

## Course Requirements

### □ Undergraduate Program

General Course			Basic Course			Major Course			Elective Course	Research	Total
Mandatory	Elective	Subtotal	Mandatory	Elective	Subtotal	Mandatory	Elective	Subtotal			
7 (8 AU)	21	28 (8 AU)	23	9	32	5	35	40	0	4	130

#### A. Graduation Credits

At least 130 credits in total

#### B. General Course Requirements: At least 28 credits

- Mandatory General Courses: 7 credits and 8 AU (1 AU means 1 hour activity / work per week per semester)
  - English I, English II, Writing Course : 7 credits
  - AU is not counted for GPA but required for graduation.
- Elective General Courses in Humanities & Social Science: at least 21 credits (at least 7 courses)
  - Take at least 1 course from each of the following 5 categories (15 credits) : Science Technology; Literature and Art; History and philosophy; Social Science; Foreign Language and Linguistics. the rest course (6 credits) can be chosen regardless of the categories.

#### C. Basic Course Requirements: at least 32 credits

- Mandatory Basic Courses: 32 credits (Take 1 course among the following courses).
  - ① 1 course: Fundamental Physics I (3), General Physics I (3), or Advanced Physics I (3)
  - ② 1 course: Fundamental Physics II (3), General Physics II (3), or Advanced Physics II (3)
  - ③ 1 course of General Physics Laboratory I (1)
  - ④ 1 course of Basic Biology (3) or General Biology (3)
  - ⑤ 1 course of Calculus I (3) or Advanced Calculus I (3)
  - ⑥ 1 course of Calculus II (3) or Advanced Calculus II (3)
  - ⑦ 1 course of Basic Chemistry (3), General Chemistry I (3) or Advanced Chemistry (3)
  - ⑧ 1 course of General Chemistry Lab. I (1) or Advanced Chemistry Lab II (1)
  - ⑨ 1 course of Basic Programming (3) or Advanced Programming (3)
- Elective Basic Courses: at least 9 credits

#### D. Major Course Requirements: at least 40 credits

- Mandatory Major Courses: 5 credits  
Molecular Engineering Laboratory (3), Chemical and Biomolecular Engineering Laboratory I (1) and Chemical and Biomolecular Engineering Laboratory (II) (1).
- Elective Major Courses: at least 35 credits

#### E. Elective Course Requirements: None

#### F. Research Course Requirements: at least 4 credits

- Graduation research (3) - required
- Department Seminar (1) - required in senior year
- Individual Study ( at most 2 credit)

#### G. English Language Proficiency Requirements for Graduation

- One of the following requirements should be satisfied for graduation before entering school or while in school:
  - PBT TOEFL(ITP) score : at least 560
  - CBT TOEFL score : at least 220
  - TOEIC score : at least 760
  - TEPS score : at least 670

## H. Minor and Double Major

- Minor Major: at least 18 credits
  - Mandatory Major Course Credits: 2 credit, Elective Major Course : 16 credits
- Double Major: at least 40 credits (the same requirement for the major)

## □ Graduate Programs

1) Master's Program : at least 40 credits (at least 30 credits of coursework and 10 credits of research)

General Course	Major Course		Research	Total
	Mandatory	Elective		
3	0	27(21)	10(seminar 3)	40

- Mandatory General Course (3): Choose one of the following.  
English Thesis writing, Introduction to Computers and Applications, Probability and Statistics, Introduction to Material Science, Engineering Economics, Instrumentation, and Interpretship and Management Strategy
- Mandatory Major Course (0): none
- Elective Major course (27):  
Research and Experiment in Chemical and Biomolecular Engineering is not a mandatory course but the department strongly recommends to take this course and is essential for graduation. This course is offered in English and Korean alternatively. Please check department lecture schedule. It is required to take 21 credits from the lectures offered by the department.
- Research (10)

2) Doctoral Program: at least 78 credits (at least 48 credits of coursework and 30 credits of research)

Mandatory General Course	Major Course		Research	Total
	Mandatory	Elective		
3	0	45(21)	30	78

- Mandatory General Course (3): Choose one of the following.  
English Thesis writing, Introduction to Computers and Applications, Probability and Statistics, Introduction to Material Science, Engineering Economics, Instrumentation, and Interpretship and Management Strategy
- Mandatory Major Course (0): none
- Elective Major Course (45):  
Research and Experiment in Chemical and Biomolecular Engineering is not a mandatory course but the department strongly recommend to take this course and is critical for graduation. This course is offered in English and Korean alternatively. Please check department lecture schedule. It is required to take 21 credits from the lectures offered by the department.
- Research (30)
- The courses that are taken for MS degree (which is higher than 500 course number) are acknowledged as part of the course requirements, except for the research credits.