Major requirements for Department of Chemistry

(For undergraduate students admitted in 2015 or before)

For information about the general course and basic course requirements, please visit the common requirements page.

▣ **Graduation Credits:** at least 130 in total

▣ **Elective Basic Courses**: at least 9 credits including CH103 and CH104

※ Students who have a double major are required to complete at least 6 credits including CH103.

※ Elective basic course requirements are specified in the elective general course requirements by year of admission

▣ **Major:** at least 42 credits

- **Mandatory Major Courses:** at least 24 credits
  Physical Chemistry I, II, Organic Chemistry I, II, Inorganic Chemistry I, Introduction to Analytical Chemistry, Chemistry Lab. I, II, III
- **Elective Major Courses:** at least 18 credits

▣ **Minor in Chemistry:** at least 21 credits from major courses, including 12 credits in mandatory major courses

▣ **Double Major in Chemistry:** at least 40 credits from major courses, including mandatory major courses

▣ **Research Courses:** at least 3 credits

- Mandatory 3 credits from Graduation Research (※ Students who have a double major are exempt from taking Graduation Research.)
- Required to take LRP and Undergraduate Colloquium (※ applicable to students who entered in 2012 or after.)
- Individual Study, LRP and Undergraduate Colloquium can be counted as major electives. (up to 4 credits)

☐ **Transitional Measures**

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

desired.

○ Substitute courses

- CH251 Chemistry Lab I (3) → CH352 Chemistry Lab II (2) → CH352 Chemistry Major Lab II (2)
- CH351 Chemistry Lab II (3) → CH252 Chemistry Lab I (2) → CH252 Chemistry Major Lab I (2)
- CH261 Analytical Chemistry (3) → CH361 Introduction to Analytical Chemistry (3) → CH263 Introduction to Anlaytical Chemistry (3)
- CH463 Instrumental Anlaysis (3) → CH361 Introduction to Analytical Chemistry (3) → CH263 Introduction to Anlaytical Chemistry (3)
- CH482 Biochemistry II (3) → CH382 Biochemistry II (3)
- CH341 Inorganic Chemistry I (3) → CH241 Inorganic Chemistry I (3) → CH344 Inorganic Chemistry I (3)
- CH342 Inorganic Chemistry II (3) → CH242 Inorganic Chemistry II (3) → CH345 Inorganic Chemistry II (3)
- CH316 Molecular Spectroscopy (3) → CH416 Introduction to Molecular Spectroscopy (3)

○ Students who entered between 2007-2011 must take either CH353 or CH451 when they cannot fulfill total credits of mandatory major courses

Major requirements for Department of Chemistry

(For undergraduate students admitted in 2016 and after)

For information about the general course and basic course requirements, please visit the common requirements page.

▣ **Graduation Credits: :** at least 136 in total

※ Students who entered in 2016 and after must apply for, and complete at least one: Advanced major, Minor, Double major, or Individually Designed major, in addition to their primary major.

▣ **Elective Basic Courses**: at least 9 credits including CH103 and CH104

※ Students who have a double major are required to complete at least 6 credits including CH103.

▣ **Major:** at least 42 credits including mandatory major courses

- **Mandatory Major Courses:** at least 24 credits
  Physical Chemistry I, II, Organic Chemistry I, II, Inorganic Chemistry I, Introduction to Analytical Chemistry, Chemistry Lab. I, II, III
- **Elective Major Courses:** at least 18 credits

▣ **Advanced Major in Chemistry:** at least 12 credits from elective major courses, including CH242 and CH381

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

- Take major courses offered by at least two different academic departments except for courses offered by students' own department

▣ **Minor in Chemistry:** at least 21 credits in major courses, including mandatory major courses

▣ **Double Major:** at least 40 credits in major courses, including mandatory major courses

※ In the event that courses overlap between the majors, up-to 6 credits can be counted to satisfy the requirements of both majors.

▣ **Research Courses:** at least 3 credits

- Mandatory 3 credits from Graduation Research (※ Students who have a double major are exempt from taking Graduation Research.)
- Required to take LRP and Undergraduate Colloquium
- Individual Study, LRP and Undergraduate Colloquium can be counted as major electives. (up to 4 credits)

☐ **Transitional Measures**

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

Major requirements for Department of Chemistry

For Master's students admitted in 2017 or before

Thesis Mater's Degree Program

For information about the general course requirements, please visit the common requirements page.

▣ **Graduation Credits:** at least 33 credits in total

▣ **Mandatory General Courses:** 3 credits and 1AU
- Select 1 course among the Common Courses. (CC)
- CC010 Special Lecture on Leadership (non-credit, this applies to students entering KAIST in 2002 and thereafter; general scholarship and foreign students are excluded)
- CC020 Ethics and Safety I (1AU)

▣ **Mandatory Major Courses:** none

▣ **Elective Courses:** at least 18 credits
- Mandatory: 9 credits (500 levels from two or more sub-fields)
- Elective: at least 9 credits

▣ **Research Courses:** at least 12 credits including seminar credits

Major requirements for Department of Chemistry

For Master's students admitted in 2018 and after

Thesis Mater's Degree Program

For information about the general course requirements, please visit the common requirements page.

▣ **Graduation Credits:** at least 33 credits in total

▣ **Mandatory General Courses:** 3 credits

- Select 1 course among the Common Courses. (CC)
- CC010 Special Lecture on Leadership(non-credit, this applies to students entering KAIST in 2002 and thereafter; general scholarship and foreign students are excluded)
- CC020 Ethics and Safety I (1AU)

▣ **Mandatory Major Courses:** none

▣ **Elective Courses:** at least 18 credits

- Mandatory: 15 credits (CH400, CH500, CH600 levels from two or more sub-fields)
- Elective: at least 3 credits

▣ **Research Courses:** at least 12 credits (including seminar credits)

☐ **Transitional Measures**

Applicable to graduate students admitted in 2018 and after

Major requirements for Department of Chemistry

For Doctoral students admitted in 2017 or before

For information about the general course requirements, please visit the common requirements page.

▣ **Graduation Credits:** at least 60 credits in total

▣ **Mandatory General Courses:** 3 credits and 1AU
- Select 1 course among the Common Courses. (CC)
- CC020 Ethics and Safety I (1AU)

▣ **Mandatory Major Courses:** none

▣ **Elective Courses:** at least 18 credits
- Mandatory: 9 credits (500 levels from two or more sub-fields)
- Elective: at least 9 credits

▣ **Research Courses:** at least 39 credits (including seminar credits)

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

Major requirements for Department of Chemistry

For Doctoral students admitted in 2018 and after

For information about the general course requirements, please visit the common requirements page.

▣ **Graduation Credits:** at least 60 credits in total

▣ **Mandatory General Courses:** 3 credits
- Select 1 course among the Common Courses. (CC)
- CC020 Ethics and Safety I

▣ **Mandatory Major Courses:** none

▣ **Elective Courses:** at least 18 credits
- Mandatory: 15 credits (CH400, CH500, CH600 levels from two or more sub-fields)
- Elective: at least 3 credits

▣ **Research Courses:** at least 39 credits (including seminar credits)
※ The course credits earned in the Master's coursework can be used towards the Doctoral degree (except research credits).

☐ **Transitional Measures**

Applicable to graduate students admitted in 2018 and after

Major requirements for Department of Chemistry

For MS-PhD Integrated students admitted in 2017 or before

For information about the general course requirements, please visit the common requirements page.

▣ **Graduation Credits:** at least 60 credits in total

▣ **Mandatory General Courses:** 3 credits and 1AU
- Select 1 course among the Common Courses. (CC)
- CC010 Special Lecture on Leadership (non-credit, this applies to students entering KAIST in 2002 and thereafter; general scholarship and foreign students are excluded)
- CC020 Ethics and Safety I (1AU)

▣ **Mandatory Major Courses:** none

▣ **Elective Courses:** at least 18 credits
- Mandatory: 9 credits (500 levels from two or more sub-fields)
- Elective: at least 9 credits

▣ **Research Courses:** at least 39 credits (including seminar credits)

Major requirements for Department of Chemistry

For MS-PhD Integrated students admitted in 2018 and after

For information about the general course requirements, please visit the common requirements page.

▣ **Graduation Credits:** at least 60 credits in total

▣ **Mandatory General Courses:** 3 credits

- Select 1 course among the Common Courses. (CC)
- CC010 Special Lecture on Leadership (non-credit, this applies to students entering KAIST in 2002 and thereafter; general scholarship and foreign students are excluded)
- CC020 Ethics and Safety I

▣ **Mandatory Major Courses:** none

- Mandatory: 15 credits (CH400, CH500, CH600 levels from two or more sub-fields)
- Elective: at least 3 credits

▣ **Research Courses:** at least 39 credits (including seminar credits)

☐ **Transitional Measures**

Applicable to graduate students admitted in 2018 and after