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.

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

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 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.

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Hours</th>
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<tbody>
<tr>
<td>MATH 220 or MATH 221</td>
<td>Calculus I</td>
<td>30-31</td>
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<tr>
<td>MATH 231 or STAT 212</td>
<td>Calculus II</td>
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<tr>
<td>CHEM 102 &amp; CHEM 103 &amp; CHEM 104 &amp; CHEM 105</td>
<td>General Chemistry I and General Chemistry Lab I and General Chemistry II and General Chemistry Lab II</td>
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<tr>
<td>PHYS 101 &amp; PHYS 102</td>
<td>College Physics: Mech &amp; Heat and College Physics: E&amp;M &amp; Modern</td>
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**Neuroscience Introductory Courses**

- MCB 150 Molec & Cellular Basis of Life
- MCB 170 Society and the Brain
- PSYC 100 Intro Psych

**Neuroscience Core Courses**

- 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 Behavioral Neuroscience or PSYC 224 Cognitive Psych

Information listed in this catalog is current as of 10/2023
<table>
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<tr>
<th>Advanced Neuroscience Courses</th>
<th>14</th>
</tr>
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<tbody>
<tr>
<td>MCB 314</td>
<td>Introduction to Neurobiology</td>
</tr>
<tr>
<td>MCB 354</td>
<td>Biochem &amp; Phys Basis of Life</td>
</tr>
<tr>
<td>MCB 460</td>
<td>Neuroanatomy Laboratory</td>
</tr>
<tr>
<td>MCB 461</td>
<td>Cell &amp; Molecular Neuroscience</td>
</tr>
<tr>
<td>MCB 462</td>
<td>Integrative Neuroscience</td>
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### Advanced Neuroscience Elective Courses

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.  

Total Hours | 83-84 |

1 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.

for the degree of Bachelor of Science in Liberal Arts and Sciences Major in Molecular & Cellular Biology

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school website: [https://mcb.illinois.edu/undergrad/](https://mcb.illinois.edu/undergrad/)
school faculty: School Faculty [https://mcb.illinois.edu/people/](https://mcb.illinois.edu/people/)
advising: MCB advising [https://mcb.illinois.edu/undergrad/advising/](https://mcb.illinois.edu/undergrad/advising/)

overview of college admissions & requirements: Liberal Arts & Sciences [http://catalog.illinois.edu/schools/las/academic-units/](http://catalog.illinois.edu/schools/las/academic-units/)
college website: [https://las.illinois.edu/](https://las.illinois.edu/)
email: advising@mcb.illinois.edu (undergrad@mcb.illinois.edu)

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