Major Course Requirements for Dept. of Civil and Environmental Engineering

(For undergraduate students admitted in 2015 or before)

Please check the common graduation requirements.

▣ Credit Requirement for Graduation: Required to complete a total of more than 130 credits

▣ Major: At least 45 credits are required

○ **Mandatory Major Courses: 12 credits**

(CE201 Mechanics, CE230 Soil Mechanics and Laboratory I , CE350 Introduction to Transportation systems Engineering, CE371 Environmental Science and Engineering)

○ **Elective Major Courses: At least 33 credits are required**

- Designated Elective Courses : The selected courses (up-to 15 credits) from other departments are accepted as Elective Course Credit of Civil and Environmental Engineering. The selected list is available at the department office or the department homepage. It can change each year.

* Mechanical Engineering
  ME203(Mechatronics System Design), ME221(Fluid Mechanics), ME231(Mechanics of Materials), ME301(Numerical Analysis), ME312(Energy and Environment), ME330(Foundation of Stress Analysis), ME351(Mechanical Vibrations), ME420(Applied Fluid Mechanics)
* Industrial & Systems Engineering
  IE363(Introduction to Modeling and Simulation)
* Chemical & Biomolecular Engineering
  CBE471(Introduction to Environmental Engineering)
* Electrical Engineering
  EE381(Control System Engineering)
* Chemistry
  CH211(Physical Chemistry I), CH221(Organic Chemistry I), CH241(Inorganic Chemistry I), CH263(Introduction to Analytical Chemistry)

▣ Minor : At least 21 credits are required

- At least 21 credits courses are required including 12 credits of required mandatory major courses

▣ Double Major : At least 40 credits are required

- At least 40 credits courses are required including 12 credits of required mandatory major courses.

▣ **Research Courses: At least 3 credits are required (CE490)**

- Students having a double major are exempt.

☐ **Transitional measures**

- This major requirements are applicable to students admitted in 2015 or before, students may choose to be governed by the completion requirements applicable to students admitted in 2016 and after if desired.

- This major requirements are applicable to students admitted in 2014. For those who have entered KAIST before 2014, have a free choice of course requirements refer to the Course Completion Requirements by Year of Admission.

-From 2022, students can select and complete as many credits as necessary among the new mandatory major courses (i.e., CE250 Introduction to Smart City and Digital Infrastructure, CE212 Environment and Sustainability: an Introduction for Engineers, CE252 Introduction to Data Science for Civil Engineers, and CE253 Introduction to Sensing Technology for Civil Infrastructure Systems and the previous mandatory major courses changed to the elective major courses (i.e., CE201, CE230, CE350, and CE371)

In addition, in the case of retaking the previous mandatory major courses changed to the elective major courses (i.e., CE201, CE230, CE350, and CE371), it is accepted that the mandatory major course has been completed.

☐ **Others**

- If the subtitle of Special Topic subject is identical to the regular subject's (sub-)title, they will be treated as the same subjects.

Major Course Requirements for
Dept. of Civil and Environmental Engineering
(For undergraduate students admitted in 2016 and after)

Please check the common graduation requirements.

▣ Credit Requirement for Graduation: Required to complete a total of more than 136 credits

※ Required to choose and complete one among Advanced Major, Double Major, Minor, and Individually Designed Major.

▣ Major: At least 45 credits are required

○ Mandatory Major Courses: 12 credits

(CE201 Mechanics, CE230 Soil Mechanics and Laboratory I , CE350 Introduction to Transportation systems Engineering, CE371 Environmental Science and Engineering)

○ Elective Major Courses: At least 33 credits are required

- Designated Elective Courses: The selected courses (up-to 15 credits) from other departments are accepted as Elective Course Credit of Civil and Environmental Engineering. The selected list is available at the department office or the department homepage. It can change each year.

* Mechanical Engineering
  ME203(Mechatronics system design), ME221(Fluid Mechanics), ME231(Mechanics of Materials), ME301(Numerical Analysis), ME312(Energy and Environment), ME330(Foundation of Stress Analysis), ME351(Mechanical Vibrations), ME420(Applied Fluid Mechanics)
* Industrial & Systems Engineering
  IE363(Introduction to Modeling and Simulation)
* Chemical & Biomolecular Engineering
  CBE471(Introduction to Environmental Engineering)
* Electrical Engineering
  EE381(Control System Engineering)
* Chemistry
  CH211(Physical Chemistry I), CH221(Organic Chemistry I), CH241(Inorganic Chemistry I), CH263(Introduction to Analytical Chemistry)

▣ Advanced Major: At least 12 credits are required

※ At least 12 credits courses are required among elective major courses

▣ Individually Designed Major: : At least 12 credits are required

- At least 12 credits are required in more than 2 other majors except the CEE department

▣ Minor : At least 18 credits are required

※ At least 18 credits courses are required including 12 credits of required mandatory major courses

※ No major course credit from other majors is approved.

▣ Double Major : At least 40 credits are required

- At least 40 credits courses are required including 12 credits of required mandatory major courses.

※ Major course credits from other majors are only approved up to 6 credits.

▣ Research Courses: At least 3 credits are required (CE490)

- Students having a double major are exempt.

☐ Transitional measures

- This major requirements are applicable to students admitted in 2016, Students admitted in 2015 or before may choose to be governed by the completion requirements listed above if desired.

-From 2022, students can select and complete as many credits as necessary among the new mandatory major courses (i.e., CE250 Introduction to Smart City and Digital Infrastructure, CE212 Environment and Sustainability: an Introduction for Engineers, CE252 Introduction to Data Science for Civil Engineers, and CE253 Introduction to Sensing Technology for Civil Infrastructure Systems and the previous mandatory major courses changed to the elective major courses (i.e., CE201, CE230, CE350, and CE371)

In addition, in the case of retaking the previous mandatory major courses changed to the elective major courses (i.e., CE201, CE230, CE350, and CE371), it is accepted that the mandatory major course has been completed.

☐ Others

- If the subtitle of Special Topic subject be identical to the regular subject's (sub-)title, they will be treated as the same subjects.

Major Course Requirements for
Dept. of Civil and Environmental Engineering
(For undergraduate students admitted in 2021 and after)

Please check the common graduation requirements.

▣ Credit Requirement for Graduation: Required to complete a total of more than 136 credits

※ Required to choose and complete one among Advanced Major, Double Major, Minor, and Individually Designed Major.

▣ Major: At least 45 credits are required

○ Mandatory Major Courses: 12 credits

CE250 Introduction to Smart City and Digital Infrastructure, CE212 Environment and Sustainability: an Introduction for Engineers, CE252 Introduction to Data Science for Civil Engineers, CE253 Introduction to Sensing Technology for Civil Infrastructure Systems

○ Elective Major Courses: At least 33 credits are required

- Designated Elective Courses: The selected courses (up-to 15 credits) from other departments are accepted as Elective Course Credit of Civil and Environmental Engineering. The selected list is available at the department office or the department homepage. It can change each year.

* Mechanical Engineering
  ME203(Mechatronics system design), ME221(Fluid Mechanics), ME231(Mechanics of Materials), ME301(Numerical Analysis), ME312(Energy and Environment), ME330(Foundation of Stress Analysis), ME351(Mechanical Vibrations), ME420(Applied Fluid Mechanics)
* Industrial & Systems Engineering
  IE363(Introduction to Modeling and Simulation)
* Chemical & Biomolecular Engineering
  CBE471(Introduction to Environmental Engineering)
* Electrical Engineering
  EE381(Control System Engineering)
* Chemistry
  CH211(Physical Chemistry I), CH221(Organic Chemistry I), CH241(Inorganic Chemistry I), CH263(Introduction to Analytical Chemistry)
* Elective major courses(Up-to 6 credits) (CoE code) opened by the College of Engineering are accepted as major electives.

▣ Advanced Major: At least 12 credits are required

※ At least 12 credits courses are required among elective major courses

▣ Individually Designed Major: : At least 12 credits are required

- At least 12 credits are required in more than 2 other majors except the CEE department

▣ Minor : At least 18 credits are required

※ At least 18 credits courses are required including 12 credits of required mandatory major courses

※ No major course credit from other majors is approved.

▣ Double Major : At least 40 credits are required

- At least 40 credits courses are required including 12 credits of required mandatory major courses.

※ Major course credits from other majors are only approved up to 6 credits.

▣ Research Courses: At least 3 credits are required (CE490)

- Students having a double major are exempt.

(It can be replaced by CE476 Civil Infrastructure and Environment Design Using Artificial Intelligence and Smart Technology)

- 학번별 전공필수 및 전공선택 이수요건

구분	For undergraduate students admitted in 2020 or before	For undergraduate students admitted in 2021 and after
Mandatory Major Courses	12 credits	12 credits
	CE201 Mechanics CE230 Soil Mechanics and Laboratory I CE350 Introduction to Transportation systems Engineering CE371 Environmental Science and Engineering	CE250 Introduction to Smart City and Digital Infrastructure CE212 Environment and Sustainability: an Introduction for Engineers CE252 Introduction to Data Science for Civil Engineers CE253 Introduction to Sensing Technology for Civil Infrastructure Systems
Elective Major Courses	33 credits	33 credits

☐ Transitional measures

- This major requirements are applicable to students admitted in 2021 and after
- Students admitted in 2020 or before may choose to be governed by the completion requirements listed above if desired.
- Among these requirements, the major elective courses (CoE code) opened by the College of Engineering are accepted as major electives and apply to all current students

☐ **Others**

- If the subtitle of Special Topic subject be identical to the regular subject's (sub-)title, they will be treated as the same subjects.

Major Course Requirements for Dept. of Civil and Environmental Engineering

(For Master's Program)

Thesis Mater's Degree Program

▣ **Credit Requirement for Graduation: Required to complete a total of more than 33 credits**

▣ **Mandatory General Courses: 3credits and 1AU**

- take 1 subject among CC510, CC511, CC512

▣ **Mandatory Major Course : None**

▣ **Elective Courses: At least 18 credits are required**

▣ **Research Courses: At least 12 credits are required**

(including 2 seminar credits)

(2 seminar credits are not required for General Scholarship Student)

☐ **Transitional Measures**

- This major requirements are applicable to all students; for those who have entered KAIST before 2012 Fall, have a free choice of course requirements refer to the Course Completion Requirements by Year of Admission

☐ **Others**

- If the subtitle of Special Topic subject be identical to the regular subject's (sub-)title, they will be treated as the same subjects.

Major Course Requirements for
Dept. of Civil and Environmental Engineering
(For Doctoral Program)

▣ **Credit Requirement for Graduation: Required to complete a total of more than 60 credits**

▣ **Mandatory General Courses: 3 credits and 1AU are required**

- take 1 subject among CC510, CC511, CC512

▣ **Mandatory Major Courses: None**

▣ **Elective Courses: At least 27 credits are required**

▣ **Research Courses: At least 30 credits are required**

- At least 30 credits are required(including 2 seminar credits, 2 seminar credits are not required for General Scholarship Student)

☐ **Transitional Measures**

- This major requirements are applicable to all students; for those who have entered KAIST before 2012 Fall, have a free choice of course requirements refer to the Course Completion Requirements by Year of Admission

☐ **Others**

- The course credits earned in the Master's course work can be used towards the Doctoral degree(including 2 seminar credits, except the rest of research credits).
- If the subtitle of Special Topic subject is identical to the regular subject's (sub-)title, they will be treated as the same subjects.

Major Course Requirements for
Dept. of Civil and Environmental Engineering
(For MS-PhD Integrated Program)

▣ **Credit Requirement for Graduation: Required to complete a total of more than 60 credits**

▣ **Mandatory General Courses: 3 credits and 1AU are required**

- take 1 subject among CC510, CC511, CC512

▣ **Mandatory Major Courses: None**

▣ **Elective Courses: At least 27 credits are required**

▣ **Research Courses: At least 30 credits are required**

- At least 30 credits are required(including 2 seminar credits, 2 seminar credits are not required for General Scholarship Student)

☐ **Transitional Measures**

- This major requirements are applicable to all students; for those who have entered KAIST before 2012 Fall, have a free choice of course requirements refer to the Course Completion Requirements by Year of Admission

☐ **Others**

- The course credits earned in the Master's course work can be used towards the Doctoral degree(including 2 seminar credits, except the rest of research credits).
- If the subtitle of Special Topic subject is identical to the regular subject's (sub-)title, they will be treated as the same subjects.