

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	19	24	43	24	3	130

A. Graduation Credits: At least 130 credits in total

※ Students who entered in 1996 or earlier academic year should take at least 140 credits in total.

B. General Course Requirement: At least 28 credits and 8 AUs

○ Mandatory General Courses : 7 credits and 8AU

- Students who entered the KAIST in or before 2006

· "English I," "English II," and "Writing" : 7 credits

· 4 AU of "Community Service"(64 hours), 4AU of "Physical Education"(64 hours) : 8 AU

- Students who enter the KAIST in or after 2007

· "English Communication I", "English Communication II", "English Reading & Writing", and "Writing" : 7 credits

· 2 AU of "Community Service"(32 hours), 4AU of "Physical Education"(64 hours), 2AU of "Humanity/Leadership": 8 AU

※ 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 in each of the following 5 divisions : Science Technology; Literature and Art; History and Philosophy; Social Science; Foreign Language and Linguistics (for the 2nd Foreign Language).

C. Basic Course Requirement: at least 32 credits

○ Mandatory Basic Courses: 23 credits (Take 1 course from each of the following 9 categories)

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: General Physics Lab I (1)

④ 1 course: Basic Biology (3) or General Biology (3)

⑤ 1 course: Calculus I (3) or Honor Calculus I (3)

⑥ 1 course: Calculus II (3) or Honor Calculus II (3)

⑦ 1 course: Basic Chemistry (3), General Chemistry I (3) or Advanced Chemistry (3)

⑧ 1 course: General Chemistry Lab. I (1) or Advanced Chemistry Lab.II (1)

⑨ 1 course: Introduction to Programming (3) or Advanced Programming (3)

○ Elective Basic Courses: at least 9 credits

D. Major Course Requirement: at least 43 credits

○ Mandatory Major Courses: at least 22 credits

Discrete Mathematics, Data Structure, Algorithms, Computer Organization, Programming Languages, Operating Systems and Lab., Computer Science Project (Discrete Mathematics (CS204) can be substituted by Discrete Mathematics (MAS260); Computer Organization (CS311) can be substituted by Introduction to Computer Architecture (EE312)).

○ Elective Major Courses: at least 21 credits

Four credits from individual study courses are counted at maximum.

E. Elective Course Requirements:

At least two courses among the following courses offered by the Department of Mathematics Science - Introduction to Linear Algebra(MAS109), Differential Equations and Applications(MAS201), Probability

and Statistics(MAS250), Logic and Set Theory(MAS270), Modern Algebra I(MAS311), Ordinary Differential Equations and Dynamical systems(MAS343), Introduction to Numerical Analysis (MAS365).

※ If you took previously offered courses, AM331, AM250, and AM321 are alternative courses for MA201, MA250, and MA365, respectively. Credits from only one course can be counted towards elective course requirements.

F. Research Course Requirement: at least 3 credits

- Students must take three credits for Research in Computer Science (CS490).
- Credits from seminar courses are counted as Research Course credits.

G. English Language Requirement for Graduation

- Students who entered in 1998 or later must satisfy one of the following requirements for graduation before entering school or while in school:
 - PBT TOEFL(ITP) score: at least 560
 - CBT TOEFL score: at least 220
 - iBT TOEFL score: at least 83
 - TOEIC score: at least 760
 - TEPS score: at least 670

H. Requirement for Minor and Double Major

- Double Major: at least 43 credits from major courses, including 22 credits in mandatory major courses. (Research course credits, such as Research in Computer Science (CS490), are not counted towards double major for those who entered in or after 2001.)
- Minor: at least 21 credits from major courses, including 15 credits in required major courses.

□ Master's Programs

1) Thesis Master

General	Mandatory Major	Elective Major		Research	Total
		Essential	Elective		
3	0	9	12	12	36

A. Graduation credits: at least 36 credits in total.

B. Mandatory General Course (at least 3 credits):

- Take 1 course from the following courses: Introduction to Computer Application (CC510), Probability and Statistics (CC511), Introduction to Materials and Engineering (CC512), Engineering Economy and Cost Analysis (CC513), Introduction to Instruments (CC522), and Entrepreneurship and Business Strategies (CC530).
- Special Lecture on Leadership (CC010) is a no-credit course, and is compulsory for those who entered in 2002 or later. Students with corporate sponsorship and foreign students are exempt from this requirement.

C. Mandatory Major Courses: none.

D. Elective Major Courses (at least 21 credits):

- Essential Courses (at least 9 credits): Take one course from each of the following three areas.
 - Theory: Design and Analysis of Algorithms, Theory of Formal Languages and Automata.
 - Software: Theory of Programming Languages, Software Engineering, Database System, Database Design, Artificial Intelligence.
- ** If a student takes both Database System and Database Design, only one course is recognized as fulfilling the course requirement.
- ** Artificial Intelligence is included only for those who entered in 2001 or later.
 - Computer Systems: Computer Architecture, Operating System, Network Architecture
- Elective Courses (at least 12 credits): 9 credits must be from the courses offered by the Division

of Computer Science.

E. Research Courses (at most 12 credits): 2 credits from seminar courses can be included.

F. Miscellaneous: Up to 9 credits from 500-level courses taken as an undergraduate at KAIST are acknowledged.

2) Coursework Master

General	Mandatory Major	Elective Major		Research	Total
		Essential	Elective		
3	0	9	21	3	36

A. Graduation Credits: at least 36 credits in total.

B. General Courses: At least 3 credits.

- Take 1 course from Introduction to Computer Application (CC510), Probability and Statistics (CC511), Introduction to Materials and Engineering (CC512), Engineering Economy and Cost Analysis (CC513), Introduction to Instruments (CC522), and Entrepreneurship and Business Strategies (CC530).
- Special Lecture on Leadership (CC010) is a no-credit course, and is compulsory for those who entered in 2002 or later. Students with corporate sponsorship and foreign students are exempt from this requirement.

C. Mandatory Major Courses: none.

D. Elective Major Courses: at least 30 credits.

- Essential Courses: at least 9 credits. Take 1 course from each of the following 3 areas.
 - Theory: Design and Analysis of Algorithms, Theory of Formal Languages and Automata
 - Software: Theory of Programming Languages, Software Engineering, Database System, Database Design, Artificial Intelligence.
- ** If a student takes both Database System and Database Design, only one course is recognized toward course requirement.
- ** Artificial Intelligence is included only for those who entered in 2001 or later.
 - Computer Systems: Computer Architecture, Operating System, Network Architecture.
- Elective Courses: at least 21 credits, of which 9 credits must be from the courses offered by the division Department of Computer Science.

E. Research Courses : at least 3 credits, including credits from individual study and 2 credits from seminar courses.

F. Miscellaneous: Up to 9 credits from 500-level courses taken as an undergraduate at KAIST are acknowledged.

G. GPA must be over 3.0.

□ **Doctoral Program**

General	Mandatory Major	Elective Major		Research	Total
		Essential	Elective		
3	0	9	30	30	72

A. Requirement for Graduation: at least 72 credits in total

B. General Courses: at least 3 credits.

Same as master's program requirement. (If a student has already fulfilled this requirement for master's program, he or she is considered to have fulfilled this requirement in doctoral program.)

C. Mandatory Major Courses: none.

- D. Elective Major Courses: at least 39 credits.
- Essential Courses (at least 9 credits): Same as the master's program requirements. If a student has already fulfilled this requirement for master's program, he or she is considered to have fulfilled this requirement in doctoral program.
 - Elective Courses (at least 30 credits): 15 credits must be from the courses offered by the Department of Computer Science.
- E. Research Courses: at least 30 credits. (Four credits from seminar courses can be included.)
- F. Miscellaneous: Credits accumulated in master's program are counted towards the doctoral degree requirements.

□ Interim Accommodations

A. Bachelor's Program

- A.1. Students who entered in 2005 or later should fulfill current degree requirements. Students who entered in 2004 or earlier should fulfill previous degree requirements except that they should fulfill the current elective course requirement (undergraduate requirement E).
- A.2. Current research course requirement (undergraduate requirement F) applies to those who entered in 2001 or later. Students who entered in 2000 or earlier should fulfill previous degree requirements. (Credits from research courses are counted towards major course requirement.)
- A.3. Students who entered in 1998 or earlier can use credits from the following courses offered by other departments towards elective major courses.
- Electronic Circuits I, Electronic Circuits II, Circuit Theory, Modern Algebra I, Modern Algebra II, Introduction to Numerical Analysis, Numerical Analysis with Computers, Management Information System, OR I, OR II, Computer Simulation.
- A.4. Students who entered between 1994 and 1998 can use credits from Applied Mathematics II towards elective courses. Students entered in 1993 or earlier can use credits from Applied Mathematics II towards basic science selective courses.
- A.5. Students who entered in 1998 or earlier can substitute Applied Mathematics I for Differential Equations and Applications. They can also substitute Applied Mathematics II for Applied Mathematical Analysis.
- A.6. Substitute courses for
- Name changed courses
 - Microprocessors and Lab is changed to Embedded Computer Systems
 - Discontinued courses
 - Simulation (CS434) has not been offered from Fall 2001. Computer Simulation (IE363) is counted as elective major course from Fall 2001.

B. Master's Program

- B.1. Students who entered in 1998 or earlier can use credits from Graph Theory towards mandatory major course requirement in theory area.
- B.2. From the Fall semester 2001, Internet Server (TE628) offered by Cooperative Telecommunication Education Program is counted as elective major course.

C. Doctoral Program: The same regulations as Master's Program stand.