

## DOCTOR OF PHILOSOPHY IN BRAIN AND COGNITIVE SCIENCES FIELDS

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

Students in the Department of Brain and Cognitive Sciences doctoral program complete the program requirements detailed below. In the first year, students register for 12 units of 9.921 Research in Brain and Cognitive Sciences in the fall and spring terms to conduct three laboratory rotations, each lasting 4 to 8 weeks. As students progress, they serve as teaching assistants for two courses, one in their second year and one in their third, registering for 12 units of 9.919 Teaching Brain and Cognitive Sciences each term.

In addition to coursework, students must pass the oral and written qualifying exams for doctoral candidacy. Upon passing the exams, students complete at least 222 additional units of 9.921 in preparation for their thesis.

### Program Requirements

9.901	Responsible Conduct in Science	2
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#### Core Subjects **24-36**

Must complete two for a grade of B or higher:

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

#### Statistics <sup>1</sup> **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 **36**

Select at least three 12-unit graduate-level subjects relevant to student's research. <sup>2</sup>

#### Teaching and Research

9.919	Teaching Brain and Cognitive Sciences	24
9.921	Research in Brain and Cognitive Sciences <sup>3</sup>	222-330

#### Thesis

9.941	Graduate Thesis Proposal	6
9.THG	Graduate Thesis	36

#### Total Units **362-482**

<sup>1</sup> Harvard courses PSY 1950 Intermediate Statistical Analysis in Psychology and MCB 131 Computational Neuroscience can also be used to fulfill this requirement. Students can petition for a different course to fulfill this requirement by contacting the BCS graduate officer.

<sup>2</sup> Students are encouraged to ask for advice from their advisor. All 12-unit BCS graduate subjects (<http://catalog.mit.edu/subjects/9>) (excluding the Core Subjects) are approved electives. In some cases, students may wish to replace one 12-unit subject with two 6-unit subjects; take a course in any other MIT department (<http://catalog.mit.edu/subjects>); count an upper-level undergraduate class as an elective; 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.

<sup>3</sup> Research units will vary depending on how long the student remains in the program. After the fourth year of the program, students will register for 36 units of research each semester.