

NEUROSCIENCE, BA

Neuroscience (formerly Biological Basis of Behavior) is an interdisciplinary program in which students explore the relationship between behavior (both human and animal) and its organic bases. The Program offers courses in virtually all areas of neuroscience ranging from cellular neurobiology to cognitive neuropsychology and integrates these basic interdisciplinary courses with basic science requirements in biology, chemistry and psychology. Students also engage in supervised research in areas as diverse as molecular neurobiology, chemical neuroanatomy, visual sciences and behavioral ecology.

The minimum total course units (<https://www.college.upenn.edu/credits-needed-major/>) for graduation in this major is 36. Double majors may entail more course units.

For more information: <https://neuroscience.sas.upenn.edu>

For information about the General Education requirements, please visit the College of Arts & Sciences Curriculum (<https://www.college.upenn.edu/curriculum/>) page.

Code	Title	Course Units
College General Education Requirements and Free Electives		
Foundational Approaches + Sectors ¹ + Free Electives		18
Major Requirements		
<i>Core Requirements</i>		
Introductory Chemistry:		
CHEM 1011	Introduction to General Chemistry I or CHEM 1012 General Chemistry I	1
CHEM 1021	Introduction to General Chemistry II	1
Introductory Biology:		
Select one of the following Options:		3
Option 1:		
BIOL 1101	Introduction to Biology A	
BIOL 1102	Introduction to Biology B	
Option 2:		
BIOL 1121	Introduction to Biology - The Molecular Biology of Life	
BIOL 1123	Introductory Molecular Biology Laboratory	
BIOL 1124	Introductory Organismal Biology Lab	
Select 1 CU of a 2000-level BIOL course:		
BIOL 2810	Biochemistry or BIOL 201C Cell Biology or BIOL 2311 Human Physiology or BIOL 331C Principles of Human Physiology or BIOL 221C Molecular Biology and Genetics or BIOL 241C Evolutionary Biology or BIOL 261C Ecology: From individuals to ecosystems	
Introduction to Brain & Behavior:		
NRSC 1110	Introduction to Brain and Behavior	1
Neural Systems and Behavior:		
Select one of the following 2000-level NRSC courses:		1
Attribute ABBS - NRSC Systems and Behavior		
NRSC 2140	Evolution of Behavior: Animal Behavior	

NRSC 2217	Visual Neuroscience	
NRSC 2227	Physiology of Motivated Behavior	
NRSC 2233	Neuroethology	
NRSC 2249	Cognitive Neuroscience	
Cellular Neuroscience:		
Select one of the following 2000-level NRSC courses:		1
Attribute ABBU - NRSC Cellular Neuroscience		
NRSC 2240	Chronobiology and Sleep	
NRSC 2260	Neuroendocrinology	
NRSC 2269	Autonomic Physiology	
NRSC 2270	Drugs, Brain and Mind	
Neurobiology:		
NRSC 2110	Molecular and Cellular Neurobiology	1
Statistics:		
Select one of the following:		1
BIOL 2510	Statistics for Biologists	
STAT 1010	Introductory Business Statistics	
STAT 1110	Introductory Statistics	
<i>Additional NRSC Major Elective Courses</i>		
Students may pick any 8 courses from the approved electives for the NRSC major ^{2,3}		8
Attribute ABBM - NRSC Major Elective		
Total Course Units		36

1

You may count no more than one course toward both a Major and a Sector requirement. For Exceptions, check the Policy Statement (<http://www.college.upenn.edu/sectors-policy/>).

2

See the NRSC web site for approved courses in areas of specialized study. Students are encouraged to take a research course or do sponsored research in their junior or senior year.

3

NRSC 3999 Independent Research, NRSC 4999 Advanced Independent Research or a 4000-level NRSC course are three of the options.

Honors Option

Applicants are expected to have a minimum cumulative GPA of 3.5.

Code	Title	Course Units
One advanced course (4000 level or above)		1
NRSC 3999	Independent Research	1
NRSC 4999	Advanced Independent Research	1

The degree and major requirements displayed are intended as a guide for students entering in the Fall of 2023 and later. Students should consult with their academic program regarding final certifications and requirements for graduation.