

BEHAVIORAL NEUROSCIENCE MAJOR

Behavioral neuroscience sits at the intersection of psychology and biology and studies the biological mechanisms of how the brain senses and perceives the environment, stores and retrieves memories, generates emotions, controls behavior, and produces consciousness. The major in behavioral neuroscience is excellent preparation for advanced degrees and careers in the health professions; behavioral, cognitive or affective neuroscience; experimental psychology; clinical neuropsychology; pharmacology and related areas.

The interdisciplinary major in Behavioral Neuroscience has 5 main learning objectives:

- To provide foundational knowledge in Behavioral Neuroscience and related fields (e.g., Psychology, Biology, and Chemistry).**
This is accomplished with introductory course work in the Department of Psychological and Brain Sciences, and complementary foundational coursework in the Departments of Biology and Chemistry and Biochemistry.
- To build skills in statistical analysis and research methods required to conduct and understand behavioral neuroscience research.**
All students will complete courses in Statistics and Research Methods, as well as a number of lab courses, to develop these skills. In advanced courses, students will read and analyze primary research articles and engage in scientific writing. Students may also participate in faculty-led or independent research projects.
- To develop effective communication skills orally and in writing.**
Students will write lab and research reports in required courses across disciplines, and will refine oral and written communication in advanced courses, seminars, and/or research experiences.
- To produce ethically responsible students.**
Students will complete ethical training as part of Research Methods and Supervised Research covering topics essential to understand responsible research conduct and professionalism.
- To develop students' abilities to synthesize knowledge by thinking critically and independently.**
Students will use the foundational knowledge acquired in introductory courses to make connections across fields, as they critically analyze and present research in advanced courses, seminars, and/or research experiences.

Requirements

Note: These requirements apply to students in the class of 2029 and later. Requirements for the major and minor in Behavioral Neuroscience for students in the class of 2028 and earlier can be found in the Catalog Archive.

For a 62-credit major in Behavioral Neuroscience, students complete the following:

| Code | Title | Credits |
|-------------------|---|---------|
| BIOL 1171 & 1171L | General Biology I and General Biology I Lab | 4 |
| BIOL 1172 & 1172L | General Biology II and General Biology II Lab | 4 |

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| CHEM 1171 & 1171L | General Chemistry I and General Chemistry I Lab | 4 |
| CHEM 1172 & 1172L | General Chemistry II and General Chemistry II Lab | 4 |
| CHEM 2271 & 2271L | Organic Chemistry I and Organic Chemistry I Lab | 4 |
| CHEM 2272 & 2272L | Organic Chemistry II and Organic Chemistry II Lab | 4 |
| PSYC 1010 | General Psychology | 3 |
| PSYC 1710 | General Neuroscience | 3 |
| PSYC 2610 | Behavioral Neuroscience | 3 |
| PSYC 2810 | Statistics for the Behavioral Sciences | 4 |
| PSYC 2820 or PSYC 2830 | Research Methods in Psychology or Research Methods in Behavioral Neuroscience | 4 |
| Select six elective courses in biology and psychology from the following: ¹ | | 18 |
| BIOL 1107 | Human Anatomy and Physiology I | |
| BIOL 1108 | Human Anatomy and Physiology II | |
| BIOL 1173 | General Biology III | |
| BIOL 2261 | Genetics | |
| BIOL 2262 | Human Physiology | |
| BIOL 3312 | Fundamentals of Neurobiology ¹ | |
| BIOL 3314 | Endocrinology | |
| BIOL 3324 or BIOL 3325 | Biochemistry I or Biochemistry II | |
| BIOL 3327 | Cell Biology | |
| BIOL 3342 | Developmental Biology | |
| BIOL 3354 | Molecular Biology | |
| PSYC 1740 | Drugs, Brain, and Behavior | |
| PSYC 2360 | Human Neuropsychology | |
| PSYC 2510 | Cognitive Psychology | |
| PSYC 2520 | Learning and Applied Behavior Analysis | |
| PSYC 2620 | Sensation and Perception | |
| PSYC 2900 | Special Topics (Shell) (with an emphasis in behavioral neuroscience) | |
| PSYC 3610 | Cognitive Neuroscience ¹ | |
| PSYC 3720 | Hormones and Behavior ¹ | |
| PSYC 3740 | Pharmacology and Mental Disorders ¹ | |
| PSYC 3760 | Molecular and Cellular Neuroscience ¹ | |
| PSYC 3955 | Supervised Research: Behavioral Neuroscience ² | |
| PSYC 4610 | Senior Seminar: Current Issues in Behavioral Neuroscience | |
| PSYC 4620 | Senior Seminar: Integrative Neuroscience | |
| PSYC 4710 | Senior Seminar in Neuroscience of Human Memory | |
| PSYC 4900 | Special Topics: Senior Seminar (with an emphasis in behavioral neuroscience) | |
| PSYC 4955 | Research Thesis in Behavioral Neuroscience ² | |
| Select one Capstone Experience from the following: ⁴ | | 3 |
| PSYC 4610 | Senior Seminar: Current Issues in Behavioral Neuroscience | |
| PSYC 4620 | Senior Seminar: Integrative Neuroscience | |

2 Behavioral Neuroscience Major

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| PSYC 4710 | Senior Seminar in Neuroscience of Human Memory |
| PSYC 4900 | Special Topics: Senior Seminar |
| PSYC 4955 | Research Thesis in Behavioral Neuroscience ² |
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| Total Credits | 62 |

¹ At least two elective courses must be in biology and at least two must be in psychology. At least one elective must be an advanced neuroscience course.

² May be taken twice; Behavioral neuroscience majors can take Supervised Research and the Research Thesis course up to two times each. They can be taken with the same research mentor or with different mentors. If the Research Thesis course is taken a second time, it should be for a separate project than the first. PSYC 2950 and PSYC 2955 (1 credit) do not count as psychology electives towards major requirements.

³ Only for certain sections; consult with the professor.

⁴ Cannot double count a capstone experience as an elective.