

## Major Course Completion Requirement of Dept. Bio and Brain Engineering

(For undergraduate students admitted in 2015 or before)

### ■ Credit Requirement for Graduation : completion of a minimum of 130 credits

#### ■ Basic Elective : completion of a minimum of 9 credits

(Designated courses : MAS109 Introduction to Linear Algebra, MAS201 Applied Differential Equations, MAS250 Probability and Statistics)

- Students admitted in 2011 or before are required to complete all the 3 courses listed above as well.

※ Students pursuing a double major are required to complete a minimum of 3 credits in basic elective courses including at least one course among the 3 courses listed above.

#### ■ Major : completion of a minimum of 42 credits

##### ○ Mandatory major: 14 credits

BiS200 Bioengineering Fundamentals(3), BiS222 Molecular and Cellular Biology(3),  
BiS301 Bioengineering Laboratory I(4), BiS350 Bioengineering Laboratory II(4)

##### ○ Elective major: 28 credits

※ Up to 6 credits of Elective major course (CoE code) opened by the College of Engineering are recognized as Elective major Courses.

#### ■ Minor : completion of a minimum of 18 credits

- Required to complete 18 credits in major courses, including 14 credits in mandatory major area

#### ■ Double Major : completion of a minimum of 40 credits

- Required to complete 40 credits in major courses including 14 credits in mandatory major area

#### ■ Research : completion of a minimum of 5 credits

- Required to include 3 credits in graduation research and 2 credits in seminar

- Elective : Individual Study

※ Students pursuing a double major are exempt from completion of research course.

#### □ Transitional measure

- Students admitted in 2015 or before may choose to complete the requirements applicable to students admitted in 2016 or after..

- These completion requirements apply to students admitted in 2015 or after. Students admitted in 2014 or before must complete the previous requirements or revised rules. Completion requirements of research credits including two credits in Seminar apply to students admitted in 2005 and after.

- Probability and Statistics(MAS 250) : This requirement applies to all current students starting from Spring 2016; students admitted in 2015 or before are allowed to choose the completion requirements of their admission year according to their wishes.

- Alternative course during the grace period following change or abolishment of the previous mandatory major courses

BiS331 Bio-Computer Engineering → BiS437 Bio-Data Engineering or BiS438 Bioinformatics

- 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 Completion Requirement of Dept. Bio and Brain Engineering

(For undergraduate students admitted in 2016 and after)

### ■ Credit Requirement for Graduation : completion of a minimum of 136 credits

※ Required to complete one among an advanced major, double major, minor and individually designed major

### ■ Basic Elective : completion of a minimum of 9 credits

(Designated courses : MAS109 Introduction to Linear Algebra, MAS201 Applied Differential Equations, MAS250 Probability and Statistics)

- Students admitted in 2011 or before are required to complete all the 3 courses listed above as well.

※ Students pursuing a double major are required to complete a minimum of 3 credits in basic elective courses including at least one course among the 3 courses listed above.

### ■ Major : completion of a minimum of 44 credits

#### ○ Mandatory major: 14 credits

BiS200 Bioengineering Fundamentals(3), BiS222 Molecular and Cellular Biology(3), BiS301 Bioengineering Laboratory I(4), BiS350 Bioengineering Laboratory II(4)

#### ○ Elective major: 30 credits

※ Up to 6 credits of Elective major course (CoE code) opened by the College of Engineering are recognized as Elective major Courses.

### ■ Advanced Major : completion of a minimum of 12 credits

※ Required to complete a minimum of 12 credits in major elective courses in BiS300 unit or higher

### ■ Individually Designed Major : completion of a minimum of 12 credits

- Required to complete a minimum of 12 credits in major courses offered by a minimum of two academic organizations besides the affiliated department

### ■ Minor : completion of a minimum of 18 credits

- Required to complete a minimum of 18 credits in major courses including 14 credits in mandatory major courses

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

### ■ Double Major : completion of a minimum of 40 credits

- Required to complete a minimum of 40 credits in major courses including 14 credits in mandatory major

※ A maximum of overlapping 6 credits earned in major courses offered by other academic organizations can be recognized.

### ■ Research : completion of a minimum of 5 credits

- Required to include 3 credits in graduation research and 2 credits in seminar  
- Elective : Individual Study

※ Students pursuing a double major are exempt from completion of research course.

### □ Transitional measure

- Students admitted in 2015 or before may choose to complete the requirements listed above if desired.

- Probability & Statistics(MAS250) : These completion requirements apply to all enrolled students starting from 2016 Spring semester; however, students admitted in 2015 or before may choose to complete the requirements of their admission year according to their wishes.

- 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 Completion Requirement of Dept. Bio and Brain Engineering

(For undergraduate students admitted in 2023 and after)

### ■ Credit Requirement for Graduation : completion of a minimum of 138 credits

※ Required to complete one among an advanced major, double major, minor and individually designed major

### ■ Basic Elective : completion of a minimum of 9 credits

(Designated courses : MAS109 Introduction to Linear Algebra, MAS201 Applied Differential Equations, MAS250 Probability and Statistics)

- Students admitted in 2011 or before are required to complete all the 3 courses listed above as well.

※ Students pursuing a double major are required to complete a minimum of 3 credits in basic elective courses including at least one course among the 3 courses listed above.

### ■ Major : completion of a minimum of 44 credits

#### ○ Mandatory major: 14 credits

BiS200 Bioengineering Fundamentals(3), BiS222 Molecular and Cellular Biology(3), BiS301 Bioengineering Laboratory I(4), BiS350 Bioengineering Laboratory II(4)

#### ○ Elective major: 30 credits

※ Up to 6 credits of Elective major course (CoE code) opened by the College of Engineering are recognized as Elective major Courses.

### ■ Advanced Major : completion of a minimum of 12 credits

※ Required to complete a minimum of 12 credits in major elective courses in BiS300 unit or higher

### ■ Individually Designed Major : completion of a minimum of 12 credits

- Required to complete a minimum of 12 credits in major courses offered by a minimum of two academic organizations besides the affiliated department

### ■ Minor : completion of a minimum of 18 credits

- Required to complete a minimum of 18 credits in major courses including 14 credits in mandatory major courses

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

### ■ Double Major : completion of a minimum of 40 credits

- Required to complete a minimum of 40 credits in major courses including 14 credits in mandatory major

※ A maximum of overlapping 6 credits earned in major courses offered by other academic organizations can be recognized.

### ■ Research : completion of a minimum of 5 credits

- Required to include 3 credits in graduation research and 2 credits in seminar

- Elective : Individual Study

※ Students pursuing a double major are exempt from completion of research course.

### □ Transitional measure

- Students admitted in 2015 or before may choose to complete the requirements listed above if desired.

- Probability & Statistics(MAS250) : These completion requirements apply to all enrolled students starting from 2016 Spring semester; however, students admitted in 2015 or before may choose to complete the requirements of their admission year according to their wishes.

- 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 Completion Requirements for Dept. of Bio and Brain Engineering**  
(For Master's program)

**Research Master's**

■ **Credit Requirement for Graduation : completion of a minimum of 33 credits**

■ **Common Mandatory : completion of a minimum of 3 credits and 1 AU**

- Choose one among CC500 Scientific Writing, CC510 Introduction to Computer Application, CC511 Probability & Statistics, CC512 Introduction to Science of Advanced Materials, CC513 Industrial Economics and Cost Analysis, CC522 Introduction to Instrumentation, CC530 Entrepreneurship and Business Strategy, and CC531 Patent Analysis and Invention Applications

■ **Mandatory Major : None**

■ **Elective : completion of a minimum of 18 credits**

- Please note that a **minimum of 2** courses whose second digit of the course number differ and which are offered by the Department of Bio and Brain Engineering graduate program should be included.

(The following courses are excluded : BiS510 Technology Commercialization and Venture Business, BiS800 Special Lectures in Bio and Brain Engineering, BiS810 Leadership & Communication, BiS966 Seminar(Master) and BiS987 Biofusion Seminar)

■ **Research : completion of a minimum of 12 credits**

- Twelve research credits should include **2** credits in Seminar and **2** credits in Biofusion Seminar. (Foreign students can choose either a Korean course (a minimum of 2 credits) or a seminar (2 credits))

**Coursework Master's** : Applicable to students pursuing Master's-PhD connected program only

■ **Credit Requirements for Graduation : completion of a minimum of 33 credits**

■ **Common Mandatory : completion of a minimum of 3 credits and 1 AU**

- Choose one among CC500 Scientific Writing, CC510 Introduction to Computer Application, CC511 Probability & Statistics, CC512 Introduction to Science of Advanced Materials, CC513 Industrial Economics and Cost Analysis, CC522 Introduction to Instrumentation, CC530 Entrepreneurship and Business Strategy, and CC531 Patent Analysis and Invention Applications

■ **Mandatory Major : None**

■ **Elective : completion of a minimum of 24 credits**

- Please note that a minimum of 2 courses whose second digit of the course number differ and which are offered by the Department of Bio and Brain Engineering graduate program should be included.

(The following courses are excluded : BiS510 Technology Commercialization and Venture

Business, BiS800 Special Lectures in Bio and Brain Engineering, BiS810 Leadership & Communication, BiS966 Seminar(Master) and BiS987 Biofusion Seminar)

- **Research : completion of a minimum of 6 credits** (including Individual Study and Seminar)  
(Foreign students can choose either a Korean course (a minimum of 2 credits) or a seminar (2 credits))

※ Coursework Master's is applied to the students admitted in 2004 and onward.

**Transitional measure**

- These completion requirements apply to students admitted in 2010 or after. Students admitted in 2010 or before must complete the previous requirements or revised ones. The completion requirements of research credits including two credits in Biofusion Seminar apply to students admitted in 2007 and after. Foreign students can choose either a Korean course (a minimum of 2 credits) or a seminar (2 credits)

**Major Course Completion Requirements for Dept. of Bio and Brain Engineering**  
(For doctoral program)

■ **Credit Requirement for Graduation : completion of a minimum of 60 credits**

■ **Common Mandatory : completion of a minimum of 3 credits and 1 AU**

- Choose one among CC500 Scientific Writing, CC510 Introduction to Computer Application, CC511 Probability & Statistics, CC512 Introduction to Science of Advanced Materials, CC513 Industrial Economics and Cost Analysis, CC522 Introduction to Instrumentation, CC530 Entrepreneurship and Business Strategy, and CC531 Patent Analysis and Invention Applications

■ **Mandatory Major : None**

■ **Elective : completion of a minimum of 27 credits**

- Please note that a **minimum of 3** courses whose second digit of the course number differ and which are offered by the Department of Bio and Brain Engineering graduate program should be included.

(The following courses are excluded : BiS510 Technology Commercialization and Venture Business, BiS800 Special Lectures in Bio and Brain Engineering, BiS810 Leadership & Communication, BiS986 Seminar(doctoral) and BiS987 Biofusion Seminar)

■ **Research : completion of a minimum of 30 credits**

- Thirty research credits should include 2 credits in Seminar, and 2 credits in Biofusion Seminar (Foreign students can choose either a Korean course (a minimum of 2 credits) or a seminar (2 credits))

□ **Transitional measure**

- These completion requirements apply to students admitted in 2010 or after. Students admitted in 2010 or before must complete the previous requirements or revised ones. The completion requirements of research credits including two credits in Biofusion Seminar apply to students admitted in 2005 and after. Foreign students can choose either a Korean course (a minimum of 2 credits) or a seminar (2 credits)

## **Major Course Completion Requirements of Dept. of Bio and Brain Engineering**

(For MS-PhD Integrated Program)

- The curricula of existing master's and PhD programs are followed.
- The completion requirements of research credits including two credits in Seminar(Master's) and two credits in Seminar(Doctoral) apply to students admitted between 2005 and 2008.
- Students who entered the program in 2009 or later, general rules for Integrated Master's and Doctoral Degree Program ("6.3. The curriculum credits and research credits earned from the Master's course may be cumulatively counted") are applied.