

Pre-Requisites and Requirements for a BA in Neuroscience

SUBJECT	COURSE #	PRE-REQUISITES (do not count toward 30 credits)	PRE-REQUISITES (count toward 30 credits)	REQUIRED COURSES (do not count toward 30 credits)	NEUROSCIENCE CORE COURSES (required; all count toward 30 credits)	UPPER LEVEL BIOL AND PSYC COURSES (need 3 total; all count toward 30 credits)	ELECTIVES (need 1; all count toward 30 credits)
BIOL	2100 (Introduction to Biology with Laboratory: Cell Biology & Genetics)	X					
BIOL	3050 (Introduction to Neurobiology)		X (either/or with PSYC 2200)				X (can be an elective if PSYC 2200 taken)
PSYC	2200 (A Survey of the Neural Basis of Behavior)		X (either/or with BIOL 3050)				
CHEM	1410 (Introductory College Chemistry I)	X (or CHEM 1810)					
CHEM	1411 (Introductory College Chemistry I Laboratory)	X (or CHEM 1811)					
CHEM	1420 (Introductory College Chemistry II)	X (or other math or science course)					
CHEM	1421 (Introductory College Chemistry II Laboratory)	X (or other math or science course)					
MATH	1210 (Applied Calculus I)	X (can substitute MATH 1310)					
BIOL	3000 (Cell Biology)				X		
NESC	3960 (Research in Neuroscience - 1st semester for 3rd year students)			X			
NESC	3960 (Research in Neuroscience - 2nd semester for 3rd year students)			X			
NESC	3980 (Current Topics in Neuroscience I)				X		
NESC	3985 (Current Topics in Neuroscience II)				X		
NESC	4970 (Distinguished Majors Thesis - 1st semester for 4th year students)			X (required for distinguished major only)			
NESC	4980 (Distinguished Majors Thesis - 2nd semester for 4th year students)			X (required for distinguished major only)			
BIOL	4310 (Sensory Neurobiology)				X (either/or with BIOL 4660 or PSYC 4200)	X	X
BIOL	4340 (Experimental Foundations of Neurobiology)				X		
BIOL	4660 (How do they do it? Method and Logic in Biomedical Science)				X (either/or with BIOL 4310 or PSYC 4200)	X	X
PSYC	4200 (Neural Mechanisms of Behavior)				X (either/or with BIOL 4310 or BIOL 4660)	X	X
BIOL	3010 (Genetics and Molecular Biology)						X
BIOL	3030 (Biochemistry)						X

SUBJECT	COURSE #	PRE-REQUISITES (do not count toward 30 credits)	PRE-REQUISITES (count toward 30 credits)	REQUIRED COURSES (do not count toward 30 credits)	NEUROSCIENCE CORE COURSES (required; all count toward 30 credits)	UPPER LEVEL BIOL AND PSYC COURSES (need 3 total; all count toward 30 credits)	ELECTIVES (need 1; all count toward 30 credits)
BIOL	3040 (Development and Regenerative Biology)						X
BIOL	3240 (Introduction to Immunology)						X
BIOL	3250 (Introduction to Animal Behavior)						X
BIOL	3559-x (Introduction to Epigenetics)					X (cross-listed with PSYC 4255)	X (cross-listed with PSYC 4255)
BIOL	4000 (Laboratory in Molecular Biology)						X
BIOL	4005 (Functional Genomic Screening to Identify Disease Mechanisms & Treatment)						X
BIOL	4015 (Neural Development Laboratory: From stem cells to neuronal circuitry)					X	X
BIOL	4040 (Laboratory in Cell Biology)					X	X
BIOL	4050 (Developmental Biology)						X
BIOL	4060 (Organ Development and Tissue Engineering)						X
BIOL	4070 (Developmental Biology Laboratory)						X
BIOL	4120 (When Good Cells Go Bad)					X	X
BIOL	4140 (NextGen Sequencing and Its Applications)						X
BIOL	4180 (Behavioral Ecology)						X
BIOL	4190 (Biological Clocks)					X	X
BIOL	4210 (Genome Sciences: The DNA Revolution in Science and Society)						X
BIOL	4220 (Introduction to Systems Biology)						X
BIOL	4230 (Bioinformatics and Functional Genomics)						X
BIOL	4250 (Human Genetics)						X
BIOL	4260 (Cellular Mechanisms)						X
BIOL	4270 (Animal Behavior Laboratory)						X
BIOL	4280 (The Genetic Basis of Behavior)					X	X
BIOL	4320 (Signal Transduction: How cells talk to each other)					X	X

SUBJECT	COURSE #	PRE-REQUISITES (do not count toward 30 credits)	PRE-REQUISITES (count toward 30 credits)	REQUIRED COURSES (do not count toward 30 credits)	NEUROSCIENCE CORE COURSES (required; all count toward 30 credits)	UPPER LEVEL BIOL AND PSYC COURSES (need 3 total; all count toward 30 credits)	ELECTIVES (need 1; all count toward 30 credits)
BIOL	4335 (Functional organization of sensory systems)					X	X
BIOL	4360 (Cytokine Signaling and Neural Development)					X	X
BIOL	4365 (How to Map a Brain)					X	X
BIOL	4560 (Electric Crayfish: Elements of Neurophysiology)					X	X
BIOL	4770 (Synthetic Biology)						X
BIOL	5070 (Practical Aspects of Light Microscopy in the Biological Sciences)					X	X
PSYC	3210 (Psychobiology Laboratory)						X
PSYC	4250 (Brain Systems Involved in Memory)					X	X
PSYC	4255 (Behavioral Epigenetics)					X (cross-listed with BIOL 3559-x)	X (cross-listed with BIOL 3559-x)
PSYC	4270 (Neurobiology of Learning and Memory)					X	X
PSYC	4559 (Brain Mapping: An Introduction to Functional MRI)					X	X
PSYC	4585 (Behavior Genetics)					X	X
PSYC	4755 (Social Neuroscience)					X	X
PSYC	5215 (Neuroplasticity and Perception/ Cognition/Behavior)						X
PSYC	5265 (Functional Neuroanatomy)					X	X
PSYC	5325 (Cognitive Neuroscience)					X	X
PSYC	5355 (Neurobiology of Speech and Language)					X	X
PSYC	5559-x (Neuropharmacology)					X	X
PSYC	5559-x (Evolutionary Neuroscience)					X	X
PSYC	5559-x (Introduction to Bayesian Methods)						X
PSYC	5559-x (Experimental Research and Data Analysis)						X
PSYC	5559-x (Cerebral Cortex)					X	X
CHEM	3721 (Analytical Chemistry Laboratory)						X
CHEM	4410 (Biological Chemistry I)						X

SUBJECT	COURSE #	PRE-REQUISITES (do not count toward 30 credits)	PRE-REQUISITES (count toward 30 credits)	REQUIRED COURSES (do not count toward 30 credits)	NEUROSCIENCE CORE COURSES (required; all count toward 30 credits)	UPPER LEVEL BIOL AND PSYC COURSES (need 3 total; all count toward 30 credits)	ELECTIVES (need 1; all count toward 30 credits)
CHEM	4411 (Biological Chemistry Laboratory I)						X
CHEM	4420 (Biological Chemistry II)						X
CHEM	4421 (Biological Chemistry Laboratory II)						X
BME	3636 (Neural Network Models of Cognition and Brain Computation)						X (cross-listed with NESC 5330)