

Neuroscience Academic Learning Compact with Student Learning Outcomes

Neuroscience Mission Statement:

Students pursuing a slash in Neuroscience will explore how the mind's diverse sensory, motor, and cognitive phenomena are encoded by neural function at the cellular and systems level. They will develop skills for critical inquiry in neuroscience through engagement with current principles, techniques, findings, and debates and ethical considerations within the field. As Neuroscience is an interdisciplinary area, students pursuing the Neuroscience slash should expect to approach their study of the brain with both breadth and depth, which will allow them to understand how the brain works from multiple perspectives. In doing so, students pursuing the Neuroscience slash will be prepared for a number of paths post-graduation, which may include graduate and professional work in related fields.

Neuroscience Learning Outcomes:

Upon completion of the Neuroscience slash, students should be able to...

- Explain how sensory, cognitive and motor phenomena are encoded by neural function from the cellular to systems level, and have some familiarity and comfort with the current techniques employed to study these phenomena.
- Comprehend, analyze and critique contemporary scientific literature and debates in neuroscience
- Develop hypotheses related to a scientific question in neuroscience, and design experiments to test the hypotheses
- Clearly communicate scientific information in both written and oral forms
- Analyze, interpret, and present quantitative data in neuroscience
- Apply ethical reasoning to contemporary problems or debates in neuroscience

Measures to Track Student Progress:

In the 5th semester students declare a provisional joint disciplinary area of concentration in Neuroscience and list remaining academic work.

In the 6th semester students complete a thesis prospectus form describing their senior thesis research/project and listing remaining academic work.

Specific Measures to Demonstrate Each Graduate's Competencies:

All students with a Joint Disciplinary concentration in Neuroscience prepare a senior thesis/project under the direct supervision of a member of the faculty, and defend that thesis in a public oral baccalaureate exam. A baccalaureate committee of at least three faculty members evaluates the senior thesis/project and the oral exam and determines whether the student has demonstrated competency in Neuroscience at the expected level for graduation.