BS in Neuroscience (285620) MAP Sheet
Family Home and Social Sciences, Neuroscience Center
For students entering the degree program during the 2020-2021 curricular year.
The neuroscience undergraduate program is an interdisciplinary program that allows students to seek advisement at the Liberal Arts Advisement and Careers or the College of Life Sciences Student Services.

### University Core and Graduation Requirements

#### University Core Requirements:

<table>
<thead>
<tr>
<th>Requirements</th>
<th>#Classes</th>
<th>Hours</th>
<th>Classes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Religion Cornerstones</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Teachings and Doctrine of The Book of Mormon</td>
<td>1</td>
<td>2.0</td>
<td>REL A 275</td>
</tr>
<tr>
<td>Jesus Christ and the Everlasting Gospel</td>
<td>1</td>
<td>2.0</td>
<td>REL A 250</td>
</tr>
<tr>
<td>Foundations of the Restoration</td>
<td>1</td>
<td>2.0</td>
<td>REL C 225</td>
</tr>
<tr>
<td>The Eternal Family</td>
<td>1</td>
<td>2.0</td>
<td>REL C 200</td>
</tr>
<tr>
<td>The Individual and Society</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>American Heritage</td>
<td>1-2</td>
<td>3-6.0</td>
<td>from approved list</td>
</tr>
<tr>
<td>Global and Cultural Awareness</td>
<td>1</td>
<td>3.0</td>
<td>from approved list</td>
</tr>
<tr>
<td>Skills</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>First Year Writing</td>
<td>1</td>
<td>3.0</td>
<td>from approved list</td>
</tr>
<tr>
<td>Advanced Written and Oral Communications</td>
<td>1</td>
<td>3.0</td>
<td>from approved list</td>
</tr>
<tr>
<td>Quantitative Reasoning</td>
<td>0-1</td>
<td>0-3.0</td>
<td>from approved list</td>
</tr>
<tr>
<td>Languages of Learning (Math or Language)</td>
<td>1</td>
<td>3-4.0</td>
<td>MATH 112* or STAT 121*</td>
</tr>
<tr>
<td>Arts, Letters, and Sciences</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Civilization 1</td>
<td>1</td>
<td>3.0</td>
<td>from approved list</td>
</tr>
<tr>
<td>Civilization 2</td>
<td>1</td>
<td>3.0</td>
<td>from approved list</td>
</tr>
<tr>
<td>Arts</td>
<td>1</td>
<td>3.0</td>
<td>from approved list</td>
</tr>
<tr>
<td>Letters</td>
<td>1</td>
<td>3.0</td>
<td>from approved list</td>
</tr>
<tr>
<td>Biological Science</td>
<td>1</td>
<td>3-4.0</td>
<td>from approved list</td>
</tr>
<tr>
<td>Physical Science</td>
<td>2</td>
<td>7.0</td>
<td>CHEM 105*, PHSCS 105* or 121*</td>
</tr>
<tr>
<td>Social Science</td>
<td>1</td>
<td>3.0</td>
<td>PSYCH 111</td>
</tr>
<tr>
<td>Core Enrichment: Electives</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Religion Electives</td>
<td>3-4</td>
<td>6.0</td>
<td>from approved list</td>
</tr>
<tr>
<td>Open Electives</td>
<td>Variable</td>
<td>Variable</td>
<td>personal choice</td>
</tr>
</tbody>
</table>

Note: NEURO 316 fulfills GE Advanced Written and Oral Communication requirement. English 315 will substitute for this course.

#### Graduation Requirements:

Minimum residence hours required: 30.0
Minimum hours needed to graduate: 120.0

### Suggested Sequence of Courses

#### Freshman Year

<table>
<thead>
<tr>
<th>1st Semester</th>
<th>2nd Semester</th>
</tr>
</thead>
<tbody>
<tr>
<td>CHEM 105</td>
<td>3.0</td>
</tr>
<tr>
<td>CHEM 106</td>
<td>3.0</td>
</tr>
<tr>
<td>PSYCH 111</td>
<td>3.0</td>
</tr>
<tr>
<td>NEURO 205</td>
<td>3.0</td>
</tr>
<tr>
<td>Religion Cornerstone course</td>
<td>2.0</td>
</tr>
<tr>
<td>Religion Cornerstone course</td>
<td>2.0</td>
</tr>
<tr>
<td>Total Hours</td>
<td>15.0</td>
</tr>
</tbody>
</table>

#### Sophomore Year

<table>
<thead>
<tr>
<th>3rd Semester</th>
<th>4th Semester</th>
</tr>
</thead>
<tbody>
<tr>
<td>CHEM 361</td>
<td>3.0</td>
</tr>
<tr>
<td>PDBIO 360</td>
<td>3.0</td>
</tr>
<tr>
<td>General electives</td>
<td>4.0</td>
</tr>
<tr>
<td>Total Hours</td>
<td>15.0</td>
</tr>
</tbody>
</table>

#### Junior Year

<table>
<thead>
<tr>
<th>5th Semester</th>
<th>6th Semester</th>
</tr>
</thead>
<tbody>
<tr>
<td>NEURO 316, WRTG 315 or 316</td>
<td>3.0</td>
</tr>
<tr>
<td>General elective</td>
<td>3.0</td>
</tr>
<tr>
<td>MATH 112</td>
<td>4.0</td>
</tr>
<tr>
<td>Religion elective</td>
<td>2.0</td>
</tr>
<tr>
<td>Total Hours</td>
<td>16.0</td>
</tr>
</tbody>
</table>

#### Senior Year

<table>
<thead>
<tr>
<th>7th Semester</th>
<th>8th Semester</th>
</tr>
</thead>
<tbody>
<tr>
<td>NEURO 480</td>
<td>3.0</td>
</tr>
<tr>
<td>Religion elective</td>
<td>2.0</td>
</tr>
<tr>
<td>Global &amp; Cultural Awareness elective</td>
<td>3.0</td>
</tr>
<tr>
<td>Total Hours</td>
<td>16-17.0</td>
</tr>
</tbody>
</table>

Note: Students are encouraged to complete an average of 16 credit hours each semester or 32 credit hours each year, which could include spring and/or summer terms. Taking fewer credits substantially increases the cost and the number of semesters to graduate.
## BS in Neuroscience (285620)
### 2020-2021 Program Requirements (66 - 69 Credit Hours)

The Neuroscience Center requires a minimum of 22 hours of neuroscience major credit to be taken in residence at BYU for this degree program. These hours may also go toward BYU's 30-hour residency requirement for graduation. Only 8 hours of Independent Study can be counted towards the neuroscience major credit.

### REQUIREMENT 1
Complete 1 option

- Neuro 449R - Undergraduate Research Experience 3.0
- Neuro 481 - Neuroscience Laboratory 1.0
- Neuro 496R - Neuroscience Academic Internship 12.0

### REQUIREMENT 2
Complete 4 courses

**MAJOR CORE COURSES:**

- Neuro 201 - Neurobiology 3.0
- Neuro 360 - Neuroanatomy 2.0
- Neuro 380 - Behavioral Neuroscience 3.0
- Neuro 480 - Advanced Neuroscience 3.0

**LIFE SCIENCES COURSES:**

- CHEM 352 - Organic Chemistry 2
- CHEM 351 - General Chemistry 1 3.0
- CHEM 107 - Organic Chemistry Laboratory 1.0

**CHEMISTRY COURSES:**

- CHEM 105 - General College Chemistry 1 with Lab (Integrated) 4.0
- CHEM 106 - General College Chemistry 2 3.0
- CHEM 107 - General Chemistry Laboratory 1.0
- CHEM 351 - Organic Chemistry 1 3.0
- CHEM 352 - Organic Chemistry 2 3.0

### REQUIREMENT 3
Complete 2 options

**OPTION 5.1**

- PSYCH 111 - Introduction to Psychological Science 3.0
- PSYCH 375 - Cognition 3.0

**OPTION 5.2**

- PWS 340 - Genetics 3.0

**OPTION 5.3**

- PSYCH 513R - (Not currently offered) 3.0
- PSYCH 377 - The Cognitive Neuroscience of Memory 3.0
- PSYCH 382 - Stress Psychology 3.0
- PSYCH 388 - Drugs, Reward and Addiction 3.0
- PSYCH 513R - (Not currently offered) 3.0

**OPTION 5.4**

- STDEV 399R - Health Professions Internship 2.0
- STDEV 375 - Dental School Preparation Laboratory Experience 2.0
- STDEV 359R - Health Professions Internship 3.0

**OPTION 5.5**

- STDEV 272 - Preview of Optometry 1.0
- STDEV 271 - Preview of Dentistry 1.0
- STDEV 272 - Preview of Medicine 1.0

**OPTION 5.6**

- STDEV 470 - Health Professions Application 2.0

### REQUIREMENT 4
Complete 5 courses

**OPTION 6.1**

- Neuro 316 - Movement (Lab) 1.0
- Psych 513R - (Not currently offered) 3.0

**OPTION 6.2**

- Neuro 317 - Sensation and Perception 3.0
- Neuro 377 - The Cognitive Neuroscience of Memory 3.0
- Neuro 382 - Stress Psychology 3.0
- Neuro 388 - Drugs, Reward and Addiction 3.0

**OPTION 6.3**

- STDEV 271 - Preview of Dentistry 1.0
- STDEV 272 - Preview of Medicine 1.0
- STDEV 273 - Preview of Optometry 1.0

**OPTION 6.4**

- STDEV 359R - Health Professions Internship 3.0
- STDEV 375 - Dental School Preparation Laboratory Experience 2.0
- STDEV 399R - Health Professions Internship 2.0

### REQUIREMENT 5
Complete 1 option

**ELECTIVES: COMPLETE 9.0 HOURS FROM THE FOLLOWING ELECTIVE LIST:**

- CHEM 481 - Biochemistry 3.0
- CHEM 482 - Mechanisms of Molecular Biology 3.0
- COMD 334 - Hearing Science and Acoustics 3.0
- ME EN 552 - Neuromechanics of Movement 3.0
- Neuro 390R - Special Topics in Neuroscience 3.0
- Neuro 420R - Senior Practicum: Community Projects 3.0
- PDBIO 561 - Physiology of Drug Mechanisms 3.0
- PDBIO 565 - Endocrinology 3.0
- PDBIO 568 - Cellular Electrophysiology and Biophysics 3.0
- PSYCH 342 - Abnormal Psychology 3.0
- PSYCH 370 - Sensation and Perception 3.0
- PSYCH 377 - The Cognitive Neuroscience of Memory 3.0
- PSYCH 382 - Stress Psychology 3.0
- PSYCH 388 - Drugs, Reward and Addiction 3.0
- PSYCH 513R - (Not currently offered) 3.0
- PWS 340 - Genetics 3.0
- STDEV 271 - Preview of Dentistry 1.0
- STDEV 272 - Preview of Medicine 1.0
- STDEV 273 - Preview of Optometry 1.0
- STDEV 359R - Health Professions Internship 3.0
- STDEV 375 - Dental School Preparation Laboratory Experience 2.0
- STDEV 399R - Health Professions Internship 2.0

### REQUIREMENT 6
Complete 2 options

**OPTION 5.1**

- PSYCH 111 - Introduction to Psychological Science 3.0
- PSYCH 375 - Cognition 3.0

**OPTION 5.2**

- PWS 340 - Genetics 3.0

**OPTION 5.3**

- PSYCH 513R - (Not currently offered) 3.0
- PSYCH 377 - The Cognitive Neuroscience of Memory 3.0
- PSYCH 382 - Stress Psychology 3.0
- PSYCH 388 - Drugs, Reward and Addiction 3.0
- PSYCH 513R - (Not currently offered) 3.0

**OPTION 5.4**

- STDEV 271 - Preview of Dentistry 1.0
- STDEV 272 - Preview of Medicine 1.0
- STDEV 273 - Preview of Optometry 1.0
- STDEV 359R - Health Professions Internship 3.0
- STDEV 375 - Dental School Preparation Laboratory Experience 2.0
- STDEV 399R - Health Professions Internship 2.0

### REQUIREMENT 7
Complete 2 options

**OPTION 5.1**

- Neuro 449R - Undergraduate Research Experience 3.0
- Neuro 481 - Neuroscience Laboratory 1.0
- Neuro 496R - Neuroscience Academic Internship 12.0

**OPTION 5.2**

- Complete 2 options

### REQUIREMENT 8
Complete 1 option

**ELECTIVES: COMPLETE 9.0 HOURS FROM THE FOLLOWING ELECTIVE LIST:**

- CHEM 481 - Biochemistry 3.0
- CHEM 482 - Mechanisms of Molecular Biology 3.0
- COMD 334 - Hearing Science and Acoustics 3.0
- ME EN 552 - Neuromechanics of Movement 3.0
- Neuro 390R - Special Topics in Neuroscience 3.0
- Neuro 420R - Senior Practicum: Community Projects 3.0
- PDBIO 561 - Physiology of Drug Mechanisms 3.0
- PDBIO 565 - Endocrinology 3.0
- PDBIO 568 - Cellular Electrophysiology and Biophysics 3.0
- PSYCH 342 - Abnormal Psychology 3.0
- PSYCH 370 - Sensation and Perception 3.0
- PSYCH 377 - The Cognitive Neuroscience of Memory 3.0
- PSYCH 382 - Stress Psychology 3.0
- PSYCH 388 - Drugs, Reward and Addiction 3.0
- PSYCH 513R - (Not currently offered) 3.0
- PWS 340 - Genetics 3.0

### REQUIREMENT 9
Complete 2 options

**OPTION 5.1**

- Neuro 449R - Undergraduate Research Experience 3.0
- Neuro 481 - Neuroscience Laboratory 1.0
- Neuro 496R - Neuroscience Academic Internship 12.0

**OPTION 5.2**

- Complete 2 options

### RECOMMENDED
Complete 2 options

**OPTION 5.1**

- Neuro 449R - Undergraduate Research Experience 3.0
- Neuro 481 - Neuroscience Laboratory 1.0
- Neuro 496R - Neuroscience Academic Internship 12.0

**OPTION 5.2**

- Complete 2 options

### RESEARCH OPPORTUNITIES:

Neuroscience Center faculty members conduct research in a variety of neuroscience areas (for example, molecular neurobiology, developmental neuroscience, behavioral and cognitive neuroscience, cell and circuit electrophysiology, movement neuromechanics, neuroscience...
and neuroimaging). Please contact the neuroscience office or individual faculty members for more information.

CAREERS:
A major in neuroscience prepares students to pursue advanced degrees in neuroscience or biological or non-biological fields related to neuroscience or to enter into the pharmaceutical and biotechnology workforce. Neuroscience provides outstanding preparation for students seeking admittance into professional programs in medicine, dentistry, optometry, podiatry, or the chiropractic or pharmaceutical field. Neuroscience is an excellent preprofessional field of study for those interested in health professions, law, or business. Graduates of the program also have the academic skills for careers in business, consulting, global health, government and policy, non-profit programs, research, writing, and publishing.

FINANCING:
Various private, federal, and university sources of scholarships, fellowships, and grants are available. Some faculty have funds to hire undergraduates to help in their laboratories or with research.

MAP DISCLAIMER
While every reasonable effort is made to ensure accuracy, there are some student populations that could have exceptions to listed requirements. Please refer to the university catalog and your college advisement center/department for complete guidelines.

DEPARTMENT INFORMATION
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Brigham Young University
192-S ESC
Provo, UT 84602
Telephone: 801-422-1218
FAX: 801-422-0601
email: neuroscience@byu.edu

ADVICEMENT CENTER INFORMATION
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1041 JFSB
Provo, UT 84602
Telephone: 801-422-3541
email: liberalarts@byu.edu

Life Sciences Student Services Center
Brigham Young University
2060 Life Sciences Building
Provo, UT 84602
Telephone: 801-422-3042
FAX: 801-422-0048
web site: http://lifesciences.byu.edu/studentservices/
email: LifeSciences@byu.edu
Toll-free: 1-877-651-0293

Health Professions Advisement Center
Brigham Young University
3328 WSC
Provo, UT 84602
Telephone: 801-422-3044
email: health_proissions@byu.edu
Toll-free: 1-877-651-0293