

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	Foundations of Academic Success for Science and Math Majors	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	4
PHYS 2075	General Physics I - Lab	1
PHYS 2080	General Physics II	4

PHYS 2085	General Physics II - Lab	1
Choose three of the following:		9
NSCI 4030	Cell Biology of Neurons and Glia	
NSCI 4100	Neuroinformatics	
NSCI 4510	Medical Neuroanatomy I - Topographic	
NSCI 4520	Medical Neuroanatomy II - Systems	
NSCI 4710	Biophysics of Excitable Membranes	
BIOE 4720		

Total Hours 88

First Term		Hours
NSM 1000	Foundations of Academic Success for Science and Math Majors	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	4
PHYS 2075	General Physics I - Lab	1
Elective		3
Hours		14
Sixth Term		
NSCI 4050	Cognitive Neuroscience	3
PHYS 2080	General Physics II	4
PHYS 2085	General Physics II - Lab	1
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.