

Chemical and Biological Engineering (2023)

for International Students only

| | | Course Code | Course Title | Credits (Hour) | Remarks |
|---|-----------------------------------|---|---|----------------|-------------------------------------|
| General Education (13 credits) | | GELI001 | Liberty Justice Truth I | 3(3) | |
| | | GELI002 | Liberty Justice Truth II | 3(3) | |
| | | GEWR001 | 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) | |
| | Digital Innovation & Humanity | 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) | Choose 1 |
| | | EGRN 127 | Basic Engineering Virtual Lab I | 1(3) | |
| | | PHYS 152 | General Physics II | 3(3) | |
| | | PHYS 162 | General Physics Laboratory II | 1(3) | Choose 1 |
| | | EGRN 128 | Basic Engineering Virtual Lab II | 1(3) | |
| | | CHEM 151 | General Chemistry I | 3(3) | |
| | | CHEM 153 | General Chemistry Laboratory I | 1(3) | Choose 1 |
| | | EGRN129 | Basic Engineering Virtual Lab III | 1(3) | |
| | | CHEM 152 | General Chemistry II | 3(3) | |
| | | CHEM 154 | General Chemistry Laboratory II | 1(3) | Choose 1 |
| | | EGRN130 | Basic Engineering Virtual Lab IV | 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 (9 credits) | CHBE310 | Separation Process | 3(3) | Chemical Engineering Thermodynamics |
| | | CHBE320 | Process Control | 3(3) | Engineering Mathematics I |
| CHBE321 | | Bioprocess Engineering | 3(3) | Biotechnology | |
| Major Elective | | | | 32 | |
| 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 | General Transfer | Undergraduate Transfer |
|-----------------------|--------------------|-------------|-----------------|--------------|------------|---------------------------|------------------------|
| Basic Course | Required | 31 | 31 | 31 | 31 | Assinged Required Credits | 31 |
| Advanced Course | Intensive Advanced | 11 | 9 | 11 | 9 | | 9 |
| | Elective | | 32 | | 17 | | 32 |
| Total Credits in CHBE | | 42 | 72 | 42 | 57 | | 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.

- Acquirement of public English proficiency test score

- Acquirement of public Korean proficiency test score

- Completion of 5 courses lectured in English