

## Course Requirements

### □ Undergraduate Courses

General Course			Basic Course			Major Course			Elective Course	Research	Total
Mandatory	Elective	Subtotal	Mandatory	Elective	Subtotal	Mandatory	Elective	Subtotal			
6 (9 AU)	21	27 (9 AU)	27	9	36	24	27	51	12	4	130

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 27 credits and 9AU(applicable to students entering KAIST in 2009 and onward; for those who have entered KAIST before 2009, refer to the Course Completion Requirements by Year of Admission)

◦ Mandatory General Course

- Students entering KAIST in 2009 and onward : 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

- Students entering KAIST in 2009 and onward : at least 21 credits including at least 1 course in each of 2 divisions among 3 divisions(Humanity, Society, Culture & Art)

- Students having entered KAIST before 2009 : at least 21 credits including at least 1 course in each of 2 divisions among 5 divisions(Science Technology; Literature and Art; History and Philosophy; Social Science; Foreign Language and Linguistics) or at least 1 course in each of 2 divisions among 3 divisions(Humanity, Society, Literature&Art)

- Students entering KAIST in 2007 and onward should earn at least 18 credits through English lectures 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 in 2007 and onward should take 12 credits through English lectures.)

C. Completion of Basic Courses: at least 32 credits (applicable to students entering KAIST in 2008 and onward; for those who have entered KAIST before 2009, refer to the Course Completion Requirements by Year of Admission)

◦ Mandatory Basic Courses: 26 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)

⑩ Freshman Design Course : Introduction to Design and Communication (3)

※ Students having entered KAIST in 2007 or before : 23 credits (①~⑨)

◦ Elective Basic Courses: at least 6 credits

※ Students having a double major take 3 credits.

D. Major Course : at least 51 credits

◦ Mandatory Major Courses: at least 24 credits

- IE241 (Engineering Statistics I), IE251 (Manufacturing Process Innovation), IE261 (Information Technology for Industrial Engineering), IE321 (Production Management I), IE331 (Operations Research I), IE332 (Operations Research II), IE341 (Engineering Statistics II), E362 (IT Programming and Practice).

◦ Elective Major Courses : at least 27 credits.

- See the Undergraduate Course List.

- Designated Elective Courses: The selected courses (up-to 12 credits) from other departments are accepted as Elective Course Credit of Industrial & Systems Engineering. The selected list is available at the department office or the department homepage. It can change each year.

E. Elective Course

F. Research Course : up-to 6 credits.

- Graduate research : 3 credits (required)

- IE Seminar : 1 credit (required)

- Independent Research : 2 or fewer credits.

※ Students having a double major are exempt.

G. English Proficiency Requirements upon Graduation

◦ Students are required to meet one of the following requirements on English proficiency before entering KAIST or during their years of enrollment: 560 points in PBT TOEFL; 220 points in CBT TOEFL; 83 points in IBT TOEFL; 6.5 points in IELTS; 720 points or 760/775 points in TOEIC (see below); or 599 points or 670/690 points in TEPS (see below).

※ Criteria for TOEIC and TEPS scores

- Students submitting scores from new TOEIC (held in May 2006 and onward) or TEPS held on March 1, 2007 and onward: 720 points in TOEIC; or 599 points in TEPS

- Students submitting scores from old TOEIC (held before April 2006) or TEPS held before February 28, 2007:

▫ Students entering KAIST in 2008 and onward: 775 points in TOEIC; or 690 points in TEPS

▫ Students entering KAIST in 2007 or before: 760 points in TOEIC; or 670 points in TEPS

※ Requirements for a double major : 40 credits including mandatory major courses

※ Requirements for a minor : at least 18 credits in Industrial & Systems Engineering Major courses.

※ General and basic courses in undergraduate program are different from years of admission; therefore, students entering KAIST before 2009 should refer to the Course Completion Requirements by Year of Admission.

#### □ Master's Program

General Courses	Major Courses		Research (including seminar credits)	Total
	Mandatory	Elective		
3 and 1AU	0	21	9	33

1) Thesis Master's Degree

A. Graduation Credits : At least 33 credits in total.

B. Mandatory General Course : 3 credits and 1AU

- CC010 Special Lecture on Leadership(non-credit, this applies to students entering KAIST in 2002 and onward; general scholarship students, foreign students are excluded)
- CC020 Ethics and Safety I(1AU)
- Select 1 course among the following 9 :  
CC500, CC510, CC511, CC512, CC513, CC522, CC530, CC531, CC532

C. Elective Course : at least 21 credits.

- Select at least 15 credits from IE courses.
- Students enrolled in an interdisciplinary program are required to select at least 9 credits from IE courses.
- IE801: up to 6 credits

D. Research Credits : at least 9 credits (including 1 in seminar).

- Seminar 1 credit (required)
- A foreign student who has taken HS586 course doesn't need to take the seminar course

□ Doctoral Program

General Courses	Major Courses		Research (including seminar credits)	Total
	Mandatory	Elective		
3 and 1AU	0	36	30	69

A. Graduation Credits : At least 69 credits in total.

B. Mandatory General Course : at least 3 credits and 1AU

- Select 1 courses among the following 9 :  
CC500, CC510, CC511, CC512, CC513, CC522, CC530, CC531, CC532.
- CC020 Ethics and Safety I(1AU)

C. Elective Course : at least 36 credits.

- Select at least 24 credits from IE courses (see the Graduate Course List)
- Students enrolled in an interdisciplinary program are required to select at least 9 credits from IE courses.
- Students from other graduate schools or from other KAIST department are required to select at least 18 credits from IE courses.
- IE801: up-to 9 credits
- Credits taken in the MS program except for research and seminar credits can be counted as Ph.D. program credits.

D. Research Credits : at least 30 credits (including 1 credit for a graduate seminar).

- Seminar 1 credit (required)
- A foreign student who has taken HS586 course doesn't need to take the seminar course

※ The course credits earned in the Master's course work can be used towards the Doctoral degree(except research credits).