The Neuroscience Undergraduate Program is selective admissions major. All students must complete Neuro 1100(H), Psych 3313 and Neuro 3000 with grades of 'B' or higher and earn a minimum 3.0 cumulative GPA.

The requirements for the 33 semester hour (11 classes) Neuroscience Major are distributed across 6 Requirements: Professional Survey, Core, Data Analysis, Specialization, Breadth, and Writing.

I. PROFESSIONAL AND CURRICULUM READINESS
Take the course below

**Neuro 1100H Neuroscience Honors Survey**
1hr | Au, Sp | (Pre-req: Full or Pre-Majors Only)

II. CORE REQUIREMENTS
Take all 4 of the courses below

All Full and Pre-major students must complete Neuro 1100(H), Psych 3313 and Neuro 3000 with grades of 'B' or higher in both classes and earn a minimum 3.0 cumulative GPA

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Hours</th>
<th>Terms</th>
<th>Prereq Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Psych 3313</td>
<td>Introduction to Behavioral Neuroscience</td>
<td>3hrs</td>
<td>Au, Sp, Su</td>
<td>(Pre-req: Psych 1100)</td>
</tr>
<tr>
<td>Neuro 3000</td>
<td>Introduction to Molecular/Cellular Neuroscience</td>
<td>3hrs</td>
<td>Au, Sp</td>
<td>(Pre-req: Bio 1113 and Pre-Major)</td>
</tr>
<tr>
<td>Psych 3513</td>
<td>Introduction to Cognitive neuroscience</td>
<td>3hrs</td>
<td>Au, Sp</td>
<td>(Pre-req: Psych 1100)</td>
</tr>
<tr>
<td>Neuro 3050</td>
<td>Structure &amp; Function of the Nervous System</td>
<td>3hrs</td>
<td>Au, Sp</td>
<td>(Pre-req: Bio 1113 &amp; Neuro 3000)</td>
</tr>
</tbody>
</table>

III. DATA ANALYSIS REQUIREMENT
Take 1 of the 3 Courses

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Hours</th>
<th>Terms</th>
<th>Prereq Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Psych 2220</td>
<td>Introduction to Data Analysis in Psychology</td>
<td>3hrs</td>
<td>Au, Sp, Su</td>
<td>(Pre-req: Psych 1100 &amp; Math 1148)</td>
</tr>
<tr>
<td>Stats 2480</td>
<td>Statistics for Life Sciences</td>
<td>3hrs</td>
<td>Sp</td>
<td>(Pre-req: Math 1151)</td>
</tr>
<tr>
<td>Stats 2450</td>
<td>Introduction to Statistical Analysis</td>
<td>3hrs</td>
<td>Au, Sp</td>
<td>(Pre-req: Math 1151)</td>
</tr>
</tbody>
</table>

IV. SPECIALIZATION REQUIREMENTS
Choose at least 4 specialization courses from the options below

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Hours</th>
<th>Terms</th>
<th>Prereq Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ling 3701</td>
<td>Language and the Mind</td>
<td>3hrs</td>
<td></td>
<td>(Pre-req: Psych 1100)</td>
</tr>
<tr>
<td>Psych 3321</td>
<td>Quantitative/Statistical Methods in Psychology</td>
<td>3hrs</td>
<td>Au, Sp</td>
<td>(Pre-req: B or higher in 2220)</td>
</tr>
<tr>
<td>Psych 5608</td>
<td>Intro to Mathematical Psychology</td>
<td>3hrs</td>
<td>Au</td>
<td>(Pre-req: Psych 321, Psych 3313 &amp; 3000)</td>
</tr>
<tr>
<td>Psych/CSE/Ling/Philos 5612</td>
<td>Introduction to Cognitive Science</td>
<td>3hrs</td>
<td>Au</td>
<td>(Pre-req: 12hr in Psych/CSE/Ling/Philos)</td>
</tr>
<tr>
<td>Psych 5614</td>
<td>Cognitive Neuroscience</td>
<td>3hrs</td>
<td>Sp</td>
<td>(Pre-req: Psych 3313 or Neuro 3000)</td>
</tr>
<tr>
<td>Psych 5618</td>
<td>Intro to Computational Cognitive Neuroscience</td>
<td>3hrs</td>
<td>Sp</td>
<td>(Pre-req: Psych 3313 &amp; Neuro 3000)</td>
</tr>
<tr>
<td>Psych 5628</td>
<td>Developmental Cognitive Neuroscience</td>
<td>3hrs</td>
<td>Au</td>
<td>(Pre-req: Psych 3313 or Neuro 3000)</td>
</tr>
<tr>
<td>Math 4350</td>
<td>Quantitative Neuroscience</td>
<td>3hrs</td>
<td>Sp</td>
<td>(Pre-req: Math 1152)</td>
</tr>
<tr>
<td>Psych 5089</td>
<td>Cognitive Aging, Neurodegen, &amp; Neuroplasticity</td>
<td>3hrs</td>
<td>Sp</td>
<td>(Pre-req: Psych 3313 &amp; Neuro 3000)</td>
</tr>
<tr>
<td>CSE 5052</td>
<td>Survey of Artificial Intelligence for Non-Majors</td>
<td>3hrs</td>
<td>Au</td>
<td>(Pre-req: CSE Programming &amp; Neuro 3000)</td>
</tr>
<tr>
<td>CSE 5526</td>
<td>Introduction to Neural Networks</td>
<td>3hrs</td>
<td>Au</td>
<td>(Pre-req: CSE 3521)</td>
</tr>
<tr>
<td>SHS 5760</td>
<td>Neurology of Speech and Hearing Mechanisms</td>
<td>3hrs</td>
<td>Sp</td>
<td>(Pre-req: Psych 3313 &amp; Neuro 3000)</td>
</tr>
<tr>
<td>Econ 5870</td>
<td>Neuroeconomics and Decision Neuroscience</td>
<td>3hrs</td>
<td>Sp</td>
<td>(Pre-req: Psych 3313 &amp; Neuro 3000)</td>
</tr>
</tbody>
</table>

What is Cognitive/Computational Neuroscience?

Cognitive/Computational neuroscience is a subfield of neuroscience that studies the neural mechanisms that underlie mental processes. Cognitive/Computational neuroscientists tend to study how specific areas of the brain are related to thought and sensory processing, create mathematical models to understand cognitive processes, and may conduct research in areas of artificial intelligence.

**Declaration Requirements**

In order to declare the pre-major, students must meet with a Neuroscience Advisor to discuss the requirements. To set up an appointment:

1. Stop by room 10 Townshend Hall
2. Give us a call at (614)-292-8512
3. E-mail us at NeuroAdvising@osu.edu
4. Attend an Info Session, NeuroscienceMajor.osu.edu/declare

**Contact Us**

Neuroscience Undergraduate Program  
College of Medicine & College of Arts and Sciences  
10 Townshend Hall  
1885 Neil Avenue Mall  
Columbus, OH 43210  
Phone: (614) 292-8512  
http://NeuroscienceMajor.osu.edu

Form Last Updated SP23
V. BREADTH REQUIREMENT
Choose 1 Course from the list below

- Neuro 3025 History of Neuroscience
  3hrs | Sp | (Pre-req: Psych 3313 & Neuro 3000)
- Neuro 4850 Contemporary Topics in Neuroscience
  3hrs | Sp | (Pre-req: Psych 3313 & Neuro 3000)
- Neuro 4425 Neurotrauma: TBI, Stroke, & Spinal Cord Injury
  3hrs | Sp | (Pre-req: Neuro 3000)
- Neuro 3305 Neuropharmacology
  3hrs | Sp | (Pre-req: Psych 3313 & Neuro 3000)
- Psych 4501 Advanced Behavioral Neuroscience
  3hrs | Sp | (Pre-req: Psych 3313 & Neuro 3000)
- Psych 5602 Behavioral Genetics
  3hrs | Sp | (Pre-req: Psych 3313 & Neuro 3000)
- Psych 5604 Sex Differences in the Brain and Behavior
  3hrs | Au | (Pre-req: Psych 3313 & Neuro 3000)
- Psych 5622 The Development of Brain and Behavior
  3hrs | Au | (Pre-req: Psych 3313 & Neuro 3000)
- Psych 5898 Seminar in Behavioral Neuroscience
  3hrs | Sp | (Pre-req: Psych 4501)
- Psych 5613(H) Biological Psychiatry
  3hrs | Sp | (Pre-req: Psych 3313 & Neuro 3000)
- EEOB 4550 Neurobiology of Behavior
  3hrs | Au | (Pre-req: 2 courses in Bio)
- Neuro 3010 Neurophysiology
  3hrs | Au | (Pre-req: Psych 3313 & Neuro 3000)
- Neuro 4050H Neurogenetics
  3hrs | Au | (Pre-req: Neuro 3000 or Permission of Instructor)
- Neuro 4640 Neuronal Signal Transduction
  3hrs | Sp | (Pre-req: Neuro 3000)
- Neuro 5790H Developmental Neuroscience
  3hrs | Sp | (Pre-req: Neuro 3000 & 3050 & Jr. or Sr. standing)
- Biophrm 5824 Pharmacology of the Nervous System
  3hrs | Au, Sp | (Pre-req: Permission of Instructor)
  Not Open to Students with Credit For PHR 4440 or Psych 4305
- Chem 5230 Neurotransmitter Chemistry
  3hrs | Sp | (Pre-req: Chem 2540 & 2520)
- Neuro 4623 Biological Clocks & Rhythms
  3hrs | Sp | (Pre-req: Neuro 3000)
- Psych 4644 Hormones & Behavior
  3hrs | Au, Sp | (Pre-req: Psych 3313 & Neuro 3000)
- Psych 5603 Stem Cells and the Brain
  3hrs | Au | (Pre-req: Psych 3313 & Neuro 3000)
- Neuro 4100 Basic & Clinical Foundations of Neurological Disease
  3 hrs | Au | (Pre-req: Neuro 3000)
- Neuro 4550 Autism Spectrum Disorder & Neurodev Disorders
  3 hrs | Au | (Pre-req: Neuro 3000)
- Biochem 4511 / MolGen 4500 / MicroBio 4000
  3-4hrs | Au, Sp, Su | (Refer to Course Catalog for Pre-reqs)
  Students can only use ONE of these courses toward the major
- Neuro 4998/3193 Undergraduate Research & Individual Studies
  Pre-approval required.
  Up to 3 credit hours of any combination of Undergraduate Research (4998) and Individual Studies (3193) can be applied to the breadth requirement.

VI. NEUROSCIENCE WRITING REQUIREMENT
Choose at least 1 course from the list below

- English 3304 Business & Professional Writing
  3hrs | Au, Sp. | (English 1110.XX)
- English 3305 Technical Writing: Science and Engineering Majors
  3hrs | Au, Sp | (English 1110.XX)

Important information about the Neuroscience Major

1. Students must meet the following requirements to declare the neuroscience major:
   - First, meet with an advisor to officially be declared as a pre-neuroscience major
   - Complete 24 total semester credit hours
   - At least 12 of those semester credit hours must be from graded OSU coursework
   - An overall GPA greater than or equal to 3.0
   - Earn at least a "B" in Psych 3313, Neuro 3000, and Neurosc 1100(H)

2. Thirty-six (36) semester credits in approved Neuroscience coursework.

3. Honors students must take at least one honors or graduate level course. Approved courses can be found here:
   http://neurosciencemajor.osu.edu/honors

4. Honors students must complete the Pre-Major Requirements

5. For courses to apply toward the major, you must earn at least a "C-".

6. At least half of the major’s curriculum must be completed at Ohio State.

7. Majors will follow the Bachelor of Science curriculum for GE and other degree requirements.

8. Students are encouraged to focus on completion of core requirements before beginning their specialization coursework.

9. To earn your degree you will need an overall GPA of at least 2.0.

10. Research experience is also strongly encouraged for students considering graduate and professional training. You may enroll in a variety of 4998 opportunities.
    http://neurosciencemajor.osu.edu/4998

11. Up to 3 hours of experiential coursework can be applied to the breadth requirements of the major. This experiential coursework can be from any combination of the following classes: Undergraduate Research (4998) and Individual Studies.
    Pre-approval from your neuroscience major advisor is required.

12. Students planning to graduate “With Honors in Arts and Sciences” should visit our website for information on Honors Contract requirements for neuroscience majors.
    http://neurosciencemajor.osu.edu/honors

13. Honors Requirements: All Honors students must take at least ONE Neuro Advisor Approved graduate-level course to fulfill their Honors requirement. Honors students must speak with their advisor to select a course. The chosen course to fulfill the requirement can count as EITHER one Breadth course or one Specialization course. The approved graduate-level courses can be found at this link:
    https://NeuroscienceMajor.osu.edu/honors

Honors Requirements
All Honors students must take at least ONE Neuro Advisor Approved graduate-level course to fulfill their Honors requirement. Honors students must speak with their advisor to select a course. The chosen course to fulfill the requirement can count as EITHER one Breadth course or one Specialization course. The approved graduate-level courses can be found at this link:
https://NeuroscienceMajor.osu.edu/honors