Major Course Requirement for Dept. of Chemical and Biomolecular 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 41 credits**

○ **Mandatory Major Courses: 21 credits**

CBE201 Molecular Engineering Laboratory (3)
CBE202 Introduction to Chemical and Biomolecular Engineering (3)
CBE203 Industrial Organic Chemistry (3)
CBE205 Chemical and Biomolecular Engineering Analysis (3)
CBE221 Molecular Thermodynamics and Energy Systems (3)
CBE301 Chemical and Biomolecular Engineering Laboratory (3)
CBE442 Chemical and Biomolecular Engineering Capstone Design Project (3)

○ **Elective Major Courses : At least 20 credits**

▣ **Minor: At least 18 credits**

○ Minor : At least 18 credits
(Mandatory Major Course: 9 credits including CBE202, and one from CBE201 and CBE301, Elective Major Course: 9 credits at least) (applicable to students admitted in 2011 and after)

○ Students admitted in and before 2010 should take 3 credits from mandatory major course (including one from CBE201 and CBE301) and at least 15 credits from elective major course.

※ In the event that major courses and double-major courses overlap, up to 6 credits can be applied to both courses of study.

▣ **Double Major: At least 41 credits (same requirement for major student)**

○ At least 41 credits from major credits including 21 credits from mandatory major courses.

※ In the event that major courses and double-major courses overlap, up to 6 credits can be applied to both courses of study.

▣ **Research Courses: At least 4 credits**

○ Graduation Research: 3 Credits (Mandatory)

○ Department Seminar: 1 Credits (Mandatory)

○ Individual Study: 4 Credits at most

※ Students having a double major are exempt.

☐ **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.

○ These requirements apply to those who are admitted in and after 2014.

○ Students admitted in and before 2013 may follow the graduation requirement of the year of their admission, or choose the current requirement.

Admission Year	**Major Course Requirement**	
2014-	41 Major Course Credits	○ **Mandatory Major: 21 credits** CBE201 Molecular Engineering Laboratory (3) CBE202 Introduction to Chemical and Biomolecular Engineering (3) CBE203 Industrial Organic Chemistry (3) CBE205 Chemical and Biomolecular Engineering Analysis (3) CBE221 Molecular Thermodynamics and Energy Systems (3) CBE301 Chemical and Biomolecular Engineering Laboratory (3) CBE442 Chemical and Biomolecular Engineering Capstone Design Project (3) ○ **Elective Major: At least 20 credits**
2011-2013	41 Major Course Credits	○ **Mandatory Major: 18 credits** CBE201 Molecular Engineering Laboratory (3) CBE202 Introduction to Chemical and Biomolecular Engineering (3) CBE203 Industrial Organic Chemistry (3) CBE205 Chemical and Biomolecular Engineering Analysis (3) CBE221 Molecular Thermodynamics and Energy Systems (3) CBE301 Chemical and Biomolecular Engineering Laboratory (3) ○ **Elective Major: At least 23 credits**
2006-2010	41 Major Course Credits	○ **Mandatory Major: 6 credits** CBE201 Molecular Engineering Laboratory (3) CBE301 Chemical and Biomolecular Engineering Laboratory (3) ○ **Elective Major: At least 35 credits**

Major Course Requirement for Dept. of Chemical and Biomolecular 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 42 credits**

○ Mandatory Major Courses : 21 credits

○ Elective Major Courses : At least 21 credits

▣ **Advanced Major: At least 12 credits**

○ At least 12 credits including

CBE206 Introduction to Numerical Methods for Chemical and Biomolecular Engineers
CBE261 Biochemical Engineering
CBE311 Molecular Reaction Engineering
CBE331 Fluid Mechanics for Chemical Engineering
CBE332 Heat and Molecular Transfer
CBE351 Introduction to Macromolecular Engineering

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

○ Required to more than 12 credits in major courses offered by more than two academic organizations.

▣ **Minor: At least 18 credits**

○ Minor: At least 18 credits
(Mandatory Major Course: 9 credits including CBE202, and one from CBE201 and CBE301, Elective Major Course: 9 credits at least) (applicable to students admitted in 2011 and after)

※ Recognition of overlapping credits earned in major courses offered by other academic organizations is not allowed.

▣ **Double Major: At least 42 credits**

○ At least 42 credits from major credits including 21 credits from mandatory major

courses.

※ In the event that major courses and double-major courses overlap, up to 6 credits can be applied to both courses of study.

▣ **Research Courses: At least 4 credits**

◯ Graduation Research: 3 Credits (Mandatory)

◯ Department Seminar: 1 Credits (Mandatory)

◯ Individual Study: 4 Credits at most

※ Students having double major are exempt.

☐ **Transitional measures**

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

Major Course Requirement for Dept. of Chemical and Biomolecular 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**

▣ **Mandatory Major Courses: 6 credits**

▣ **Elective Courses: At least 12 credits**

◯ It is required, at least, to take 9 credits from lectures offered by the CBE Department.

※ Lectures offered in Graduate School of EEWS by professors of CBE department are considered as lectures offered by CBE department.

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

◯ At least 12 credits including 2 credits from Seminar

※ Seminar credits can be substituted by taking Korean language class, or performing internship required by Interdisciplinary Program.

Coursework Master's Degree Program

None

☐ **Transitional measures**

◯ These requirements apply to those who enrolled in 2013 and onward.

◯ For those who enrolled in 2012 or before should comply to the former requirements:

- Master's Program students who enrolled in 2012: 3 credits of Mandatory Major Course (CBE601); at least 15 credits of Elective Course (12 credits from CBE course)
- Master's Program students who enrolled between 2009 and 2011: at least 18 credits of Elective Course (15 credits from CBE course); no Mandatory Major Course required

Major Course Requirement for Dept. of Chemical and Biomolecular 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: 3 credits and 1AU**

▣ **Mandatory Major Courses: 6 credits**

▣ **Elective Courses: At least 21 credits**

◯ It is required, at least, to take 12 credits from lectures offered by the CBE department.

※ Lectures offered in Graduate School of EEWS by professors of CBE department are considered as lectures offered by CBE department.

▣ **Research Courses: at least 30 credits**

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

☐ **Transitional Measures**

◯ These requirements apply to those who enrolled in 2013 and onward.

◯ For those who enrolled in 2012 or before should comply to the former requirements:

- Doctoral, Integrated Master's and Doctoral Degree Program students who enrolled between 2009 and 2012: at least 27 credits of Elective Course (18 credits from CBE course); no Mandatory Major Course required

Major Course Requirement for Dept. of Chemical and Biomolecular Engineering
(For MS-PhD Integrated Program)

Please check the common graduation requirements.

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

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

▣ **Mandatory Major Courses: 6 credits**

▣ **Elective Courses: At least 21 credits**

- ○ It is required, at least, to take 12 credits from lectures offered by the CBE department.
- ※ Lectures offered in Graduate School of EEWS by professors of CBE department are considered as lectures offered by CBE department.

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

☐ **Transitional Measures**

- ○ These requirements apply to those who enrolled in 2013 and onward.
- ○ For those who enrolled in 2012 or before should comply to the former requirements:
  - Doctoral, Integrated Master's and Doctoral Degree Program students who enrolled between 2009 and 2012: at least 27 credits of Elective Course (18 credits from CBE course); no Mandatory Major Course required