

Course Requirements

□ Undergraduate Courses

- A. Graduation Credits : at least 130 credits in total
- ※ A cumulative grade point average of 2.0 or higher out of a possible 4.3 in all coursework
- B. General Course : At least 28 credits and 9AU (applicable to students entering KAIST in 2014 and thereafter; for those who have entered KAIST in 2013 and before, refer to the Course Completion Requirements by Year of Admission)
- Mandatory General Course
 - Students entering KAIST in 2014 and thereafter: 7 credits and 9AU
English Presentation & Discussion(1), Advanced English Listening(1), Advanced English Reading(1), Advanced English Writing(1), Writing(3), Physical Education(4AU), Humanity/Leadership(2AU), Ethics and Safety II(1AU), Happy College Life(1AU), Exciting College Life(1AU)
 - Students entering KAIST between 2011 and 2013: 6 credits and 9AU
English Communication(1), Critical Thinking in English(2), Writing(3), Physical Education(4AU), Humanity/Leadership(2AU), Ethics and Safety II(1AU), Happy College Life(1AU), Exciting College Life(1AU)
 - Students entering KAIST between 2009 and 2010: 6 credits and 9AU
English Communication(1), Critical Thinking in English(2), Writing(3), Physical Education(4AU), Community Service(2AU), Humanity/Leadership(2AU), Ethics and Safety II(1AU)
 - Students entering KAIST between 2007 and 2008: 7 credits and 9AU
English Communication I(1), English Communication II(1), English Reading&Writing(2), Writing(3), Physical Education(4AU), Community Service(2AU), Humanity/Leadership(2AU), Ethics and Safety II(1AU)
 - * English Communication I → English Communication
 - English Communication II → English Conversation
 - English Reading&Writing → Critical Thinking in English
 - Elective General Course in Humanities & Social Science : at least 21 credits
 - Take (6 credits) 1 course of each of the following 2 categories among 3 categories: Humanity, Society and Literature and Arts; the rest can be chosen regardless of the category. (applicable to students entering KAIST in 2009 and thereafter; for those who have entered KAIST in 2008 and before, refer to the Course Completion Requirements by Year of Admission)
 - Students entering KAIST between 2007 and 2010 should earn at least 9 credits through lectures in English among the 21 credits required as Elective General Courses in Humanities & Social Science.
 - Students having a double major take 12 credits without considering categories. (Students entering KAIST between 2007 and 2010 should take 6 credits through lectures in English.)
 - ※ The requirement of taking lectures in English as Elective General Courses in Humanities & Social Science is not applied to students entering KAIST in 2011 and thereafter.
- C. Completion of Basic Courses: at least 32 credits (applicable to students entering KAIST in 2012 and thereafter; for those who have entered KAIST in 2011 and before, refer to the Course Completion Requirements by Year of Admission)
- Mandatory Basic Courses: 23 credits
 - ① 1 course among Fundamental Physics I (3), General Physics I (3), and Advanced Physics I (3)
 - ② 1 course among Fundamental Physics II (3), General Physics II (3), and Advance Physics II (3)
 - ③ 1 course of General Physics Lab I (1)
 - ④ 1 course of Basic Biology (3) or General Biology (3)

- ⑤ 1 course of Calculus I (3) or Honor Calculus I (3)
 - ⑥ 1 course of Calculus II (3) or Honor Calculus II (3)
 - ⑦ 1 course among Basic Chemistry (3), General Chemistry I (3), and Advanced Chemistry (3)
 - ⑧ 1 course of General Chemistry Lab I (1) or Advanced Chemistry Lab (1)
 - ⑨ 1 course of Basic Programming (3) or Advanced Programming (3)
 - Students having entered KAIST in 2007 or before : 23 credits (①~⑨)
 - Students having entered KAIST between 2008 and 2011: 26 credits((①~⑨), Freshman Design Course: Introduction to Design and Communication)(3))
 - Elective Basic Courses: at least 9 credits
 - Students admitted in and before 2011 should take more than 6 credits
 - ※ Students having a double major take at least 6 credits.
 - Students admitted in and before 2011 should take more than 3 credits
- D. Major Course : at least 41 credits
- Mandatory Major Courses : 18 credits (Molecular Engineering Laboratory, Chemical and Biomolecular Engineering Laboratory, Introduction to Chemical and Biomolecular Engineering, Industrial Organic Chemistry, Chemical and Biomolecular Engineering Analysis, Molecular Thermodynamics and Energy Systems)
 - Elective Major Courses : At least 23 credits
 - * Substitute Courses
 - CBE203 Industrial Organic Chemistry(3) CH221 Organic Chemistry I (3)
 - CBE260 Biomolecular Engineering(3) → BS209 Molecular Biology(3)
 - CBE303 Physical Chemistry for Chemical and Biomolecular Engineers I(3) → CH213 Physical Chemistry II(3)
 - CBE362 Bioinformatics(3) → BiS438 Bioinformatics(3)
 - CBE404 Physical Chemistry for Chemical and Biomolecular Engineers II(3) → CH211 Physical Chemistry I(3)
 - CBE483 Engineering Principles of Human Physiology(3) → BS453 Physiology(3)
 - Students who have taken CH221 Organic Chemistry I are not allowed to take CBE203 Industrial Organic Chemistry.
 - ※ Students who have taken CH213 Physical Chemistry II are not allowed to take CBE303 Physical Chemistry for Chemical and Biomolecular Engineers I (applicable from 2014 Spring semester).
 - ※ Students who have taken CH211 Physical Chemistry I are not allowed to take CBE404 Physical Chemistry for Chemical and Biomolecular Engineers II (applicable from 2014 Spring semester).
- E. Elective Course
- F. Research Course : at least 4 credits
- Graduation Research : 3 credits (required)
 - Department Seminar : 1 credit (required in senior year)
 - Individual Study : 4 credits at most
 - ※ Students having a double major are exempt.
 - ※ Number of credits for URP team projects are determined based on the number of team members through the graduation requirement check-up process. (2 person team: 2 credits for each, 3 persons: 1 credit)
 - ※ Seminar credits earned from other departments will not be counted.
 - ※ Rules regarding URP team project and seminar credits written above are applicable to students having entered KAIST in 2010 and thereafter.
- G. English Proficiency Requirements upon Graduation
- Before entering or during studying at KAIST, students should obtain the minimum required score or higher from one of the following: TOEFL, TOEIC, TEPS and IELTS.

- Students who have hearing impairment level 3 or above should obtain the minimum required score or higher, excluding listening.
- 1) Students who have submitted past scores for TOEIC (before April 2006) or TEPS (before February 28, 2007)
 - Students admitted in 2008 or later

Classification	iBT TOEFL	PBT TOEFL	CBT TOEFL	TOEIC	TEPS	IELTS
General qualification score	83	560	220	775	690	6.5
Qualification score for hearing impairment level 3 or above	62	372	146	387	414	4.8

- Students admitted in 2007 or earlier

Classification	iBT TOEFL	PBT TOEFL	CBT TOEFL	TOEIC	TEPS	IELTS
General qualification score	83	560	220	760	670	6.5
Qualification score for hearing impairment level 3 or above	62	372	146	380	402	4.8

- 2) Students who have submitted NEW TOEIC score taken after May 2006 or TEPS score taken after March 1, 2007

Classification	iBT TOEFL	PBT TOEFL	CBT TOEFL	TOEIC	TEPS	IELTS
General qualification score	83	560	220	720	599	6.5
Qualification score for hearing impairment level 3 or above	62	372	146	360	359	4.8

H. Graduation Requirements for Foreign Students: TOPIK (Test of Proficiency in Korean)

- Undergraduate foreign students are required to obtain level 2 or higher score in TOPIK before entering or during studying at KAIST.
- ※ Applies to students entering KAIST in 2013 and thereafter

I. Requirements for Double Major and Minor

- Double major : at least 41 credits (same requirement for major student)
- Minor : at least 18 credits (Mandatory Major Course: 9 credits including CBE202 and one from CBE201 or CBE301, Elective Major Course: 9 credits at least)

※ General and basic courses in undergraduate program are different from years of admission; therefore, students should refer to the Course Completion Requirements by Year of Admission.

□ Master's Program

1) Thesis Master's Degree

A. Graduation Credits : at least 33 credits

B. Mandatory General Course : 3 credits and 1AU

- Choose one of the following.

Scientific Writing, Introduction to Computer Application, Probability and Statistics, Introduction to Materials and Engineering, Engineering Economy and Cost Analysis, Introduction to Instruments, Entrepreneurship and Business Strategies, Patent Analysis and Invention Disclosure, Collaborative System Design and Engineering

- CC010 Special Lecture on Leadership(non-credit, this applies to students entering KAIST in 2002)

- and thereafter; general scholarship students, foreign students are excluded)
 - CC020 Ethics and Safety I(IAU)
 - C. Mandatory Major Course : 6 credits
 - D. Elective Course : at least 12 credits(It is required, at least, to take 9 credits from the lectures offered by the department. Lectures offered in Graduate School of EEWS by the professors of CBE department are considered as lectures offered by CBE department.)
 - E. Research Credits : at least 12 credits(Including 3 credits from Seminar. Seminar credits may be substituted by the number of semester taking 'Introductory Korean for Foreigners' or performing internship required by Interdisciplinary program. Students entering the integrated master' s and doctoral degree program in 2009 and thereafter are required to take 2 credits of seminar.)
- 2) Coursework Master's Degree : none

□ Doctoral Program

- A. Graduation Credits : at least 60 credits
 - B. Mandatory General Course : 3 credits and IAU (The course taken in the MS program is approved.)
 - C. Mandatory Major Course : 6 credits
 - D. Elective Course : at least 21 credits(It is required, at least, to take 12 credits from the lectures offered by the department. Lectures offered in Graduate School of EEWS by the professors of CBE department are considered as lectures offered by CBE department.)
 - E. Research Credits : at least 30 credits
- ※ The course credits earned in the Master's course work can be used towards the Doctoral degree(except research credits).

□ Measures for Change

- A. Undergraduate Courses
 - Requirement for major course applies to those who enrolled in 2011. Students who enrolled in 2010 or before should comply to the former requirement: mandatory major 6, elective major 35 at least.
 - Requirement for minor course applies to those who enrolled in 2011, Students who enrolled in 2010 or before should comply to the former requirement: mandatory major 3 credits, elective major 15 credits at least.
- B. Graduate Courses
 - These requirements apply to those who enrolled in 2013 and onward.
 - For those who enrolled in 2012 or before should comply to the former requirements:
 - Master' s Program students who enrolled in 2012: 3 credits of Mandatory Major Course(CBE601); at least 15 credits of Elective Course(12 credits from CBE course)
 - Master' s Program students who enrolled between 2009 and 2011: at least 18 credits of Elective Course(15 credits from CBE course); no Mandatory Major Course required
 - Doctoral, Integrated Master' s and Doctoral Degree Program students who enrolled between 2009 and 2012: at least 27 credits of Elective Course(18 credits from CBE course); no Mandatory Major Course required