

# NEUROSCIENCE, BSLAS

*for the degree of Bachelor of Science in Liberal Arts and Sciences Major in Neuroscience*

The School of MCB's neuroscience curriculum combines the study of molecular and cellular biology with neuroscience, neurophysiology, neurochemistry, and neuro-pathology. Students will gain an understanding of brain function at multiple levels, from behavior and information processing to systems and integrative physiology. We use model organisms like fruit flies, fish, and mice, and we will explore cells at all levels, from the dish to cells functioning in animals. We seek to understand the causes of a variety of disorders, from neurodevelopmental to neurodegenerative disorders, from brain cancer to epilepsy, and to develop biomedical treatments for them. As a neuroscience major, you'll take a variety of cutting-edge courses and develop critically-important laboratory skills. Students conduct research alongside faculty who lead pioneering programs in sensory processing, neuroendocrinology, physiology of neurons and glia, regeneration, and cell signaling with advanced techniques, such as optogenetics and neuroimaging.

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Minimum Required Courses: 83-84 hours including 29 hours of 300- or 400-level courses. 12 hours of advanced level courses in the major must be taken on the Urbana-Champaign campus.

In addition, undergraduate research (MCB 290) in an MCB Neuroscience-designated lab is strongly recommended for students planning to go to graduate school. No more than 10 hours of MCB 290 credit may be counted towards the 120 hours required for a degree in Neuroscience.

Students earning a degree in Neuroscience may not also earn a second degree in the Specialized Curriculum in Biochemistry.

Students earning a degree in Neuroscience may not double major in Molecular and Cellular Biology.

## Distinction

Students in Neuroscience can qualify for Distinction via one of the following:

Distinction for Excellence in Research:

**To be eligible for graduation with Distinction a student must:**

Complete 3 semesters of MCB 290 for 2 credit hours or more each semester. Maintain a minimum cumulative GPA of 3.25 at the end of penultimate semester. Give at least one poster presentation at the Undergraduate Research symposium or other approved venue. Obtain a letter of support from their Principal Investigator.

**To be eligible for graduation with High Distinction a student must:**

Complete at least 2 semesters of MCB 290, in an MCB Neuroscience-designated lab, for 2 credit hours or more each semester. Complete 1 semester of MCB 492, in the same Neuroscience-designated lab, for 3 credit hours or more in their final semester. Maintain a minimum cumulative GPA of 3.25 at the end of penultimate semester. Give at least one presentation at the Undergraduate Research Symposium or

other approved venue. Submit a written thesis that is approved by the Distinction Committee. Obtain a letter of support from their Principal Investigator.

**To be eligible for graduation with Highest Distinction a student must:**

Complete at least 2 semesters of MCB 290, in an MCB Neuroscience-designated lab, for 2 credit hours or more each semester. Complete 1 semester of MCB 492, in the same Neuroscience-designated lab, for 3 credit hours or more in their final semester. Maintain a minimum cumulative GPA of 3.90 at the end of penultimate semester. Give at least one presentation at the Undergraduate Research Symposium or other approved venue. Submit a written thesis that is approved by the Distinction Committee. Obtain a letter of support from their Principal Investigator.

Distinction for Excellence in Academics:

**To be eligible for graduation with Academic Distinction a student must:**

Maintain a major GPA of 3.90 or higher in the Neuroscience major (MCB/Neuroscience, Chemistry, Physics and Math courses for the Neuroscience major) at the end of their penultimate semester.

General education: Students must complete the Campus General Education requirements, including the campus general education language requirement.

Minimum required major and supporting course work: 83-84 hours, including 29 credit hours of 300- or 400-level courses; 12 hours of 300- and 400-level courses in the major must be taken on this campus.

Minimum Hours required for graduation: 120 hours.

Code	Title	Hours
<b>Supporting Courses</b>		<b>30-31</b>
MATH 220 or MATH 221	Calculus Calculus I	
MATH 231 or STAT 212	Calculus II Biostatistics	
CHEM 102 & CHEM 103 & CHEM 104 & CHEM 105	General Chemistry I and General Chemistry Lab I and General Chemistry II and General Chemistry Lab II	
CHEM 232	Elementary Organic Chemistry I	
CHEM 233	Elementary Organic Chem Lab I	
PHYS 101 & PHYS 102	College Physics: Mech & Heat and College Physics: E&M & Modern	
<b>Neuroscience Introductory Courses</b>		<b>11</b>
MCB 150	Molec & Cellular Basis of Life	
MCB 170	Society and the Brain	
PSYC 100	Intro Psych	
<b>Neuroscience Core Courses</b>		<b>13</b>
MCB 250	Molecular Genetics	
MCB 251	Exp Techniqs in Molecular Biol	
MCB 252	Cells, Tissues & Development	
MCB 253	Exp Techniqs in Cellular Biol	
PSYC 210 or PSYC 224	Behavioral Neuroscience Cognitive Psych	

<b>Advanced Neuroscience Courses</b>		<b>14</b>
MCB 314	Introduction to Neurobiology	
MCB 354	Biochem & Phys Basis of Life	
MCB 460	Neuroanatomy Laboratory	
MCB 461	Cell & Molecular Neuroscience	
MCB 462	Integrative Neuroscience	
<b>Advanced Neuroscience Elective Courses</b>		
Five additional three- or four-credit hour courses (minimum of 15 hours) at the 300- to 400-level from the Approved Advanced Elective Courses List are also required. <sup>1</sup>		15
<b>Total Hours</b>		<b>83-84</b>

<sup>1</sup> The Approved Advanced Elective Course List will be available on the MCB website (<https://mcb.illinois.edu/undergrad/>) and will be updated each semester to most accurately reflect the courses to be offered each academic year.

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**school website:** <https://mcb.illinois.edu/undergrad/>  
**school faculty:** School Faculty (<https://mcb.illinois.edu/people/>)  
**advising:** MCB advising (<https://mcb.illinois.edu/undergrad/advising/>)  
**overview of college admissions & requirements:** Liberal Arts & Sciences (<http://catalog.illinois.edu/schools/las/academic-units/>)  
**college website:** <https://las.illinois.edu/>  
**email:** [advising@mcb.illinois.edu](mailto:advising@mcb.illinois.edu) ([undergrad@mcb.illinois.edu](mailto:undergrad@mcb.illinois.edu))