The Bachelor of Science in Brain and Cognitive Sciences (Course 9) prepares students to pursue advanced degrees or careers in artificial intelligence, machine learning, neuroscience, medicine, cognitive science, psychology, linguistics, philosophy, education research and technology, and human-machine interaction.

Methods of inquiry in the brain and cognitive sciences are drawn from molecular, cellular, and systems neuroscience; cognitive and perceptual psychology; computer science and artificial intelligence; linguistics; philosophy of language and mind; and mathematics. The undergraduate program is designed to provide instruction in the relevant aspects of these various disciplines. The program is administered by an Undergraduate Officer and an Undergraduate Administrator, consulting as necessary with faculty members from these disciplines who also serve as advisors to majors, helping them select a coherent set of subjects from within the requirements, including a research requirement. Members of the faculty are available to guide the research.

The Brain and Cognitive Sciences (BCS) major incorporates programming and computational skills to meet the increasing demands for those skills in both graduate school and the workforce. The major offers a tiered system of subjects with enough flexibility to allow multiple avenues through the Brain and Cognitive Sciences curriculum, meeting the divergent goals of BCS students. Individual guidance regarding career goals is available from faculty and from Career Advising and Professional Development.

The Bachelor of Science in Computation and Cognition (Course 6-9) focuses on the emerging field of computational and engineering approaches to brain science, cognition and machine intelligence. The curriculum provides flexibility to accommodate students with a wide diversity of interests in this area—from biologically-inspired approaches to artificial intelligence, to reverse engineering circuits in the brain. This joint program prepares students for careers that include advanced applications of artificial intelligence and machine learning, as well as further graduate study in systems and cognitive neuroscience. Students in the program are full members of both departments, with an academic advisor from the Department of Brain and Cognitive Sciences.

**Minor in Brain and Cognitive Sciences**

The Minor in Brain and Cognitive Sciences consists of six subjects arranged in two levels of study, intended to provide students breadth in the field as a whole and some depth in an area of specialization.

### Core Subjects

- **9.00** Introduction to Psychological Science
- **9.01** Introduction to Neuroscience
- **9.40** Introduction to Neural Computation

### Specialized Subjects

Select any combination of three subjects from Tier 2 and/or Tier 3 of the undergraduate degree program:

**Tier 2 Subjects**

- **9.09[J]** Cellular and Molecular Neurobiology
- **9.13** The Human Brain
- **9.18[J]** Developmental Neurobiology
- **9.19** Computational Psycholinguistics
- **9.21[J]** Cellular Neurophysiology and Computing
- **9.26[J]** Principles and Applications of Genetic Engineering for Biotechnology and Neuroscience
- **9.35** Perception
- **9.49** Neural Circuits for Cognition
- **9.53** Emergent Computations Within Distributed Neural Circuits
- **9.66[J]** Computational Cognitive Science
- **9.85** Infant and Early Childhood Cognition

**Tier 3 Subjects**

- **9.24** Disorders and Diseases of the Nervous System
- **9.28** Current Topics in Developmental Neurobiology
- **9.32** Genes, Circuits, and Behavior
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<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
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<tbody>
<tr>
<td>9.42</td>
<td>The Brain and Its Interface with the Body</td>
</tr>
<tr>
<td>9.46</td>
<td>Neuroscience of Morality</td>
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Total Units: 72