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.

**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 3.90 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.

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

Complete at least 3 semesters of MCB 290 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.

**Neuroscience Introductory Courses**

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>MCB 150</td>
<td>Molec &amp; Cellular Basis of Life</td>
<td>11</td>
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<tr>
<td>MCB 170</td>
<td>Society and the Brain</td>
<td>30-31</td>
</tr>
<tr>
<td>PSYC 100</td>
<td>Intro Psych</td>
<td>30-31</td>
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</table>

**Neuroscience Core Courses**

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>MCB 250</td>
<td>Molecular Genetics</td>
<td>13</td>
</tr>
<tr>
<td>MCB 251</td>
<td>Exp Techniqs in Molecular Biol</td>
<td></td>
</tr>
<tr>
<td>MCB 252</td>
<td>Cells, Tissues &amp; Development</td>
<td></td>
</tr>
<tr>
<td>MCB 253</td>
<td>Exp Techniqs in Cellular Biol</td>
<td></td>
</tr>
<tr>
<td>PSYC 210</td>
<td>Behavioral Neuroscience</td>
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</table>
Advanced Neuroscience Courses

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
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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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</table>

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

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Sample Sequence

This sample sequence is intended to be used only as a guide for degree completion. All students should work individually with their academic advisors to decide the actual course selection and sequence that works best for them based on their academic preparation and goals. Enrichment programming such as study abroad, minors, internships, and so on may impact the structure of this four-year plan. Course availability is not guaranteed during the semester indicated in the sample sequence.

Students must fulfill their Language Other Than English requirement by successfully completing a fourth level of a language other than English. See the corresponding section on the Degree and General Education Requirements page (http://catalog.illinois.edu/general-information/degree-general-education-requirements/).

First Year

<table>
<thead>
<tr>
<th>First Semester</th>
<th>Hours</th>
<th>Second Semester</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Free elective course</td>
<td></td>
<td>1 MCB 150</td>
<td>4</td>
</tr>
<tr>
<td>MCB 170</td>
<td>3</td>
<td>PSYC 100</td>
<td>4</td>
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<tr>
<td>CHEM 102</td>
<td>3</td>
<td>CHEM 104</td>
<td>3</td>
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<tr>
<td>CHEM 103</td>
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<td>CHEM 105</td>
<td>1</td>
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<tr>
<td>Composition I or MATH 220 (or MATH 221)</td>
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<td>MATH 220 (or MATH 221)</td>
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<tr>
<td>General</td>
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<td>Education course</td>
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<td><strong>17</strong></td>
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</tbody>
</table>

Second Year

<table>
<thead>
<tr>
<th>First Semester</th>
<th>Hours</th>
<th>Second Semester</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>MCB 250</td>
<td>3</td>
<td>MCB 252</td>
<td>3</td>
</tr>
<tr>
<td>MCB 251</td>
<td>2</td>
<td>MCB 253</td>
<td>2</td>
</tr>
<tr>
<td>CHEM 232</td>
<td>4</td>
<td>CHEM 233</td>
<td>2</td>
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<tr>
<td>STAT 212 or MATH 231</td>
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<td>PSYC 210 or 224</td>
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</tbody>
</table>

Total Hours 120

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School of Molecular & Cellular Biology website (https://mcb.illinois.edu/undergrad/)
School Faculty (https://mcb.illinois.edu/people/)
MCB advising (https://mcb.illinois.edu/undergrad/advising/)
MCB advising email (advising@mcb.illinois.edu)

Overview of College Admissions & Requirements: Liberal Arts & Sciences (http://catalog.illinois.edu/schools/las/academic-units/)
College of Liberal Arts and Sciences website (https://las.illinois.edu/)

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Information listed in this catalog is current as of 12/2023