NEUROSCIENCE, DOCTORAL MINOR

REQUIREMENTS

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Required</td>
<td></td>
<td></td>
</tr>
<tr>
<td>NTP/NEURODPT 610</td>
<td>Cellular and Molecular Neuroscience</td>
<td>4</td>
</tr>
<tr>
<td>NTP/NEURODPT/PSYCH 611</td>
<td>Systems Neuroscience</td>
<td>4</td>
</tr>
<tr>
<td>Electives</td>
<td></td>
<td>1-3</td>
</tr>
<tr>
<td></td>
<td>Select a mid-level course from the lists below.</td>
<td></td>
</tr>
<tr>
<td>Total Credits</td>
<td></td>
<td>9</td>
</tr>
</tbody>
</table>

Students must receive a grade point average of 3.0 for all required courses to receive the minor.

Once the requirements have been met, please return the completed PhD Minor in Neuroscience Form (https://ntp.wiscweb.wisc.edu/wp-content/uploads/sites/81/2017/03/PhD_Minor_Form.pdf) to the Neuroscience Training Program office for signature by the program director.

ELECTIVES

Cellular/Molecular/Developmental Approved Mid-levels

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIOCHEM/PHMCOL-M/ZOOLOGY 630</td>
<td>Cellular Signal Transduction/ Mech.</td>
<td>3</td>
</tr>
<tr>
<td>B M E/MED PHYS/PHMCOL-M/PHYS/P/RADIOL 619</td>
<td>Microscopy of Life</td>
<td>3</td>
</tr>
<tr>
<td>NTP/NEURODPT 629</td>
<td>Molecular and Cellular Mechanisms of Memory</td>
<td>3</td>
</tr>
<tr>
<td>NTP 670</td>
<td>Stem Cells and the Central Nervous System</td>
<td>2-3</td>
</tr>
<tr>
<td>NTP 675</td>
<td>Special Topics (Molecular Mechanics of Brain Damage)</td>
<td>2</td>
</tr>
<tr>
<td>NTP 675</td>
<td>Special Topics (Reproductive Neuroendocrinology)</td>
<td>1-3</td>
</tr>
<tr>
<td>NTP/NEUROL 735</td>
<td>Neurobiology of Disease</td>
<td>2</td>
</tr>
<tr>
<td>NTP/NEURODPT/ZOOLOGY 765</td>
<td>Developmental Neuroscience</td>
<td>3</td>
</tr>
<tr>
<td>ZOOLOGY 604</td>
<td>Computer-based Gene and Disease/Disorder Research</td>
<td>2</td>
</tr>
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</table>

Systems/Behavioral/Computational Approved Mid-levels

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>B M E 601</td>
<td>Special Topics in Biomedical Engineering (Problem-Based Learning in Clinical Neuroengineering Seminar)</td>
<td>2</td>
</tr>
</tbody>
</table>

CS&D 850 Hearing Science I: Basic Acoustics and Psychoacoustics | 3 |
COMPSI/BMI/PSYCH 841 Computational Cognitive Science | 3 |
KINES 713 Neural Basis of Normal and Pathological Movement | 3 |
KINES 721 Neural Basis for Movement | 3 |
KINES 861 Principles of Motor Control and Learning | 3 |
NTP 677 Basic Sleep Mechanisms and Sleep Disorders: from Neurobiology to Sleep Medicine | 3 |
NTP 675 Special Topics (Neuroethology) | 2 |
NTP 675 Special Topics (Brain Mapping in Health and Disease: Applications) | 3 |
NTP/MED PHYS 651 Methods for Neuroimaging Research | 3 |
PSYCH 720 Essentials of Cognitive Neuroscience | 3 |
PSYCH 711 Current Topics in Psychology (Cognitive Neuroscience of Attention and Memory) | 2-3 |
PSYCH 711 Current Topics in Psychology (Introduction to Neural Network Modeling of Cognition) | 2-3 |
PSYCH 733 Perceptual and Cognitive Sciences (Perceptual Systems Analysis) | 2 |
PSYCH 733 Perceptual and Cognitive Sciences (Cognitive Neuroscience of Reading and Dyslexia) | 2 |
PSYCH 733 Perceptual and Cognitive Sciences (Knotty Problems in Psycholinguistics) | 2 |
PSYCH 918 Seminar–General Psychology (Visual Perception) | 1-3 |
PSYCH 954 Seminar–Physiological Psychology (Neuropharmacology) | 3 |

1 Two PSYCH 733 courses (8 weeks each) must be taken to meet the midlevel systems requirement.