

COMPUTATIONAL NEUROSCIENCE

This major is designed for students with an interest in applying mathematical and computational methodologies towards understanding the structure and functioning of the nervous system. It provides progressive training in interdisciplinary and inter-faculty aspects of neuroscience and serves as a foundation for students interested in pursuing post-graduate education or career opportunities in technically advanced occupations.

BACHELOR OF SCIENCE (BS) GENERAL OVERVIEW

Ten core courses:

- General Biology — Cell Biology and Physiology
- General Chemistry A
- Calculus I and II
- Physics for Life Sciences A and B
or Fundamentals of Physics I and II
- Neurobiology
- Neuroscience Colloquium
- Introduction to Psychology
- Statistics

Choose two of the following three courses:

- Cellular and Molecular Neuroscience
- Systems Neuroscience: From Synapses to Perception
- Introduction to Cognitive Neuroscience

Three computational courses. Examples include:

- Introduction to Programming
- Basics of Biomedical Imaging
- Introduction to Artificial Intelligence

One biological course. Examples include:

- Brain Architecture
- Neuroimmunity in Health and Disease

One behavioral course. Examples include:

- Sensation and Perception
- Functional Imaging of the Human Brain

One additional elective course

ACADEMIC OPPORTUNITIES

Undergraduate Research: Work in research labs and engage in studies that involve the use of computers and other technologies to study the information processing functions of the brain, often in close collaboration with experimentalists.

Freshman Science Honors Program: FSH allows exceptional freshmen to study in an enriched first-year biology and chemistry sequence, featuring smaller classes and access to lectures, tours, and field trips.

Seminar Series: The USC Neuroscience community, through various institutes, departments, and divisions, sponsors a number of different seminar series often featuring guest speakers such as Stefan Heller and Christopher Cowan.