

Neuroscience Structured Concentration Multidisciplinary Studies, BS

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The Multidisciplinary Studies, BS offers a structured concentration in neuroscience. Students fulfilling the BA degree requirements are awarded a Multidisciplinary, BS.

Neuroscience is an interdisciplinary field under the umbrella of biomedical sciences that offers diverse coursework across academic disciplines that span STEM and the social sciences. The objective of the neuroscience structured concentration is to provide students with foundational and specialized knowledge of the nervous system at various structural and functional levels of analysis, including molecular, cellular, chemical, integrative, cognitive, and behavioral. In this program students acquire technical skills, advance their critical thinking, and refine their communication skills through faculty-mentored research experience opportunities and scholarly deliverables in the form of thesis projects. The neuroscience structured concentration is for students considering further study in advanced degree programs in the biomedical health sciences, medicine, or related health professions.

In order to declare a major in neuroscience undergraduate students must have at least 30 s.h. of completed coursework, a minimum cumulative GPA of 2.3, and at least a grade of "C" in [PSYC 1000](#) or [PSYC 1060](#). For more information about the neuroscience structured concentration, please contact the program director or visit the [program website](#).

Minimum degree requirement for the Multidisciplinary Studies, BS (with a neuroscience structured concentration) is 120 s.h. as follows:

1. General education requirements including those listed below - 40 s.h.

(For information about courses that carry general education credit view the [General Education Program](#) section.)

- [MATH 1065 - College Algebra](#) or higher approved general education math course
- [MATH 2228 - Elementary Statistical Methods I](#) or
- [MATH 2283 - Statistics for Business](#) or
- [PSYC 2101 - Psychological Statistics](#)
- [PSYC 1000 - Introductory Psychology](#) or
- [PSYC 1060 - Honors Introduction to Psychology](#)

Note:

The required statistics course counts toward the 3 s.h. general education elective.

2. Neuroscience structured concentration core - 42 s.h.

A minimum of 24 s.h. from sections II and III must be above 2999.

a. Research and seminar (6 s.h.)

All courses in the research and seminar core require a faculty mentor and approval of the program director. Choose a minimum of 6 s.h. from the following courses:

- [NEUR 2201 - Neuroscience Research](#)
- [NEUR 4200 - Literature in Neurosciences](#)
- [PSYC 4312 - Laboratory Methods in Behavioral Neuroscience](#)
- [PSYC 4315 - Neuroscience: Literature and Laboratory Experience](#)

b. Approved courses in the neuroscience structured concentration (36 s.h.)

- [NEUR 3310 - Introduction to Neuroscience](#) or
- [PSYC 3310 - Introduction to Neuroscience](#)

- [NEUR 4900 - Cellular and Molecular Neuroscience](#) or
- [PSYC 4250 - Advanced Topics Seminar](#) *

- [NEUR 4901 - Behavioral and Integrative Neuroscience](#)
- [NEUR 4950 - Neuroscience Senior Thesis I](#) **
- [NEUR 4951 - Neuroscience Senior Thesis II](#) **
- [PSYC 2210 - Research Methods in Psychology](#)
- [PSYC 3225 - Psychology of Learning](#)
- [PSYC 3226 - Cognitive Psychology](#)

- [PSYC 3227 - Learning Theories and Applications](#) or
- [PSYC 3311 - Neuropsychology](#)

- [PSYC 3375 - Abnormal Psychology](#)
- [PSYC 3312 - Sensation and Perception](#)
- [PSYC 4340 - Neuropsychopharmacology](#)

Notes:

* Course section must be designated “neurobiology of learning and memory”.

** Course requires a faculty mentor and approval of the program director.

3. Minor or approved structured electives - 18 s.h.

A minimum of 24 s.h. from sections II and III must be above 2999. The neuroscience structured concentration requires approved structured electives instead of a minor. Choose 18 s.h. from the following courses:

- [BIOL 1050 - General Biology](#)
- [BIOL 1051 - General Biology Laboratory](#)
- [BIOL 1100 - Principles of Biology I](#)
- [BIOL 1101 - Principles of Biology Laboratory I](#)
- [BIOL 1150 - Principles of Biology: A Human Approach](#)
- [BIOL 1151 - Principles of Biology: A Human Approach Discussion](#)
- [BIOL 1200 - Principles of Biology II](#)
- [BIOL 1201 - Principles of Biology Laboratory II](#)
- [BIOL 2015 - Introduction to Biological Anthropology](#)
- [BIOL 2016 - Biological Anthropology Laboratory](#)
- [BIOL 2110 - Fundamentals of Microbiology](#)
- [BIOL 2111 - Fundamentals of Microbiology Laboratory](#)
- [BIOL 2130 - Survey of Human Physiology and Anatomy](#)
- [BIOL 2131 - Survey of Human Physiology and Anatomy Laboratory](#)
- [BIOL 2140 - Human Physiology and Anatomy I](#)
- [BIOL 2141 - Human Physiology and Anatomy I Laboratory](#)
- [BIOL 2150 - Human Physiology and Anatomy II](#)
- [BIOL 2151 - Human Physiology and Anatomy II Laboratory](#)
- [BIOL 2300 - Principles of Genetics](#)
- [BIOL 3220 - Microbiology](#)
- [BIOL 3221 - Microbiology Laboratory](#)
- [BIOL 3260 - Cell and Developmental Biology](#)
- [BIOL 3310 - Cellular Physiology](#)
- [BIOL 3311 - Cellular Physiology Discussion](#)
- [BIOL 3620 - Biological Evolution](#)
- [BIOL 3621 - Biological Evolution Laboratory](#)
- [BIOL 4880 - Principles of Biochemistry I](#)
- [BIOL 4890 - Principles of Biochemistry II](#)
- [BIOL 4891 - Principles of Biochemistry Laboratory](#)
- [BIOL 5450 - Histology](#)
- [BIOL 5451 - Histology Laboratory](#)
- [CHEM 1120 - Introduction to Chemistry for the Allied Health Sciences](#)
- [CHEM 1121 - Basic General, Organic, and Biochemistry Laboratory I](#)
- [CHEM 1130 - Organic and Biochemistry for the Allied Health Sciences](#)
- [CHEM 1131 - Basic General, Organic, and Biochemistry Laboratory II](#)
- [CHEM 1150 - General Chemistry I](#)
- [CHEM 1151 - General Chemistry Laboratory I](#)
- [CHEM 1160 - General Chemistry II](#)
- [CHEM 1161 - General Chemistry Laboratory II](#)
- [CHEM 2750 - Organic Chemistry I](#)
- [CHEM 2753 - Organic Chemistry Laboratory I](#)

- [CHEM 2760 - Organic Chemistry II](#)
- [CHEM 2763 - Organic Chemistry Laboratory II](#)
- [CHEM 3770 - Biological Chemistry](#)
- [CHEM 3771 - Biological Chemistry Laboratory](#)
- [PHIL 1262 - Introduction to Philosophical Issues in Biology](#)
- [PHIL 2261 - Introduction to Philosophy of Science](#)
- [PHIL 3255 - Philosophy of Mind](#)
- [PHYS 1250 - General Physics I](#)
- [PHYS 1251 - General Physics Laboratory I](#)
- [PHYS 1260 - General Physics II](#)
- [PHYS 1261 - General Physics Laboratory II](#)
- [PHYS 2350 - University Physics I](#)
- [PHYS 2360 - University Physics II](#)

4. Electives to complete requirements for graduation.
