BS in Neuroscience

Program Codes:
20FT0323BS

Degree Requirements
To earn a Bachelor of Science in Neuroscience degree from UIC, students must complete university, college, and department degree requirements. The curriculum requires a minimum of 120 semester hours as distributed below. Students should consult the College of Liberal Arts and Sciences section for additional degree requirements and college academic policies.

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENGL 160</td>
<td>Academic Writing I: Writing in Academic and Public Contexts</td>
<td>3</td>
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<tr>
<td>ENGL 161</td>
<td>Academic Writing II: Writing for Inquiry and Research</td>
<td>3</td>
</tr>
<tr>
<td>BIOS 110</td>
<td>Biology of Cells and Organisms</td>
<td>4</td>
</tr>
<tr>
<td>BIOS 120</td>
<td>Biology of Populations and Communities</td>
<td>4</td>
</tr>
<tr>
<td>BIOS 220</td>
<td>Genetics</td>
<td>3</td>
</tr>
<tr>
<td>BIOS 222</td>
<td>Cell Biology</td>
<td>3</td>
</tr>
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<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Hours</th>
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</thead>
<tbody>
<tr>
<td>CHEM 230</td>
<td>Organic Chemistry of Biological Systems</td>
<td>3-4</td>
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<tr>
<td>CHEM 231</td>
<td>Structure and Function</td>
<td></td>
</tr>
<tr>
<td>CHEM 233</td>
<td>Synthesis Techniques Laboratory</td>
<td>2</td>
</tr>
<tr>
<td>PHIL 202</td>
<td>Philosophy of Psychology</td>
<td>3</td>
</tr>
<tr>
<td>PSCH 242</td>
<td>Introduction to Research in Psychology</td>
<td>3</td>
</tr>
<tr>
<td>PSCH 343</td>
<td>Statistical Methods in Behavioral Science</td>
<td>4</td>
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<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIOS/PHIL/PSCH 484</td>
<td>Neuroscience I</td>
<td>3</td>
</tr>
<tr>
<td>BIOS/PHIL/PSCH 485</td>
<td>Neuroscience II</td>
<td>3</td>
</tr>
<tr>
<td>BIOS 286</td>
<td>The Biology of the Brain</td>
<td>3</td>
</tr>
<tr>
<td>or PSCH 262</td>
<td>Behavioral Neuroscience</td>
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Select one of the following:
<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
</tr>
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<tbody>
<tr>
<td>PHIL 201</td>
<td>Theory of Knowledge</td>
</tr>
<tr>
<td>PHIL 203</td>
<td>Metaphysics</td>
</tr>
<tr>
<td>PHIL 204</td>
<td>Introduction to the Philosophy of Science</td>
</tr>
<tr>
<td>PHIL 403</td>
<td>Metaphysics</td>
</tr>
<tr>
<td>PHIL 401</td>
<td>Theory of Knowledge</td>
</tr>
<tr>
<td>PHIL 402</td>
<td>Topics in Philosophy of Mind</td>
</tr>
<tr>
<td>PHIL 404</td>
<td>Philosophy of Science</td>
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</table>

Select two of the following laboratory courses:
<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
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</thead>
<tbody>
<tr>
<td>BIOS 483</td>
<td>Neuroanatomy</td>
</tr>
<tr>
<td>BIOS 486</td>
<td>Animal Behavior and Neuroethology</td>
</tr>
<tr>
<td>BIOS 489</td>
<td>Cellular Neurobiology Laboratory</td>
</tr>
<tr>
<td>PSCH 351</td>
<td>Laboratory in Perception</td>
</tr>
<tr>
<td>PSCH 361</td>
<td>Laboratory in Learning and Conditioning</td>
</tr>
<tr>
<td>PSCH 363</td>
<td>Laboratory in Behavioral Neuroscience</td>
</tr>
<tr>
<td>PSCH 367</td>
<td>Laboratory in Cognitive Neuroscience</td>
</tr>
<tr>
<td>BME 476</td>
<td>Neural Engineering I Laboratory</td>
</tr>
<tr>
<td>BIOS 482</td>
<td>Molecular and Developmental Neurobiology Laboratory</td>
</tr>
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Select one of the following:
<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>PSCH 350</td>
<td>Sensation and Perception</td>
</tr>
<tr>
<td>PSCH 360</td>
<td>Learning and Conditioning</td>
</tr>
<tr>
<td>PSCH 366</td>
<td>Cognitive Neuroscience</td>
</tr>
</tbody>
</table>

Nine semester hours in upper-division courses in biological sciences, chemistry, philosophy, psychology, or any physics courses to be chosen in consultation with an academic advisor.

Electives to complete degree requirement of 120 hours

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
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</thead>
<tbody>
<tr>
<td>CHEM 116</td>
<td>Honors and Majors General and Analytical Chemistry I</td>
</tr>
<tr>
<td>CHEM 118</td>
<td>Honors and Majors General and Analytical Chemistry II</td>
</tr>
</tbody>
</table>

OR

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>CHEM 122</td>
<td>Matter and Energy</td>
</tr>
<tr>
<td>CHEM 123</td>
<td>Foundations of Chemical Inquiry I</td>
</tr>
<tr>
<td>CHEM 124</td>
<td>Chemical Dynamics</td>
</tr>
<tr>
<td>CHEM 125</td>
<td>Foundations of Chemical Inquiry II</td>
</tr>
</tbody>
</table>

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a. Students should consult the General Education section of the catalog for a list of approved courses in this category.
b. This course is approved for the Understanding the Individual and Society General Education category.
c. This course is approved for the Analyzing the Natural World General Education category.
d. Completion of MATH 121, the prerequisite to MATH 180, or placement into MATH 170 or MATH 180 fulfills the LAS Quantitative Reasoning requirement.
### Recommended Plan of Study

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>First Year</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Fall Semester</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ENGL 160</td>
<td>Academic Writing I: Writing in Academic and Public Contexts</td>
<td>3</td>
</tr>
<tr>
<td>MATH 170 or MATH 180</td>
<td>Calculus for the Life Sciences or Calculus I</td>
<td>4</td>
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<tr>
<td>Select one of the following:</td>
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<tr>
<td>CHEM 116</td>
<td>Honors and Majors General and Analytical Chemistry I</td>
<td>5</td>
</tr>
<tr>
<td>CHEM 122 &amp; CHEM 123</td>
<td>Matter and Energy and Foundations of Chemical Inquiry I</td>
<td>5</td>
</tr>
<tr>
<td>General Education Requirement</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td><strong>Hours</strong></td>
<td></td>
<td>15</td>
</tr>
<tr>
<td><strong>Spring Semester</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ENGL 161</td>
<td>Academic Writing II: Writing for Inquiry and Research</td>
<td>3</td>
</tr>
<tr>
<td>Select one of the following:</td>
<td></td>
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<tr>
<td>CHEM 118</td>
<td>Honors and Majors General and Analytical Chemistry II</td>
<td>5</td>
</tr>
<tr>
<td>CHEM 124 &amp; CHEM 125</td>
<td>Chemical Dynamics and Foundations of Chemical Inquiry II</td>
<td>5</td>
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<tr>
<td>BIOS 110 or BIOS 120</td>
<td>Biology of Cells and Organisms or Biology of Populations and Communities</td>
<td>4</td>
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<tr>
<td>PSCH 100</td>
<td>Introduction to Psychology</td>
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<tr>
<td><strong>Hours</strong></td>
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<tr>
<td><strong>Second Year</strong></td>
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<tr>
<td><strong>Fall Semester</strong></td>
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<tr>
<td>PSCH 242</td>
<td>Introduction to Research in Psychology</td>
<td>3</td>
</tr>
<tr>
<td>CHEM 230 or CHEM 232</td>
<td>Organic Chemistry of Biological Systems or Structure and Function</td>
<td>3-4</td>
</tr>
<tr>
<td>BIOS 110 or BIOS 120</td>
<td>Biology of Cells and Organisms or Biology of Populations and Communities</td>
<td>4</td>
</tr>
<tr>
<td>Foreign Language</td>
<td></td>
<td>4</td>
</tr>
<tr>
<td><strong>Hours</strong></td>
<td></td>
<td>14-15</td>
</tr>
<tr>
<td><strong>Spring Semester</strong></td>
<td></td>
<td></td>
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<tr>
<td>CHEM 233</td>
<td>Synthesis Techniques Laboratory</td>
<td>2</td>
</tr>
<tr>
<td>BIOS 222</td>
<td>Cell Biology</td>
<td>3</td>
</tr>
<tr>
<td>PSCH 262 or BIOS 286</td>
<td>Behavioral Neuroscience or The Biology of the Brain</td>
<td>3</td>
</tr>
<tr>
<td>General Education Requirement</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>Foreign Language</td>
<td></td>
<td>4</td>
</tr>
<tr>
<td><strong>Hours</strong></td>
<td></td>
<td>15</td>
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<tr>
<td><strong>Third Year</strong></td>
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<td></td>
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<tr>
<td><strong>Fall Semester</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PHIL 202 or PSCH 360</td>
<td>Philosophy of Psychology or Learning and Conditioning</td>
<td>3</td>
</tr>
<tr>
<td>BIOS 220</td>
<td>Genetics</td>
<td>3</td>
</tr>
<tr>
<td>Advanced-level Elective in BIOS, CHEM, PHIL, or PSCH, or any PHYS</td>
<td></td>
<td>3</td>
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<tr>
<td>General Education Requirement</td>
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<td>3</td>
</tr>
<tr>
<td>Foreign Language</td>
<td></td>
<td>4</td>
</tr>
<tr>
<td><strong>Hours</strong></td>
<td></td>
<td>16</td>
</tr>
<tr>
<td><strong>Spring Semester</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PSCH 343</td>
<td>Statistical Methods in Behavioral Science</td>
<td>4</td>
</tr>
<tr>
<td>PHIL 202 or PSCH 366</td>
<td>Philosophy of Psychology or Cognitive Neuroscience</td>
<td>3</td>
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<tr>
<td>Foreign Language</td>
<td></td>
<td>4</td>
</tr>
<tr>
<td><strong>Total Hours</strong></td>
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<td>120</td>
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</tbody>
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**Notes:**

- General Education credit is given for successful completion of both CHEM 122/CHEM 123 or CHEM 124/CHEM 125.
- PHIL 202 fulfills the LAS Writing-in-the-Discipline requirement.
- BIOS 386 is also recommended from the biological sciences electives to develop written and oral communication skills.

**Advanced level BIOS, CHEM, PHIL, PSCH or any PHYS**

**Fourth Year**

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Hours</th>
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<tbody>
<tr>
<td>BIOS 484</td>
<td>Neuroscience I</td>
<td>3</td>
</tr>
<tr>
<td>or PSCH 484</td>
<td>Neuroscience I</td>
<td>3</td>
</tr>
<tr>
<td>or PHIL 484</td>
<td>Neuroscience I</td>
<td>3</td>
</tr>
<tr>
<td>PHIL 201</td>
<td>Theory of Knowledge</td>
<td>3</td>
</tr>
<tr>
<td>or PHIL 203</td>
<td>Metaphysics</td>
<td>3</td>
</tr>
<tr>
<td>or PHIL 204</td>
<td>Introduction to the Philosophy of Science</td>
<td>3</td>
</tr>
<tr>
<td>or PHIL 401</td>
<td>Theory of Knowledge</td>
<td>3</td>
</tr>
<tr>
<td>or PHIL 402</td>
<td>Topics in Philosophy of Mind</td>
<td>3</td>
</tr>
<tr>
<td>or PHIL 403</td>
<td>Metaphysics</td>
<td>3</td>
</tr>
<tr>
<td>or PHIL 404</td>
<td>Philosophy of Science</td>
<td>3</td>
</tr>
<tr>
<td>BIOS/PSCH lab</td>
<td></td>
<td>3-4</td>
</tr>
<tr>
<td>General Education Requirement</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>Elective</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td><strong>Hours</strong></td>
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<td>14-15</td>
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**Advanced level BIOS, CHEM, PHIL, PSCH or any PHYS**

**Spring Semester**

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Hours</th>
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<tbody>
<tr>
<td>BIOS 485</td>
<td>Neuroscience II</td>
<td>3</td>
</tr>
<tr>
<td>or PHIL 485</td>
<td>Neuroscience II</td>
<td>3</td>
</tr>
<tr>
<td>or PSCH 485</td>
<td>Neuroscience II</td>
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<tr>
<td>BIOS/PSCH lab</td>
<td></td>
<td>3-4</td>
</tr>
<tr>
<td>Elective</td>
<td></td>
<td>5</td>
</tr>
<tr>
<td><strong>Hours</strong></td>
<td></td>
<td>14-15</td>
</tr>
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</table>

**Total Hours**

- MATH 170 or MATH 180, with a grade of C or better, satisfies the Quantitative Reasoning requirement.
- The two Analyzing the Natural World and the two additional General Education course requirements can be satisfied with BIOS 110, BIOS 120 and CHEM 122, CHEM 123, CHEM 124, CHEM 125.