students only

		Course Code	Course Title	Credits (Hour)	Remarks
General Education (13 credits)		GELI003	Liberty Justice Truth I	3(3)	
		GELI004	Liberty Justice Truth II	3(3)	
		GEWR003	College Writing	2(3)	
		IFLS011	Academic English I	1(2)	
		IFLS012	Academic English II	1(2)	
		GEKS005	Freshman Seminar I	1(1)	
		GEKS006	Freshman Seminar II	1(1)	
	GECT001	Computational Thinking	1(1)		
Core General Education (6 credits)	Ethics & Ideas	GECE	Choose 1	3(3)	Choose 2
	Literature & Art	GELA		3(3)	
	World Cultures	GEFC		3(3)	
	Historical Investigation	GEHI		3(3)	
	Quantitative Research	GEQR		3(3)	
	Sociological Studies	GESO		3(3)	
Science & Technology	GEST	3(3)			
Major-Related General Education (25 credits)		MATH 161	Calculus with Lab I	3(4)	
		MATH 162	Calculus with Lab II	3(4)	
		PHYS 151	General Physics I	3(3)	
		PHYS 161	General Physics Laboratory I	1(3)	
		PHYS 152	General Physics II	3(3)	
		PHYS 162	General Physics Laboratory II	1(3)	
		CHEM 151	General Chemistry I	3(3)	
		CHEM 153	General Chemistry Laboratory I	1(3)	
		CHEM 152	General Chemistry II	3(3)	
		CHEM 154	General Chemistry Laboratory II	1(3)	
		CHBE153	Introduction to Computing and Informatics for CBE	3(4)	
		EGRN241	Fundamentals of Data Science	3(3)	Choose 1
		LIBS 150	Life Sciences	3(3)	
	MAJOR	Required (31 credits)	CHBE222	Introduction to Chemical and Biological Engineering	2(3)
CHBE223			Organic Chemistry I	3(3)	
CHBE224			Chemical Engineering Thermodynamics	3(3)	Physical Chemistry
CHBE205			Biotechnology	3(3)	
CHBE210			Fluid Mechanics	3(3)	
CHBE207			Physical Chemistry	3(3)	
CHBE211			Engineering Mathematics I	3(3)	
CHBE323			Heat & Mass Transfer	3(3)	
CHBE327			Reaction Engineering	3(3)	
CHBE372			Chemical and Biological Engineering Laboratory I	2(4)	
CHBE471			Chemical and Biological Engineering Laboratory II	2(4)	
CHBE345			Methodology and Trends in Chemical and Biological Engineering	1(2)	
Intensive Advanced (12 credits)		CHBE310	Separation Process	3(3)	Chemical Engineering Thermodynamics
		CHBE320	Process Control	3(3)	Engineering Mathematics I
		CHBE321	Bioprocess Engineering	3(3)	Biotechnology
	CHBE417	Process and Product Design	3(3)		
Major Elective				29	
Courses				This remaining 14 credits can be fulfilled from any courses regardless of whether it is General Education or Major.	14
Subtotal					130

● Credits Required in Major

Courses		First Major	Intensive Major	Double Major	Dual Major	Minor	General Transfer	Undergraduate Transfer
Basic Course	Required	31	31	31	31	31	Assigned Required Credits	31
Advanced Course	Intensive Advanced	11	12	11	12	12		12
	Elective		29					14
Total Credits in CHBE		42	72	42	57	43		72

- Students must earn at least 1 credit form "Department Seminar I, II"
- Students must take "Human Rights and Gender Equality" 4 times
- Minimum Total Credits : 130
- Students pursuing Intensive Major must submit Graduation Thesis

● International students who entered in or after 2018 are exempt from those three graduation requirements below.

- Acquisition of public English proficiency test score
- Acquisition of public Korean proficiency test score
- Completion of 5 courses lectured in English