Rensselaer

BIOLOGICAL NEUROSCIENCE B.S.

Neuroscience is the study of the structure and function of the brain and nervous system. This field is highly interdisciplinary with scientists and engineers from many different backgrounds using multiple experimental approaches. At Rensselaer through the Department of Biological Sciences, we offer a Concentration in Biological Neuroscience, which will involve both foundational and advanced coursework.

FIRST YEAR

Fall			Spring		
Number	Course	CR	Number	Course	CR
BIOL 1010	Introduction to Biology[1]	3	BIOL 2120	Introduction to Cell & Molecular Biology[1]	4
BIOL 1015	Introduction to Biology Lab	1	CHEM 1200	Chemistry II	4
CHEM 1110	Chemistry I with Advanced Lab	4	MATH 1020	Calculus II	4
MATH 1010	Calculus I	4		HASS Core Elective[2]	4
	HASS Core Elective[2]	4			

SECOND YEAR

Fall			Spring		
Number	Course	CR	Number	Course	CR
BIOL 2500	Genetics and Evolution	4	BIOL 4620	Molecular Biology	4
CHEM 2230	Organic Chemistry Lab I	1	CHEM 2240	Organic Chemistry Lab II	1
CHEM 2250	Organic Chemistry I	3	CHEM 2260	Organic Chemistry II	3
PHYS 1100	Physics I	4	PHYS 1200	Physics II	4
	HASS Core Elective[2]	4		HASS Core Elective[2]	4

In order to successfully complete the Biological Neuroscience Curriculum, students must take the Fall Semester following the Arch Summer Semester away, unless they have been given an exemption from the Arch Summer Semester (see footnote 7).

THIRD YEAR (WITH 3RD YEAR FALL SEMESTER AWAY)

The Arch Summer Semester[8]			Spring		
Number	Course	CR	Number	Course	CR
BIOL 4760	Molecular Biochemistry I[7]	4	BIOL 4200	Biostatistics[8]	4
BIOL	Advanced Lab Option[3]	6	BIOL 4100	From Neuron to Behavior[8]	4
	Elective[5]	2		Elective	4
	HASS Core Elective (Neuroscience)[2, 4]	4		HASS Core Elective (Neuroscience)[2, 4]	4

FOURTH YEAR (WITH 3RD YEAR FALL SEMESTER AWAY)

Fall			Spring		
Number	Course	CR	Number	Course	CR
BIOL 4260	Advanced Cell Biology	4	BIOL 4150	Cellular Neuroscience[6]	4
BIOL 4270	Human Physiology[8]	4	BIOL 4250	Developmental Biology[8]	4
	Elective	4		Elective	4
	Elective	4		Elective	4

This curriculum requires a minimum of 128 credit hours.

FOOTNOTES

1. *Students who apply Advanced Placement credits in place of BIOL 1010 may take BIOL 2120 in its place.*
2. ***Humanities and Social Sciences (HASS) Core Electives****: A total of 24 credits of HASS Core Electives should be taken. Students should take an Inquiry course during their first year. For a listing of HASS Inquiry courses go to: https://info.rpi.edu/hass-inquiry. In addition, students should take a HASS Communications Intensive course during their first three semesters.*
3. *Communication Intensive and **Culminating Experience** Requirement (6 credits) cannot by satisfied with transfer credits and must be fulfilled via the **Advanced Laboratory requirement**.*
4. ***Neuroscience HASS Requirement** (8 credits). Courses required must be selected from the Neuroscience HASS list below.*
5. *An additional 2-CR elective may be satisfied by mentoring, research (e.g. BIOL 2900, 2930, 2940, 4940, 4970), or any other elective. This credit may be taken at any time, not necessarily at the time shown in the template.*
6. *Cannot be satisfied with transfer credits.*
7. *For students who have applied for and been granted an exception, The Arch Summer courses would be taken during the fall semester. For listing of the exception process go to: http://info.rpi.edu/arch/students/#ExceptionProcess*
8. *No more than one of BIOL 4100, BIOL 4200, BIOL 4250, and BIOL 4270 can be satisfied by transfer credits.*

NEUROSCIENCE HASS COURSE LIST (CHOOSE 2)

PSYC 4360	Behavioral Neuroscience	PSYC 4600	Cognition and the Brain
PSYC 4330	Intro to Cognitive Neurosci.	PSYC 4610	Stress and the Brain
PSYC 4410	Sensation and Perception	PSYC 4720	Abnormal Psychology
PSYC 4500	Drugs, Society, & Behavior	PSYC 4770	Psychopharmacology & Behavioral Toxicology

ADVANCED LABORATORY COURSES (CHOOSE 1)

BIOL 4710	Biochemistry Laboratory	BIOL 4740	Adv. Cell Biology Laboratory
BIOL 4720	Molecular Biology Laboratory		