

**Major Course Requirements for
Dept. of Nuclear and Quantum 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 43 credits

○ **Mandatory Major Courses:** 25 credits

○ **Elective Major Courses:** 18 credits

- Up to 3 credits of Elective major course(CoE code) opened by the College of Engineering are recognized as Elective major courses.

Minor: At least 21 credits

- at least 21 credits including 15 credits from Mandatory Major Courses

Double Major: At least 40 credits

- at least 40 credits including 25 credits from Mandatory Major Courses

Research Courses: At least 3 credits

- At least 3 credits from graduate research (Refer to the KAIST common requirements for URP and Internship Program to replace graduation research.)

- Independent research and Seminar credits can be counted as research credits.

Transitional measures

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

- This course requirement is applicable to all students; for those who have entered KAIST in 2010 spring semester and before can follow the course requirements by the admission year.

- Major Mandatory Courses for those who have entered KAIST in 2010 spring semester and before

Admission Year	Major Course Requirement	Major Mandatory Courses(credits)
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	Mandatory	Elective	Total	
2008 and before	18	24	42	Fundamentals of Nuclear and Quantum Science(3), Introduction to Nuclear Engineering I(3), Nuclear Reactor Theory and Simulation(4), System Engineering of Nuclear Power Plants and Experiments(4), Nuclear and Quantum Engineering Design Project(4)
2009 ~ 2010	22	21	43	Fundamentals of Nuclear and Quantum Science(3), Fundamentals of Nuclear Engineering(3), Interaction of Radiation with Matters(3), Nuclear Reactor Theory(3), Radiation Measurement Experiments(3), System Engineering of Nuclear Power Plants and Experiments(4), Nuclear and Quantum Engineering Design Project(3)

- Those who completed the 'Nuclear and Quantum Engineering Design Project' (now 3-credit) course prior to the curriculum reforms are to be still recognized as having completed a 4-credit 'Nuclear and Quantum Engineering Design Project' course.
- Requirement that recognizes the Elective Major course(CoE code) opened by the College of Engineering as a Elective Major shall apply to all students.

**Major Course Requirements for
Dept. of Nuclear and Quantum 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 43 credits

○ **Mandatory Major:** 25 credits

○ **Elective Major Courses:** 18 credits

- Up to 3 credits of Elective major course(CoE code) opened by the College of Engineering are recognized as Elective major courses.

■ **Advanced Major:** at least 12 credits

- from Elective Major courses

■ **Individually Designed Major:** at least 12 credits

- at least 12 credits of major course offered by two different major departments except original major department.

■ **Minor:** at least 21 credits

- at least 21 credits including 15 credits from Mandatory Major Courses

※ duplicating credits with other major departments are not allowed.

■ **Double Major:** at least 40 credits

- at least 40 credits including 25 credits from Mandatory Major Courses

※ Duplicating credits with other major department are up to 6 credits.

■ **Research Courses:** At least 3 credits

- At least 3 credits from graduate research (Refer to the KAIST common requirements for URP and Internship Program to replace graduation research.)

- Independent research and Seminar credits can be counted as research credits.

□ **Transitional measures**

- Students admitted in 2015 or before may choose to be governed by the completion requirements listed above if desired.

- Requirement that recognizes the Elective Major course(CoE code) opened by the College of Engineering as a Elective Major shall apply to all students.

**Major Course Requirements for
Dept. of Nuclear and Quantum Engineering
(For undergraduate students admitted in 2023 and after)**

Please check the common graduation requirements.

■ **Credit Requirement for Graduation:** Required to complete a total of more than 138 credits

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

■ **Major:** at least 43 credits

○ **Mandatory Major:** 25 credits

○ **Elective Major Courses:** 18 credits

- Up to 3 credits of Elective major course(CoE code) opened by the College of Engineering are recognized as Elective major courses.

■ **Advanced Major:** at least 12 credits

- from Elective Major courses

■ **Individually Designed Major:** at least 12 credits

- at least 12 credits of major course offered by two different major departments except original major department.

■ **Minor:** at least 21 credits

- at least 21 credits including 15 credits from Mandatory Major Courses

※ duplicating credits with other major departments are not allowed.

■ **Double Major:** at least 40 credits

- at least 40 credits including 25 credits from Mandatory Major Courses

※ Duplicating credits with other major department are up to 6 credits.

■ **Research Courses:** At least 3 credits

- At least 3 credits from graduate research (Refer to the KAIST common requirements for URP and Internship Program to replace graduation research.)

- Independent research and Seminar credits can be counted as research credits.

□ **Transitional measures**

- Students admitted in 2015 or before may choose to be governed by the completion requirements listed above if desired.

- Requirement that recognizes the Elective Major course(CoE code) opened by the College of Engineering as a Elective Major shall apply to all students.

**Major Course Requirements for
Dept. of Nuclear and Quantum Engineering
(For Master's Program)**

Thesis Master's Degree Program

Please check the common graduation requirements.

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

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

- CC500 can be replaced by NQE595(Technical Writing in Nuclear and Quantum Engineering)
- CC500 can be replaced by HSS586(Introductory Korean for Foreigners I) only for foreign students.

■ **Mandatory Major Courses:** None

■ **Elective Courses:** At least 18 credits

- At least 18 credits including 6 credits of major courses from Department of Nuclear & Quantum Engineering
- Those whose undergraduate major is not Nuclear Engineering is required to take either NQE502 or NQE503.(These requirements apply to those who enrolled in 2009 and thereafter. Those who have taken NQE202 in 2010 and before are exempt.)
- If students complete the following courses in the graduate program, credits are given as elective courses.
 - HSS583 Graduate English Presentation(3 credits)
 - HSS585 Principles and Application of Vision(3 credits)
 - HSS586 Introductory Korean for Foreigners I(3 credits)
 - HSS587 Introductory Korean for Foreigners II(3 credits)
- Other elective course credits are not accepted

■ **Research Courses:** At least 12 credits

- At least 12 credits including 2 Seminar credits
 - ※ Including part-time general scholarship students and foreign students
- Seminar credits are exempted for Part-time general scholarship and Foreign students admitted in 2022 or before.

■ **Others:**

- When Master's students take undergraduate courses which are not mutually recognized (by the Bachelor's program and the Master's program), only up to

3 credits of those courses taken will go towards fulfilling the requirements for Graduation.

- The following courses are recommended for those whose undergraduate major is not Nuclear Engineering.

※ NQE301, NQE303, NQE322, NQE401

Coursework Master's Degree Program

Please check the common graduation requirements.

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

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

- CC500 can be replaced by NQE595(Technical Writing in Nuclear and Quantum Engineering)
- CC500 can be replaced by HSS586(Introductory Korean for Foreigners I) only for foreign students.

■ **Mandatory Major Courses:** None

■ **Elective Courses:** At least 24 credits

- At least 18 credits including 12 credits of major courses from Department of Nuclear & Quantum Engineering
- Those whose undergraduate major is not Nuclear Engineering is required to take either NQE502 or NQE503.(These requirements apply to those who enrolled in 2009 and thereafter. Those who have taken NQE202 in 2010 and before are exempt.)
- If students complete the following courses in the graduate program, credits are given as elective courses.

HSS583 Graduate English Presentation(3 credits)

HSS585 Principles and Application of Vision(3 credits)

HSS586 Introductory Korean for Foreigners I(3 credits)

HSS587 Introductory Korean for Foreigners II(3 credits)

■ **Research:** At least 6 credits

■ **Others:**

- The application to the course-work plan is limited not only to the foreign students but also to Korean students who are admitted to the corporation-related R&D manpower development program and are approved by the department.

- When Master's students take undergraduate courses which are not mutually recognized (by the Bachelor's program and the Master's program), only up to 6 credits of those courses taken will go towards fulfilling the requirements for Graduation.
- The following courses are recommended for those whose undergraduate major is not Nuclear Engineering.
 - ※ NQE301, NQE303, NQE322, NQE401

Transitional Measures

- For students in the Master's Program or Doctoral Program who have entered their respective programs in 2010 or earlier will be recognized as having taken NQE202 (credit recognition).
 - Those joining the Nuclear & Quantum Engineering department from other departments, who have taken NQE202 in 2010 or earlier, are to have the credits of the course go towards meeting the criteria for Master's program completion.
 - Thesis Master's Program: 6 credits from Undergraduate courses including those from NQE202 will be accepted for graduation.
 - Coursework Master's Program: 9 credits from Undergraduate courses including those from NQE202 will be accepted for graduation.
- Among elective courses requirements, "Other elective course credits are not accepted" will be applied to all students from the spring semester of 2023.

**Major Course Requirements for
Dept. of Nuclear and Quantum Engineering
(For Doctoral Program)**

Please check the common graduation requirements.

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

- **Mandatory General Courses:** Same as the Master's program (Student who already earned 3 credits in Master's course does not need to obtain 3 credits again)

- **Mandatory Major Courses:** None

- **Elective Courses:** At least 27 credits
 - At least 27 credits including 12 credits of major courses from Department of Nuclear & Quantum Engineering
 - Those whose undergraduate major is not Nuclear Engineering is required to take either NQE502 or NQE503.(These requirements apply to those who enrolled in 2009 and thereafter. Those who have taken NQE202 in 2010 and before are exempted.)
 - If students complete the following courses in the graduate program, credits are given as elective courses.
 - HSS583 Graduate English Presentation(3 credits)
 - HSS585 Principles and Application of Vision(3 credits)
 - HSS586 Introductory Korean for Foreigners I(3 credits)
 - HSS587 Introductory Korean for Foreigners II(3 credits)
 - Other elective course credits are not accepted

- **Research Courses:** At least 30 credits
 - At least 30 credits including 3 Seminar credits
 - ※ Including part-time general scholarship students and foreign students
 - Seminar credits are exempted for Part-time general scholarship and Foreign students admitted in 2022 or before.

- **Others:**
 - When Doctoral students take undergraduate courses are not mutually recognized (by the Bachelor's program and the Master's program), only up to

6 credits(including credits acquired during the master's course) of those courses taken will go towards fulfilling the requirements for Graduation with the approval from their advisors.

- The following courses are recommended for those whose undergraduate major is not Nuclear Engineering.
 - ※ NQE301, NQE303, NQE322, NQE401
- The curriculum credits acquired in the master's course may be cumulatively added to the curriculum credits in PhD course(except research credits).

Transitional Measures

- For students in the Master's Program or Doctoral Program who have entered their respective programs in 2010 or earlier will be recognized as having taken NQE202 (credit recognition).
 - Those joining the Nuclear & Quantum Engineering department from other departments, who have taken NQE202 in 2010 or earlier, are to have the credits of the course go towards meeting the criteria for Doctorate program completion.
 - 9 credits from Undergraduate courses including those from NQE202 will be accepted for graduation.
- Among elective courses requirements, "Other elective course credits are not accepted" will be applied to all students from the spring semester of 2023.

