INTEGRATIVE NEUROSCIENCE MAJOR

Requirements

The course requirements for the integrative neuroscience major consist of four components: nine foundation courses required of all integrative neuroscience majors; three required, concentration-connected neuroscience courses that emphasize the different concentrations within the major; three concentration courses that allow the student to enhance their study within their chosen concentration; and a research experience lasting a minimum of two semesters, beginning as early as is reasonable for the student and project, but no later than the summer/fall after the junior year.

All majors must also enroll in a capstone research seminar course for students in all concentrations to share and discuss the results of their research with other integrative neuroscience majors.

A minimum grade of C- is required for courses to count towards the major.

Course Title Credits
Required Courses
Select one of the following biology options: 8 to 10

Option 1:
BISC 1403 Introductory Biology I & BISC 1413 and Introductory Biology Lab I
BISC 1404 Introductory Biology II & BISC 1414 and Introductory Biology Lab II

Option 2:
NSCI 1403 General Biology Lecture I & NSCI 1413 and General Biology Lab I
NSCI 1404 General Biology Lecture II & NSCI 1414 and General Biology Lab II

Option 3:
NSCI 1423 Concepts in Biology Lecture I & NSCI 1433 and Concepts in Biology Lab I
NSCI 1424 Concepts in Biology Lecture II & NSCI 1434 and Concepts in Biology Lab II

Select one of the following chemistry options: 12

Option 1:
CHEM 1321 General Chemistry I & CHEM 1331 and General Chemistry Lab I
CHEM 1322 General Chemistry II & CHEM 1332 and General Chemistry Lab II

Option 2:
NSCI 1321 General Chemistry Lecture I & NSCI 1331 and General Chemistry Lab I
NSCI 1322 General Chemistry Lecture II & NSCI 1332 and General Chemistry Lab II

Select one of the following Mathematics courses: 3 to 4
MATH 1203 Applied Calculus I
MATH 1206 Calculus I
MATH 1700 Mathematical Modelling

Select one of the following CISC programming courses: 4
CISC 1600 Computer Science I & CISC 1610 and Computer Science I Lab
CISC 1800 Introduction to Computer Programming & CISC 1810 and Introduction to Computer Programming Lab
CISC 2500 Information and Data Management

Select one of the following CISC courses: 4
CISC 4020 Bioinformatics
CISC 4631 Data Mining
PSYC 1200 Foundations of Psychology
BISC 4532 Neuroscience or NSCI 4630 Neuroscience
PSYC 3110 Cognitive Neuroscience
CISC 3250 Systems Neuroscience

Three electives in one of these concentrations: 9 to 12
Cell and Molecular Neuroscience
Cognitive Neuroscience
Systems/Computational Neuroscience

Availability

The integrative neuroscience major is available to students at Fordham College at Rose Hill and Fordham College at Lincoln Center. Students in Fordham’s School of Professional and Continuing Studies may major in integrative neuroscience only if they receive the approval of their advising dean and/or department, and their schedules are sufficiently flexible to permit them to take day courses at the Rose Hill or Lincoln Center campuses.

Fordham College at Rose Hill students: The requirements above are in addition to those of the Core Curriculum.

Fordham College at Lincoln Center students: The requirements above are in addition to those of the Core Curriculum.

Professional and Continuing Studies students: The requirements above are in addition to those of the PCS Core Curriculum and any additional electives that may be required to earn a minimum of 124 credits.

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