

BS IN NEUROSCIENCE

Neuroscience is the study of the structure and function of the human brain and nervous system: how we sense our environment, how we move, how we think, make decisions, feel emotions, learn and form memories. Since the brain is involved in every important human endeavor, understanding the function, and dysfunction, of the brain is critical in a wide variety of fields (e.g., medicine, psychology, law, education and public policy).

A BS in Neuroscience prepares you for a wide range of career paths. You will be prepared to compete successfully for employment in biomedical research, medical device development, biotechnology, scientific advocacy, public policy or scientific writing. Graduates will also be highly competitive for pursuing medical school or a graduate degree in neurosciences, neuropharmacology and other related fields.

| Code | Title | Hours |
|--------------------------------|---|-------|
| NSM 1000 | Natural Sciences & Mathematics | 2 |
| NSCI 1000 | The Neuropsychiatric Patient | 1 |
| NSCI 2050 | Fundamentals of Neuroscience I | 3 |
| NSCI 3050 | Fundamentals of Neuroscience II | 3 |
| NSCI 3060 | Neuroscience Laboratory | 2 |
| NSCI 4010 | Functional Neuroanatomy | 3 |
| NSCI 4020 | Neuropharmacology | 3 |
| BIOL 4910 | Undergraduate Research | 3 |
| or INDI 4000 | Directed Research in Human Health Sciences | |
| BIOL 2170 | Fundamentals of Life Science: Biomolecules, Cells, and Inheritance | 4 |
| BIOL 2180 | Fundamentals of Life Science Laboratory: Biomolecules, Cells, and Inheritance | 1 |
| BIOL 3010 | Molecular Genetics | 3 |
| BIOL 3020 | Molecular Genetics Laboratory | 2 |
| BIOL 3030 | Cell Biology | 3 |
| BIOL 3070 | Human Physiology () | 3 |
| or PHCL 2610 | Introductory Physiology | |
| NSCI 4050 | Cognitive Neuroscience | 3 |
| BIOL 4700 | Biological Literature And Communication | 3 |
| CHEM 1230 | General Chemistry I | 4 |
| CHEM 1280 | General Chemistry Lab I | 1 |
| CHEM 1240 | General Chemistry II | 4 |
| CHEM 1290 | General Chemistry Lab II | 1 |
| CHEM 2410 | Organic Chemistry I | 3 |
| CHEM 2460 | Organic Chemistry Laboratory I for Non-Majors | 1 |
| CHEM 2420 | Organic Chemistry II | 3 |
| MATH 1750 | Calculus For The Life Sciences With Applications I | 4 |
| MATH 1760 | Calculus For The Life Sciences With Applications II | 3 |
| MATH 2600 | Introduction To Statistics | 3 |
| PHYS 2070 | General Physics I | 5 |
| PHYS 2080 | General Physics II | 5 |
| Choose three of the following: | | 9 |
| NSCI 4030 | Cell Biology of Neurons and Glia | |

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|----------------------|---|--------------|
| NSCI 4100 | Neuroinformatics | |
| NSCI 4510 | Medical Neuroanatomy I - Topographic | |
| NSCI 4520 | Medical Neuroanatomy II - Systems | |
| NSCI 4710 | Biophysics of Excitable Membranes | |
| BIOE 4720 | Cellular Electrophysiology | |
| Total Hours | | 88 |
| First Term | | Hours |
| NSM 1000 | Natural Sciences & Mathematics | 2 |
| BIOL 2170 | Fundamentals of Life Science: Biomolecules, Cells, and Inheritance | 4 |
| BIOL 2180 | Fundamentals of Life Science Laboratory: Biomolecules, Cells, and Inheritance | 1 |
| CHEM 1230 | General Chemistry I | 4 |
| CHEM 1280 | General Chemistry Lab I | 1 |
| ENGL 1110 | College Composition I | 3 |
| Hours | | 15 |
| Second Term | | |
| NSCI 1000 | The Neuropsychiatric Patient | 1 |
| NSCI 2050 | Fundamentals of Neuroscience I | 3 |
| CHEM 1240 | General Chemistry II | 4 |
| CHEM 1290 | General Chemistry Lab II | 1 |
| MATH 1750 | Calculus For The Life Sciences With Applications I | 4 |
| ENGL 1130 | College Composition II: Academic Disciplines And Discourse | 3 |
| Hours | | 16 |
| Third Term | | |
| NSCI 3050 | Fundamentals of Neuroscience II | 3 |
| BIOL 3010 | Molecular Genetics | 3 |
| BIOL 3030 | Cell Biology | 3 |
| CHEM 2410 | Organic Chemistry I | 3 |
| CHEM 2460 | Organic Chemistry Laboratory I for Non-Majors | 1 |
| MATH 1760 | Calculus For The Life Sciences With Applications II | 3 |
| Hours | | 16 |
| Fourth Term | | |
| NSCI 3060 | Neuroscience Laboratory | 2 |
| BIOL 3020 | Molecular Genetics Laboratory | 2 |
| BIOL 3070 | Human Physiology | 3 |
| CHEM 2420 | Organic Chemistry II | 3 |
| MATH 2600 | Introduction To Statistics | 3 |
| Arts/Humanities Core | | 3 |
| Hours | | 16 |
| Fifth Term | | |
| NSCI 4010 | Functional Neuroanatomy | 3 |
| NSCI 4020 | Neuropharmacology | 3 |
| PHYS 2070 | General Physics I | 5 |

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| Elective | | 3 |
| Hours | | 14 |
| Sixth Term | | |
| NSCI 4050 | Cognitive Neuroscience | 3 |
| PHYS 2080 | General Physics II | 5 |
| BIOL 4910 | Undergraduate Research | 2 |
| Social Sciences Core | | 3 |
| Elective | | 3 |
| Hours | | 16 |
| Seventh Term | | |
| NSCI 4030 | Cell Biology of Neurons and Glia | 3 |
| Elective - Major | | 3 |
| Arts/Humanities Core | | 3 |
| Diversity of US | | 3 |
| Non-US Diversity | | 3 |
| Hours | | 15 |
| Eighth Term | | |
| Elective - Major | | 3 |
| Elective - Major | | 3 |
| BIOL 4700 | Biological Literature And Communication | 3 |
| Social Sciences Core | | 3 |
| Hours | | 12 |
| Total Hours | | 120 |

- PLO 1. Explain and relate the structure and function of the nervous system in health and disease.
- PLO 2. Select and/or demonstrate the appropriate methods to use in the modern investigation of neuroscience topics.
- PLO 3. Apply principles of molecular/cellular, systems, cognitive, and/or bioinformatics neuroscience to research, education, and health.
- PLO 4. Evaluate the anatomical, developmental and functional components of neural circuits and organization.
- PLO 5. Interpret data and literature in the context of neural function, plasticity, and neurological disorders.
- PLO 6. Critically analyze scientific research as it relates to the field of neuroscience.
- PLO 7. Demonstrate appropriate oral and written skills to communicate scientific concepts to the public, peers, and specialists.
- PLO 8. Justify a chosen career path in neuroscience and related fields in biomedicine.
- PLO 9. Act ethically and responsibly in a professional setting.
- PLO 10. Act effectively as a member of a team.