

COMPUTATIONAL NEUROSCIENCE

This major is designed for students with an interest in applying mathematical and computational methodologies toward 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

Twelve core courses:

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

One basic computational courses.

Examples include:

- Programming in Python
- Introduction to Data Analytics

Two advanced computational courses.

Examples include:

- Introduction to Artificial Intelligence
- Basics of Biomedical Imaging

One biological course. Examples include:

- Brain Architecture
- The Brain in Health and Disease

One behavioral course. Examples include:

- Sensation and Perception
- Functional Imaging of the Human Brain
- Breaking Brains: The Pharmacology of Addiction

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 featuring guest speakers such as Stefan Heller and Christopher Cowan.