

**Major Course Requirements for Dept. of Brain and Cognitive Sciences
(For undergraduate students admitted in 2016 and after)**

Please check the common graduation requirements.

- ❑ **Credit Requirements for Graduation: Required to complete a total of a minimum of 136 credits**
- ❑ **Requirements for Basic Electives(Designated by Department)**
 - A. Basic Electives: Complete a minimum of 9 credits, including 2 course among the following courses
 - (MAS109)Introduction to Linear Algebra, (MAS201)Differential Equations and Applications, (MAS250)Probability and Statistics, (CS109)Programming Practice
 - B. Students pursuing a double major must complete a minimum of 6 credits, including 2 course among the above courses
- ❑ **Major: Required to complete a minimum of 42 credits**
 - A. Mandatory Major: 3 laboratory courses
 - (BCS200)Laboratory in Animal Brain Anatomy and Physiology
 - (BCS320)Laboratory in Human Brain Anatomy and Physiology
 - (BCS410)Laboratory in Experimental Data Analysis and Modeling
 - B. Elective Major: Complete a minimum of 33 credits
 - Up to 15 credits in major courses offered by the Departments of College of Natural Sciences, College of Life Science & Bioengineering, and College of Engineering recognized as elective major credits of the Department of Brain and Cognitive Sciences
- ❑ **Advanced Major: Required to complete a minimum of 12 credits**
 - Complete a minimum of 12 credits in major courses offered by the Department of Brain and Cognitive Sciences(course code in 200s or higher)
- ❑ **Individually Designed Major: Required to complete a minimum of 12 credits**

Major Course Requirements for Dept. of Brain and Cognitive Sciences (For undergraduate students admitted in 2016 and after)

- Complete a minimum of 12 credits in major courses offered by at least two departments (two or more) other than affiliated department (the Department of Brain and Cognitive Sciences).

□ Minor: Required to Complete a minimum of 18 credits

- Complete a minimum of 18 credits major courses offered by the Department of Brain and Cognitive Sciences, including at least 1 mandatory major course
- ※ Recognition of overlapping credits earned in major courses offered by other department is not allowed.)

□ Double major: Required to Complete a minimum of 42 credits

- Complete a minimum of 42 credits in major courses, including 3 mandatory major courses
- ※ Up to 6 credits of recognition of overlapping credits earned in major courses offered by other department is allowed
- ※ The same completion requirements as requirements for students of the Department of Brain and Cognitive Sciences (primary major) shall apply to elective major courses

□ Research Courses: Required to Complete a minimum of 9 credits

A. Required: (BCS490)BS Thesis Research 3 credits, (BCS495)Individual Study 2 credits
(BCS496)Seminar (Colloquium) 4 credits

- ※ Choose one of the following as completion requirements for Seminar (Colloquium)
 - Complete 4 credits of (BCS496)Seminar(Colloquium)
 - Complete a minimum of 2 credits of (BCS496)Seminar (Colloquium) and up to 2 credits in equivalent seminar(colloquium) courses offered by other departments(confirmation by course professor required)
- ※ Complete (BCS495) Individual Study
 - Up to 2 credits (1 credit per semester) recognized as research credits
 - Up to 4 credits of individual research may count towards credits required for graduation (up to 2 credits recognized as free electives if more credits are completed than the minimum 2-credit requirement for individual research)
- ※ Students pursuing a double major are exempt from completion of research courses

**Major Course Requirements for Dept. of Brain and Cognitive Sciences
(For undergraduate students admitted in 2016 and after)**

☐ Transitional Measures

- A. These completion requirements shall apply to students admitted in 2016 and after.
- B. Students admitted in 2015 or earlier may choose to complete the requirements applicable to students admitted in 2016 and after.

☐ Other

- A. Special courses with the same subtheme as that of regular courses shall be considered the same even if their course codes are different.
- B. The common completion requirements must be separately reviewed (including requirements for respective majors in the case of students pursuing specially designated major)

**Major Course Requirements for Dept. of Brain and Cognitive Sciences
(For undergraduate students admitted in 2023 and after)**

Please check the common graduation requirements.

❑ Credit Requirements for Graduation: Required to complete a total of a minimum of 138 credits

❑ Requirements for Basic Electives(Designated by department)

A. Basic electives: Complete a minimum of 9 credits, including 2 of the following courses

– (MAS109)Introduction to Linear Algebra, (MAS201)Differential Equations and Applications, (MAS250)Probability and Statistics, (CS109)Programming Practice

B. Students pursuing a double major must complete a minimum of 6 credits, including 2 of the above courses

❑ Major: Required to Complete a minimum of 42 credits

A. Mandatory major: 3 laboratory courses

– (BCS200)Laboratory in Animal Brain Anatomy and Physiology

– (BCS320)Laboratory in Human Brain Anatomy and Physiology

– (BCS410)Laboratory in Experimental Data Analysis and Modeling

B. Elective major: Complete a minimum of 33 credits

– Up to 15 credits in major courses offered by the Departments of College of Natural Sciences, College of Life Science & Bioengineering, and College of Engineering recognized as elective major credits of the Department of Brain and Cognitive Sciences

❑ Advanced Major: Required to Complete a minimum of 12 credits

– Complete a minimum of 12 credits in major courses offered by the Department of Brain and Cognitive Sciences (course code in 200s or higher)

❑ Individually Designed Major: Required to Complete a minimum of 12 credits

Major Course Requirements for Dept. of Brain and Cognitive Sciences (For undergraduate students admitted in 2023 and after)

- Complete a minimum of 12 credits in major courses offered by at least two departments (two or more) other than affiliated department (the Department of Brain and Cognitive Sciences)

□ Minor: Required to Complete a minimum of 18 credits

- Complete a minimum of 18 credits major courses offered by the Department of Brain and Cognitive Sciences, including at least 1 mandatory major course
- ※ Recognition of overlapping credits earned in major courses offered by other department is not allowed.)

□ Double major: Required to Complete a minimum of 42 credits

- Complete a minimum of 42 credits in major courses, including 3 mandatory major courses
- ※ Up to 6 credits of recognition of overlapping credits earned in major courses offered by other department is allowed
- ※ The same completion requirements as requirements for students of the Department of Brain and Cognitive Sciences (primary major) shall apply to elective major courses

□ Research Courses: Required to Complete a minimum of 9 credits

A. Required: (BCS490)BS Thesis Research 3 credits, (BCS495)Individual Study 2 credits
(BCS496)Seminar (Colloquium) 4 credits

- ※ Choose one of the following as completion requirements for Seminar (Colloquium)
 - Complete 4 credits of (BCS496)Seminar(Colloquium)
 - Complete a minimum of 2 credits of (BCS496)Seminar (Colloquium) and up to 2 credits in equivalent seminar(colloquium) courses offered by other departments(confirmation by course professor required)
- ※ Complete (BCS495) Individual Study
 - Up to 2 credits (1 credit per semester) recognized as research credits
 - Up to 4 credits of individual research may count towards credits required for graduation (up to 2 credits recognized as free electives if more credits are completed than the minimum 2-credit requirement for individual research)
- ※ Students pursuing a double major are exempt from completion of research courses

**Major Course Requirements for Dept. of Brain and Cognitive Sciences
(For undergraduate students admitted in 2023 and after)**

☐ Transitional Measures

- A. These completion requirements shall apply to students admitted in 2023 and after.
- B. Students admitted in 2022 or earlier may choose to complete the requirements applicable to students admitted in 2023 and after.

☐ Other

- A. Special courses with the same subtheme as that of regular courses shall be considered the same even if their course codes are different.
- B. The common completion requirements must be separately reviewed (including requirements for respective majors in the case of students pursuing specially designated major)

Major Course Requirements for Dept. of Brain and Cognitive Sciences (For Thesis Master's Program)

Please check the common graduation requirements.

- Credit Requirement for Graduation:** Required to complete a total of a minimum of 36 credits

- Mandatory General Courses:** Required to complete 6 credits and (CC020)Ethics and Safety I
 - A. Courses Designated by Department: Required to complete at least 6 credits including 2 of the following courses
 - (CC500)Scientific Writing, (CC510)Introduction to Computer Application, (CC511)Probability and Statistics, (CC531)Patent Analysis and Invention Disclosure
 - B. Required to check common graduation requirements including (CC010)Special Lecture on Leadership and (CC020)Ethics and Safety I and so on.

- Mandatory Major Courses:** None

- Elective Courses:** Required to complete a minimum of 21 credits
 - Complete a minimum of 21 credits, including 12 credits in major courses offered by the Department of Brain and Cognitive Sciences

- Research Course:** Required to complete a minimum of 9 credits
 - Required to complete 9 credits including 2 credits (BCS966)Seminar(Colloquium)

Others

- A. These completion requirement shall apply to newly admitted students and transfer students in 2023
- B. Special Course with the same subtheme as that of regular course shall be considered the same even if their course codes are different.
- C. Please check the common graduation requirements.

Major Course Requirements for Dept. of Brain and Cognitive Sciences (For Doctoral Program)

Please check the common graduation requirements.

Credit Requirement for Graduation: Required to complete a total of a minimum of 66 credits

Mandatory General Courses: Required to complete 6 credits and (CC020)Ethics and Safety I

A. Courses Designated by Department: Required to complete at least 6 credits including 2 of the following courses

– (CC500)Scientific Writing, (CC510)Introduction to Computer Application, (CC511)Probability and Statistics, (CC531)Patent Analysis and Invention Disclosure

B. Required to check common graduation requirements including (CC010)Special Lecture on Leadership and (CC020)Ethics and Safety I and so on.

Mandatory Major Courses: None

Elective Courses: Required to complete a minimum of 30 credits

– Complete a minimum of 30 credits, including 18 credits in major courses offered by the Department of Brain and Cognitive Sciences

Research Course: Required to complete a minimum of 30 credits

– Required to complete 30 credits including 4 credits of (BCS986)Seminar(Colloquium)

Others

A. These completion requirements shall apply to newly admitted students and transfer students in 2023

B. Coursework credits completed in the master's program may be accumulated as credits for the doctoral program(excluding research credits).

C. Special Course with the same subtheme as that of regular course shall be considered the same even if their course codes are different.

D. Please check the common(general) graduation requirements

Major Course Requirements for Dept. of Brain and Cognitive Sciences (For MS-PHD Integrated Program)

❑ Credit Requirement for Graduation: Required to complete a total of more than 66 credits

❑ Mandatory General Courses: Required to complete 6 credits and (CC020)Ethics and Safety I

A. Courses designated by department: Required to complete at least 6 credits including 2 of the following courses

– (CC500)Scientific Writing, (CC510)Introduction to Computer Application, (CC511)Probability and Statistics, (CC531)Patent Analysis and Invention Disclosure

B. Required to check common graduation requirements including (CC010)Special Lecture on Leadership and (CC020)Ethics and Safety I

❑ Mandatory Major Courses: None

❑ Elective Courses: Required to complete more than 30 credits

– Complete a minimum of 30 credits, including 18 credits in major courses offered by the Department of Brain and Cognitive Sciences

❑ Research Course: Required to complete more than 30 credits

– Required to complete 30 credits including 4 credits of Seminar(Colloquium /BCS966 or BCS986)

❑ Others

A. These completion requirement shall apply to newly admitted students and transfer students In the spring semester of 2023.

– For transfer students, the effective date for implementation of these completion requirements shall be date of change in academic records.

B. The curricula of existing master's and PhD programs are followed. The curriculum credits and research credits earned from the master's course may be cumulatively counted.

C. Special Course with the same subtheme as that of regular course shall be

**Major Course Requirements for Dept. of Brain and Cognitive
Sciences (For MS-PHD Integrated Program)**

considered the same even if their course codes are different.

D. Please check the common graduation requirements