

DOCTOR OF PHILOSOPHY IN BRAIN AND COGNITIVE SCIENCES FIELDS

Department of Brain and Cognitive Sciences (<https://catalog.mit.edu/schools/science/brain-cognitive-sciences/#graduatetext>)

Program Requirements

Required Subjects

9.401	Tools for Robust Science	12
9.901	Responsible Conduct in Science	2
Core 1 ¹		12-18

Must complete one of the subjects listed below with a grade of B or higher:

9.011	Systems Neuroscience Core I
9.012	Cognitive Science
9.014	Quantitative Methods and Computational Models in Neurosciences ²
9.015[[]]	Molecular and Cellular Neuroscience Core I

Core 2^{1, 3} 12-18

Must complete one of the subjects listed below with a grade of B or higher:

9.011	Systems Neuroscience Core I
9.012	Cognitive Science
9.013[[]]	Molecular and Cellular Neuroscience Core II ²
9.014	Quantitative Methods and Computational Models in Neurosciences
9.015[[]]	Molecular and Cellular Neuroscience Core I
9.360	Neurobiology of Self ⁴

Statistics^{1, 5} 12

Must complete one 12-unit subject with a grade of B or higher:

9.014	Quantitative Methods and Computational Models in Neurosciences
9.073[[]]	Statistics for Neuroscience Research
9.272[[]]	Topics in Neural Signal Processing
9.520[[]]	Statistical Learning Theory and Applications
9.521[[]]	Mathematical Statistics: a Non-Asymptotic Approach
12.444	MatLab, Statistics, Regression, Signal Processing

16.391	Statistics for Engineers and Scientists	
Electives ⁶		24
<i>Select at least two 12-unit graduate-level subjects relevant to student's research.</i>		
Qualifying Exam		
9.300	BCS PhD Qualifying Exam	6
Professional Development ⁷		
9.990	Professional Development	1
Teaching and Research		
9.919	Teaching Brain and Cognitive Sciences	24
9.921	Research in Brain and Cognitive Sciences ⁸	282
Thesis		
9.941	Graduate Thesis Proposal	6
9.THG	Graduate Thesis ⁸	36-216
Total Units		429-621

¹ Each subject may only fulfill one requirement.

² 9.013[[]] Molecular and Cellular Neuroscience Core II may satisfy the Core 2 requirement if 9.015[[]] Molecular and Cellular Neuroscience Core I has been taken.

³ Harvard subjects PSY2170, PSY2020 or MCB231 may satisfy Core 2 requirement if 9.012 Cognitive Science has been taken.

⁴ 9.360 Neurobiology of Self may satisfy Core 2 requirement if 9.011 Systems Neuroscience Core I has been taken.

⁵ Harvard subject PSY 1950 Intermediate Statistical Analysis in Psychology can also be used to fulfill this requirement. Students can petition for a different subject to fulfill this requirement by contacting the BCS graduate officer.

⁶ Students are encouraged to ask for advice from their advisor. All 12-unit BCS graduate subjects (<https://catalog.mit.edu/subjects/9>) (excluding the Core Subjects) are approved electives. In some cases, students may wish to replace a 12-unit subject with two 6-unit subjects; take a subject in any other MIT department (<https://catalog.mit.edu/subjects>); or enroll in a subject outside MIT (e.g., Harvard, BU, etc); these exceptions require advance approval of the BCS graduate officer. An additional statistics subject, beyond that used to fulfill the Statistics requirement, can be used to meet one Elective subject requirement.

⁷ Students must participate in two department-approved professional development activities, registering for 9.990 during each term of participation. One credit unit will be awarded only upon completion of two activities. A list of pre-approved professional development activities is available on the BCS website. Students may also petition other professional development activities.

⁸ Students will register for 9.921 Research in Brain and Cognitive Sciences during each semester of the program, including during summer, until they pass 9.941 Graduate Thesis Proposal in the spring term of their fourth year. Thereafter, they will register for 9.THG Graduate Thesis. Students must be registered for 9.THG Graduate Thesis during the semester in which they will graduate.