

**Department Bylaws Regarding
Undergraduate Course Completion and Graduation**
(For students admitted between 2008-2021)

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Department of Industrial Engineering
College of Engineering
Seoul National University

A. Undergraduate course requirements

(1) Credits required for completion/graduation of the undergraduate program

| Class (Admitted Year) | SNU requirements | | | IE requirements | | Note |
|-----------------------------|------------------|----------------------------|--------------------------|---|------------------------------|--|
| | Total credits | Liberal arts credits | Main major credits | Required major credits ¹ | Elective major credits | |
| 2008 | 130 | 54(55) | 62 | 34 | At least 12 | |
| 2009 | 130 | 55(56) | 62 | 34 | At least 12 | College English credit increased |
| 2010 | 130 | 56 | 62 | 34 | At least 12 | (Preliminary) Principles of Computers discontinued |
| 2011-2012 | 130 | 53 | 62 | 37 | At least 12 | Engineering Education 1 & 2 integrated |
| 2013 | 130 | 47 | 62 | 34 | At least 15 | |
| 2014-2018 | 130 | 46 | 59 | 28 | At least 21 | |
| 2019 | 130 | 44 | 59 | 28 | At least 21 | College Writing 1 & 2 renewed |
| 2020 | 130 | 50 | 59 | 28 | At least 21 | Social Skills & Creativity courses discontinued, 12 credits required in the World of Academia domain |
| 2021- | 130 | 52 | 59 | 28 | At least 21 | |

- (i) Among the core courses opened by the College of Engineering, the requirements on the introductory courses (optional required major courses) are only applicable to students admitted between 2011 and 2012.
- (ii) Surplus required major credits obtained may be transferred and recognized as elective major credits only when the student has completed all of the required industrial engineering major courses.

¹ See Appendix for information on the required major courses for industrial engineering majors

- (iii) Only those courses opened by the Department of Industrial Engineering can be considered as elective major credits by rule. For those students granted to study abroad, up to 9 credits taken from foreign institutions may be recognized as elective major credits after an approval process.
 - (iv) Double major or combined major students are deemed to have satisfied the main major credit requirement if they satisfy all the requirements for required major credits and elective major credits. (However, in the case of minors, interdisciplinary majors, and student-designed majors, you must satisfy both the required major and the elective major credit requirements, as well as the main major credit requirement of the SNU curriculum.)
 - (v) The Introduction to Industrial Engineering course cannot be recognized as a major course for students mainly majoring in industrial engineering.
- (2) Graduate Seminar course (Seminar in Industrial Engineering) (1 credit) must be taken in order to complete/graduate the undergraduate program.
- (i) Graduate Seminar course is offered only in the first semester of each academic year.
 - (ii) However, in accordance with the following Seoul National University school regulation (Article 80), Graduate Seminar courses taken in the 1st or 2nd year will not be included in your undergraduate graduation credits. Therefore, it is strongly recommended to take Graduate Seminar courses in the 3rd or 4th year (it can be recognized as an elective major credit by applying for change of subject classification).
[Seoul National University School Regulations] Article 80 (Recognition of Credit Acquisition between Programs) (1) Students who are in their 3rd year or higher in the undergraduate program and wish to take graduate-level courses must obtain approval from the dean or the department head. The obtained credits can either be included in the credits for completion/graduation of the undergraduate program, or for completion/graduation of the master's program after entering the master's program.
 - (iii) The Graduate Seminar course requirement does not apply to double major/minor students.
- (3) Regulations on the completion of Social Skills & Creativity courses for students admitted between 2013 and 2019 (regulation repealed from 2020)
- (i) Engineering education-related courses for students admitted before 2012 are included in the liberal arts course requirements, but Social Skills & Creativity courses for students admitted after 2013 must be completed separately from the liberal arts course requirements.
 - (ii) **【Changes to the Social Skills/Creativity Course Requirements for Students Admitted in 2013】** (Enforced on Jan. 8, 2016) The 3 required credits from Social Skills courses can also be obtained by taking courses from Man and Society field in the World of Academia domain, and the 3 required credits from Creativity courses can also be obtained by taking courses from Culture and Art field in the same domain. (This regulation is included in the 2014 school regulations, but it is applied retroactively for students admitted in 2013.)
 - (iii) If a Social Skills & Creativity course is taken as a major course, it may be included in the main major credits (including elective major credits) for graduation.
 - (iv) If a Social Skills & Creativity course is taken as a liberal arts course, additional credits must be taken separately from the minimum required credits for liberal arts (World of Academia domain) for graduation.

B. Selection criteria for multiple majors (double majors and minors) (applicable from the first

semester of 2019)

(1) When selecting a double major student in industrial engineering, students with a GPA of 2.7 or higher who have completed the following courses are selected under the judgment of the department head.

- Engineering Mathematics 1 (033.014), Linear Algebra (881.007) or equivalent courses
- Engineering Mathematics 2 (033.015), Concept and Application of Probability (326.211) or equivalent courses
- Computer Concepts and Practice (035.011) or equivalent courses

(2) When selecting a minor student in industrial engineering, students who have completed the subjects listed in Clause B-(1) will be selected first.

C. Double major course requirements

(1) In order for students from other departments (majors) to complete industrial engineering as a double major, they must complete all required major courses for the relevant admitted year (Human Factors Engineering Lab and Understanding Industrial Engineering are exempted), and must complete the elective courses and satisfy a minimum of 39 credits required for a double major. According to 『Seoul National University Curriculum』, if courses that are in the curriculums of both majors are considered to overlap, they will be counted as major credits in both majors. Up to nine overlapping credits are permitted. Courses in other departments that are acknowledged by both majors can also overlap, with a maximum of three such credits permitted.

(2) Students from other departments (majors) with a double major in industrial engineering may take Understanding Industrial Engineering and Introduction to Industrial Engineering as elective major courses, but only one of these courses will be recognized as credits.

D. Course requirements for the College of Liberal Studies students

The College of Liberal Studies students who chose industrial engineering as a major will be treated the same way as industrial engineering major students with a double major or a combined major in addition to the main major, as specified in Clause A-(1)-(iv) above. Here, the same main major credit requirement is applied.

(However, if you entered the major by 2019 academic year, as a transitional measure, the obligation to take Understanding Industrial Engineering, Human Factors Engineering Lab and Graduate Seminar is exempted, and 4 credits will be deducted from the major credit requirement. Even in this case, the same requirements apply for the main major credits including the elective credits.)

E. Minor course requirements

(1) In order for students from other departments (majors) to complete industrial engineering as a minor, they must take 21 or more credits of industrial engineering major courses, including at least 12 credits of required major courses (excluding Understanding Industrial Engineering).

(2) Students from other departments (majors) with a minor in industrial engineering may take Understanding Industrial Engineering and Introduction to Industrial Engineering as elective major courses, but only one of these courses will be recognized as credits.

F. Regulations on undergraduate thesis

(1) Departmental requirements for submitting a thesis

- (i) Students majoring in industrial engineering who have fulfilled the above 'A. Undergraduate course requirements'
- (ii) Students from other departments (majors) who have fulfilled the above 'C. Double major course requirements'
- (iii) Students from the College of Liberal Studies who have fulfilled the above 'D. Course requirements for the College of Liberal Studies students'

(2) Schedule and screening process

- (i) (Thesis proposal draft submission) Students expected to graduate in February must submit a draft of the thesis proposal (IE Form 3-1) to the department by the second week of September of the previous year, and those expected to graduate in August must submit a draft by the second week of March of the current year (since the department head appoints a thesis advisor after reviewing the thesis proposal, the thesis advisor's seal is not required).
- (ii) (Thesis proposal presentation and evaluation) The department head organizes an undergraduate thesis review committee, and those expected to graduate in February must conduct the thesis proposal presentation in the last week of September of the previous year, and those expected to graduate in August in the last week of March of the current year.
- (iii) (Thesis advisor appointment and thesis proposal final copy submission) After reviewing the thesis proposal, the department head appoints a thesis advisor for each candidate. After reflecting review results provided by the review committee, the final copy of the thesis proposal (IE Form 3-1) must be signed by the thesis advisor and submitted to the department within one week from the thesis proposal presentation.
- (iv) (Thesis submission) Each candidate must submit the thesis to the department by the end of November for those who are expected to graduate in February, and the end of May for those who are expected to graduate in August.
- (v) (Thesis review and revision) The department head organizes an undergraduate thesis review committee, and those who are expected to graduate in February must conduct a thesis presentation within December of the previous year, and those expected to graduate in August within June of the current year. The thesis must then be revised reflecting the opinions of the committee members.
- (vi) (Final decision and final thesis submission) The final decision on the revised thesis is made by the advisor. The final copy of the thesis must be submitted to the department along with the thesis review opinions of the thesis advisor (IE Form 3-3).

Appendix. List of required major courses for industrial engineering majors by admitted year

| Course | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | Since 2014 ~ |
|--|------|------|------|------|------|------|--------------|
| Common Introductory Courses in Engineering | | | | ✓ | ✓ | | |
| Understanding Industrial Engineering | | | | | | ✓ | ✓ |

| | | | | | | | |
|---|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| Scientific Management | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| Introduction to Computing for Industrial Engineering | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | |
| Data Management and Analysis (Database Analysis and Design) | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| Human Factors Engineering | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| Human Factors Engineering Lab | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| Operations Research 1 | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| Operations Research 2 | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| Statistics for Industrial Engineering | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| Production Control | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| Engineering Economy | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| Quality Management | ✓ | ✓ | ✓ | ✓ | ✓ | | |
| Linear and Non-linear Optimization (Linear Programming) | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | |
| Total credits | 34 | 34 | 34 | 37 | 37 | 34 | 28 |

Common introductory courses for college of engineering (optional): applicable to students admitted in 2011–2012 only

- Introduction to Mechanical Engineering, Introduction to Electrical and Computer Engineering, Introduction to Materials Science and Engineering, Introduction to Civil and Environmental Engineering, Introduction to Chemical and Biological Engineering, Introduction to Energy Resources Engineering, Electrical and Electronic Circuits and Experiments for Convergence Engineers (M1277.003200), IoT/Artificial Intelligence/Big Data Theory and Practice (M1277.004900)