To set up an appointment:
with a Neuroscience Advisor to discuss the requirements.

In order to declare the pre-neurons form systems that are related to nervous system is related to psychiatric and neurological disorders, how groups of neurons form systems that are related to specified functions (e.g. motor control, learning & memory), and what happens when such systems dysfunction.

What is Systems/Behavioral Neuroscience?

Systems/Behavioral Neuroscience studies how neurons work together in networks to understand the mechanisms that underlie behavior. Systems/Behavioral neuroscientists tend to study how the nervous system is related to psychiatric and neurological disorders, how groups of neurons form systems that are related to specified functions (e.g. motor control, learning & memory), and what happens when such systems dysfunction.

I. PROFESSIONAL AND CURRICULUM READINESS
Take the course below
• Neuro 1100H Neuroscience 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(H) and Neuro 3000 with grades of 'B' or higher in these classes, and earn a minimum 3.0 cumulative GPA
• Psych 3313(H) Introduction to Behavioral Neuroscience
  3hrs | Au, Sp, Su | (Pre-req: Psych 1100)
• Neuro 3000 Introduction to Molecular/Cellular Neuroscience
  3hrs | Au, Sp  | (Pre-req: Bio 1113)
• Psych 3513 Introduction to Cognitive Neuroscience
  3hrs | Au, Sp  | (Pre-req: Psych 1100)
• Neuro 3050 Structure & Function of the Nervous System
  3hrs | Au, Sp  | (Pre-req: Bio 1113 & Neuro 3000)

III. DATA ANALYSIS REQUIREMENT
Take 1 of the 3 courses below
• Psych 2220 Introduction to Data Analysis in Psychology
  3hrs | Au, Sp, Su | (Pre-req: Psych 1100 & Math 1148)
• Stats 2480 Statistics for Life Sciences
  3hrs | Sp | (Pre-req: Math 1151)
• Stats 2450 Introduction to Statistical Analysis
  3hrs | Au, Sp | (Pre-req: Math 1151)

IV. SPECIALIZATION REQUIREMENTS
Choose at least 4 specialization courses from the options below
• Neuro 4550 Autism Spectrum Disorder & Neurodev Disorders
  3hrs | Au  | (Pre-req: Neuro 3000)
• Neuro 4425 Neurotrauma: TBI, Stroke, & Spinal Cord Injury
  3hrs | Sp | (Pre-req: Neuro 3000)
• Psych 4501 Advanced Behavioral Neuroscience
  3hrs | Au, Sp | (Pre-req: Psych 3313 & Neuro 3000)
• Neuro 4100 Basic & Clinical Foundations of Neuro Disease
  3hrs | Au | (Pre-req: Neuro 3000)
• Psych 4644 Hormones & Behavior
  3hrs | Au Sp | (Pre-req: Psych 3313 & Neuro 3000)
  Not Open to Students With Credit For Neuro 5644
• Psych 5613(H) Biological Psychiatry
  3hrs | Sp | (Pre-req: Honors, 3313 & 3000)
• Psych 5602 Behavioral Genetics
  3hrs | Sp | (Pre-req: Psych 3313 & Neuro 3000)
• Psych 5603 Stem Cells and the Brain
  3hrs | Au | (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)
• Neuro 4623 Biological Clocks & Rhythms
  3hrs | Sp | (Pre-req: Psych 3313 & Neuro 3000)
• EEOB 4550 Neurobiology of Behavior
  3hrs | Au | (Pre-req: 2 courses in Bio)
• Psych 4305 Psychopharmacology
  3hrs | Au, Sp | (Pre-req: Permission of Instructor)
  Not Open to Students With Credit For PHR 4440 or Biophrm 5824
• 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
• Biochem 4511 / MolGen 4500 / MicroBio 4000
  3hrs | Au, Sp | (Refer to Course Catalog for Pre-req)

The Neuroscience Undergraduate Program is a 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 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(H) and Neuro 3000 with grades of 'B' or higher in these classes, and earn a minimum 3.0 cumulative GPA
• Psych 3313(H) Introduction to Behavioral Neuroscience
  3hrs | Au, Sp, Su | (Pre-req: Psych 1100)
• Neuro 3000 Introduction to Molecular/Cellular Neuroscience
  3hrs | Au, Sp  | (Pre-req: Bio 1113)
• Psych 3513 Introduction to Cognitive Neuroscience
  3hrs | Au, Sp  | (Pre-req: Psych 1100)
• Neuro 3050 Structure & Function of the Nervous System
  3hrs | Au, Sp  | (Pre-req: Bio 1113 & Neuro 3000)

III. DATA ANALYSIS REQUIREMENT
Take 1 of the 3 courses below
• Psych 2220 Introduction to Data Analysis in Psychology
  3hrs | Au, Sp, Su | (Pre-req: Psych 1100 & Math 1148)
• Stats 2480 Statistics for Life Sciences
  3hrs | Sp | (Pre-req: Math 1151)
• Stats 2450 Introduction to Statistical Analysis
  3hrs | Au, Sp | (Pre-req: Math 1151)

IV. SPECIALIZATION REQUIREMENTS
Choose at least 4 specialization courses from the options below
• Neuro 4550 Autism Spectrum Disorder & Neurodev Disorders
  3hrs | Au  | (Pre-req: Neuro 3000)
• Neuro 4425 Neurotrauma: TBI, Stroke, & Spinal Cord Injury
  3hrs | Sp | (Pre-req: Neuro 3000)
• Psych 4501 Advanced Behavioral Neuroscience
  3hrs | Au, Sp | (Pre-req: Psych 3313 & Neuro 3000)
• Neuro 4100 Basic & Clinical Foundations of Neuro Disease
  3hrs | Au | (Pre-req: Neuro 3000)
• Psych 4644 Hormones & Behavior
  3hrs | Au Sp | (Pre-req: Psych 3313 & Neuro 3000)
  Not Open to Students With Credit For Neuro 5644
• Psych 5613(H) Biological Psychiatry
  3hrs | Sp | (Pre-req: Honors, 3313 & 3000)
• Psych 5602 Behavioral Genetics
  3hrs | Sp | (Pre-req: Psych 3313 & Neuro 3000)
• Psych 5603 Stem Cells and the Brain
  3hrs | Au | (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)
• Neuro 4623 Biological Clocks & Rhythms
  3hrs | Sp | (Pre-req: Psych 3313 & Neuro 3000)
• EEOB 4550 Neurobiology of Behavior
  3hrs | Au | (Pre-req: 2 courses in Bio)
• Psych 4305 Psychopharmacology
  3hrs | Au, Sp | (Pre-req: Permission of Instructor)
  Not Open to Students With Credit For PHR 4440 or Biophrm 5824
• 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
• Biochem 4511 / MolGen 4500 / MicroBio 4000
  3hrs | Au, Sp | (Refer to Course Catalog for Pre-req)
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 3010** Neurophysiology 3hrs | Au | (Pre-req: Neuro 3000)
- **Neuro 3305** Neuropsychopharmacology 3hrs | Sp | (Pre-req: Neuro 3000)
- **Neuro 4050H** Neurogenetics 3hrs | Au | (Pre-req: Neuro 3000)
- **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.)
- **Chem 5230** Neurotransmitter Chemistry 3hrs | Sp | (Pre-req: Chem 2540 & 2520)
- **Ling 3701** Language and the Mind 3hrs | Au, Sp | (Pre-req: Psych 1100)
- **Psych/CSE/Ling/Philos 5612** Introduction to Cognitive Science 3hrs | Au | (Pre-req: 12hr in Psych/CSE/Ling/Philos)
- **Psych 5089** Cognitive Aging, Neurodegen, & Neuroplasticity 3hrs | Sp | (Pre-req: Psych 3313 & Neuro 3000)
- **Psych 5614** Cognitive Neuroscience 3hrs | Sp | (Pre-req: Psych 3313 & 3000)
- **Psych 5618** Intro to Computational Cognitive Neuroscience 3hrs | Sp | (Pre-req: Psych 3313 & Neuro 3000)
- **Psych 5628** Developmental Cognitive Neuroscience 3hrs | Au | (Pre-req: Psych 3313 & 3000)
- **SHS 5760** Neurology of Speech and Hearing Mechanisms 3hrs | Au, Sp | (Pre-req: Psych 3313 & 3000)
- **Psych 3321** Quantitative and Statistical Methods in Psychology 3hrs | Au, Sp | (Pre-req: B or higher in 2220)
- **Math 4350** Quantitative Neuroscience 3hrs | Sp | (Pre-req: Math 1152)
- **Psych 5608** Intro to Mathematical Psychology 3hrs | Au | (Pre-req: Psych 3321, 3313 & Neuro 3000)
- **CSE 5052** Survey of Artificial Intelligence for Non-Majors 3hrs | Au | (Pre-req: CSE Programming & Neuro 3000)
- **CSE 5526** Introduction to Neural Networks 3hrs | Au | (Pre-req: CSE 3521)
- **Econ 5870** Neuroeconomics and Decision Neuroscience 3hrs | Sp | (Pre-req: Psych 3313 & 3000).
- **Neuro 4998/3193** Undergraduate Research & Individual Studies Pre-approval required.
  3 credit hours (no more and no less than 3 credit hours) of any combination of Undergraduate Research (4998), Internship (3191) and Individual Studies (3193) can be applied as a course toward 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)

**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](https://NeuroscienceMajor.osu.edu/honors)

**Important information about the Neuroscience Major**

1. All 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 Neuro 1100H

2. Thirty-three (33) 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](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 Autumn 2022 GENs 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](http://neurosciencemajor.osu.edu/4998)

11. Up to 3 credit 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), Internships (3191), and Individual Studies (3193). 3 Credits of these courses can be combined to count as one course toward the Breadth Requirements. 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](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](https://NeuroscienceMajor.osu.edu/honors)