

# NEUROSCIENCE

## Codirectors: Tamily Weissman-Unni and Todd Watson

The interdisciplinary neuroscience minor is designed to allow students an opportunity to explore the fast-growing field of neuroscience from multiple perspectives. Students develop an in-depth understanding of nervous-system function in a structured and rigorous way while pursuing a major in another discipline. The minor draws from multiple departments and programs, including biochemistry and molecular biology, biology, chemistry, world languages and literatures, mathematical sciences, philosophy, physics, and psychology.

## Minor Requirements

A minimum of 22 semester credits (six courses), distributed as follows:

- BIO 252 Introduction to Neuroscience or PSY 252 Introduction to Neuroscience
- One 300- or 400-level neuroscience course with laboratory, chosen from the following:
 

|         |                         |
|---------|-------------------------|
| BIO 380 | Behavioral Genetics     |
| BIO 422 | Neurobiology            |
| PSY 350 | Behavioral Neuroscience |
| PSY 355 | Cognitive Neuroscience  |
- One 300- or 400-level neuroscience course chosen from the following:
 

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| BIO 380  | Behavioral Genetics  |
| BIO 422  | Neurobiology   |
| BIO 490  | Special Topics in Biology (when the focus is neuroscience) |
| CHEM 421 | Neurochemistry   |
| PSY 350  | Behavioral Neuroscience                                    |
| PSY 355  | Cognitive Neuroscience                                     |
| PSY 380  | Drugs and Behavior   |
| PSY 410  | Advanced Topics in Neuroscience                            |
- Three elective courses chosen from the following list. At least one of these courses must be from biology or chemistry, and at least one must be from outside of biology and chemistry. Students are strongly encouraged to take neuroscience electives outside of their own major, and may ask the program director for permission to use only courses from outside their major.
 

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| BCMB 496 | Biochemistry/Molecular Biology Senior Research (when topic has been approved by Neuroscience Program Committee) |
| BIO 200  | Investigations in Cell and Molecular Biology (cannot apply if major is biology)                                 |
| BIO 320  | Human Genes and Disease   |
| BIO 352  | Animal Behavior   |
| BIO 369  | Developmental Biology   |
| BIO 380  | Behavioral Genetics   |
| BIO 422  | Neurobiology  |
| BIO 490  | Special Topics in Biology (when the focus is neuroscience)  |
| BIO 495  | Biology Senior Thesis (when topic has been approved by Neuroscience Program Committee)                          |
| CHEM 330 | Structural Biochemistry   |

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| CHEM 421 | Neurochemistry   |
| CHEM 480 | Senior Research (when topic has been approved by Neuroscience Program Committee)               |
| CS 369   | Artificial Intelligence and Machine Learning   |
| PHIL 312 | Philosophy of Language   |
| PHIL 313 | Philosophy of Mind   |
| PHYS 380 | Topics in Physics (when the focus is biomedical imaging)                                       |
| PSY 220  | Thinking, Memory, and Problem Solving  |
| PSY 310  | Cognition  |
| PSY 350  | Behavioral Neuroscience  |
| PSY 355  | Cognitive Neuroscience   |
| PSY 375  | Health Psychology  |
| PSY 380  | Drugs and Behavior   |
| PSY 400  | Advanced Topics in Psychology (when topic has been approved by Neuroscience Program Committee) |
| PSY 410  | Advanced Topics in Neuroscience  |
| PSY 490  | Senior Thesis (when topic has been approved by Neuroscience Program Committee)                 |
| WLL 240  | Introduction to Linguistics  |

At least 12 semester credits must be exclusive to the minor and may not be used in any other set of major/minor requirements.

## Faculty

Cliff T. Bekar. Associate professor of economics, chair of the Department of Economics. Economic history, industrial organization, game theory. PhD 2000, MA 1992, BA 1990 Simon Fraser University.

Kenneth E. Clifton. Professor of biology, chair of the Department of Biology. Animal behavior, marine biology, ecology of coral reefs. PhD 1988 University of California at Santa Barbara. BA 1981 University of California at San Diego.

Rebecca Copenhaver. Professor of philosophy. Early modern philosophy, philosophy of mind, ethics. PhD 2001, MA 1998 Cornell University. BA 1993 University of California at Santa Cruz.

Janet E. Davidson. Associate professor of psychology, director of academic advising. Infant and child development, developmental psychopathology, internships. PhD 1989, MPhil 1987, MS 1985 Yale University. BS 1975 University of Washington.

Keith Dede. Professor of Chinese. Chinese language and linguistics. PhD 1999, MA 1993, BA 1988 University of Washington.

Peter Drake. Associate professor of computer science. Artificial intelligence/cognitive science. Programming languages. PhD 2002 Indiana University. MS 1995 Oregon State University. BA 1993 Willamette University.

Greg J. Hermann. Professor of biology. Developmental genetics and cell biology. PhD 1998 University of Utah. BS 1992 Gonzaga University.

Janis E. Lochner. Dr. Robert B. Pamplin Jr. Professor of Science, director of the Biochemistry and Molecular Biology Program (spring). Biochemistry. PhD 1981 Oregon Health Sciences University. BS 1976 Allegheny College.

Deborah E. Lycan. Professor of biology. Molecular biology, cell biology, ribosome biogenesis in eukaryotic cells, yeast genetics. PhD 1983 University of Colorado. BA 1975 University of California at San Diego.

Erik L. Nilsen. Associate professor of psychology. Cognition, methodology, human-computer interaction. PhD 1991, MA 1986 University of Michigan. BA 1984 Graceland College.

Arthur O'Sullivan. Dr. Robert B. Pamplin Jr. Professor of Economics. Urban economics, regional economics, microeconomic theory. PhD 1981 Princeton University. BS 1975 University of Oregon.

Todd Watson. Associate professor of psychology, chair of the Department of Psychology. Cognitive neuroscience, brain and behavior, statistics. PhD 2005 State University of New York at Stony Brook. MA 2000 Radford University. BS 1997 Pennsylvania State University.

Tamily Weissman. Associate professor of biology, co-director of the Neuroscience Program. Neurobiology. PhD 2004 Columbia University. BA 1992 Pomona College.

Yueping Zhang. Associate professor of psychology, co-director of the Neuroscience Program. Behavioral neuroscience, brain and behavior, drugs and behavior, cross-cultural psychology. PhD 1996, MA 1992 University of New Hampshire. MD 1985 Shandong Medical University.