NEUROSCIENCE - BS, Molecular and Cellular Neuroscience

Neuroscience is the study of the nervous system and its impact on behavior and cognitive functions. This interdisciplinary field integrates several areas of study, including biology, chemistry, physics, biochemistry, psychology, and medicine. The core courses for this degree include a foundation in the life sciences, and a foundational sequence in neuroscience that will prepare students for more advanced NRSC courses. The Neuroscience degree track administered by the Department of Biology (NRSC MCB) focuses on the biological basis of neurological processes at the molecular and cellular level. Students completing the NRSC MCB degree will be well prepared for jobs in medical and biotechnology fields, and they will be competitive for admission to medical or graduate school.

Program Requirements

First Year

<table>
<thead>
<tr>
<th>Fall</th>
<th>Semester Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIOL 111</td>
<td>Introductory Biology I 1, 2</td>
</tr>
<tr>
<td>CHEM 119</td>
<td>Fundamentals of Chemistry I 1</td>
</tr>
<tr>
<td>ENGL 104</td>
<td>Composition and Rhetoric 2</td>
</tr>
<tr>
<td>MATH 147</td>
<td>Calculus I for Biological Sciences 1</td>
</tr>
<tr>
<td>or MATH 151</td>
<td>or Engineering Mathematics I</td>
</tr>
</tbody>
</table>

Spring

| BIOL 112     | Introductory Biology II 1, 2 | 4 |
| CHEM 120     | Fundamentals of Chemistry II 1 | 4 |
| PBSI 107     | Introduction to Psychology 1 | 3 |
| Select one of the following: 1 | 3-4 |
| MATH 148     | Calculus II for Biological Sciences | 4 |
| MATH 152     | Engineering Mathematics II 1 | 4 |
| STAT 201     | Elementary Statistical Inference | 3 |

Second Year

<table>
<thead>
<tr>
<th>Fall</th>
<th>Semester Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIOL 213</td>
<td>Molecular Cell Biology 1</td>
</tr>
<tr>
<td>NRSC 277/277</td>
<td>Essential Neuroscience - From Molecules to Nervous Systems 1, 2</td>
</tr>
<tr>
<td>PHYS 201</td>
<td>College Physics 1</td>
</tr>
<tr>
<td>Select one of the following: 1</td>
<td>4</td>
</tr>
<tr>
<td>CHEM 227</td>
<td>Organic Chemistry I 1</td>
</tr>
<tr>
<td>&amp; CHEM 237</td>
<td>Organic Chemistry Laboratory</td>
</tr>
<tr>
<td>CHEM 257</td>
<td>Organic Chemistry I - Structure and Function</td>
</tr>
</tbody>
</table>

Third Year

<table>
<thead>
<tr>
<th>Fall</th>
<th>Semester Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>BICH 410</td>
<td>Comprehensive Biochemistry I 1</td>
</tr>
<tr>
<td>STAT 312</td>
<td>Statistics for Biology 1</td>
</tr>
<tr>
<td>NRSC 450/VIBS 450</td>
<td>Mammalian Functional Neuroanatomy</td>
</tr>
<tr>
<td>American history (<a href="http://catalog.tamu.edu/undergraduate/general-information/university-core-curriculum/#american-history">http://catalog.tamu.edu/undergraduate/general-information/university-core-curriculum/#american-history</a>) 1</td>
<td>3</td>
</tr>
<tr>
<td>Creative arts (<a href="http://catalog.tamu.edu/undergraduate/general-information/university-core-curriculum/#creative-arts">http://catalog.tamu.edu/undergraduate/general-information/university-core-curriculum/#creative-arts</a>) 1</td>
<td>3</td>
</tr>
</tbody>
</table>

Fourth Year

<table>
<thead>
<tr>
<th>Fall</th>
<th>Semester Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIOL 413</td>
<td>Cell Biology 1</td>
</tr>
<tr>
<td>BIOL 434/NRSC 434</td>
<td>Regulatory and Behavioral Neuroscience</td>
</tr>
<tr>
<td>BIOL 435</td>
<td>Laboratory for Regulatory and Behavioral Neuroscience</td>
</tr>
<tr>
<td>Neuroscience electives 2</td>
<td>6</td>
</tr>
</tbody>
</table>

Spring

| POLS 207     | State and Local Government 1 | 3 |
| Neuroscience electives 2 | 6 |
| General electives 2 | 9-10 |

Total Semester Credit Hours 120

1 Course must be completed by start of fifth full semester.
2 Must earn a grade of C or better.
3 Select any approved course in area from Core Curriculum (http://catalog.tamu.edu/undergraduate/general-information/university-core-curriculum/) list.
Select from BIOL 388, BIOL 430, BIOL 444/NRSC 444; NRSC 300-499 (http://catalog.tamu.edu/undergraduate/course-descriptions/pbsi/); PBSI 320, PBSI 332, PBSI 333, PBSI 336, PBSI 340, PBSI 350, PBSI 360, PBSI 440. Maximum combination of 6 hours from 485 and 491 may be used.

Any course except AGLS 101; ASCC 101; ASCC 102; ASCC 289; BIMS 101; BIOL 101, BIOL 107, BIOL 113, BIOL 206; CHEM 106, CHEM 116; ECCB 101 MATH 102; MATH 142. Only one KINE 199 can be used as a general elective. Three hours must be in the area of International and Cultural Diversity (http://catalog.tamu.edu/undergraduate/general-information/degree-information/international-cultural-diversity-requirements/), and three hours must be in the area of Cultural Discourse (http://catalog.tamu.edu/undergraduate/general-information/degree-information/cultural-discourse-requirements/). These may be in addition to other University Core Curriculum courses, or, if a course in this category satisfies another area of the Core, it can be used to meet both requirements.

The following are CBK courses and must be completed prior to the start of 5th full semester: BIOL 111, BIOL 112, BIOL 213; VIBS 277/NRSC 277; CHEM 119, CHEM 120, CHEM 257 or CHEM 227 and CHEM 237, CHEM 258 or CHEM 228 and CHEM 238; MATH 147, MATH 148 or STAT 201.

Graduation requirements must include two courses in the major with the Writing Intensive (UWRT) attribute. Please see advisor for options.