BACHELOR OF SCIENCE IN NEUROSCIENCE - GENERAL

Code	Title	Credit Hours
Wellness Requirement		
APPH 1040	Scientific Foundations of Health	2
or APPH 10	The Science of Physical Activity and Health	
or APPH 10	Flourishing: Strategies for Well-being and Resilience	
Core IMPACTS		
Institutional Priority		
CS 1301	Introduction to Computing	3
or CS 1315	Introduction to Media Computation	
or CS 1371	Computing for Engineers	
Mathematics and Quantitative Skills		
MATH 1552	Integral Calculus	4
or MATH 155	Calculus for Life Sciences	
Communicating in Writing		
ENGL 1101	English Composition I	3
ENGL 1102	English Composition II	3
Political Science and U.S. History		
HIST 2111	The United States to 1877	3
or HIST 211	The United States since 1877	
or INTA 120	American Government in Comparative Perspective	
or POL 1101	Government of the United States	
or PUBP 30	American Constitutional Issues	
Arts, Humanities, and Ethics		
Any HUM		6
Technology, Mathematics, and Sciences		
Any Lab Science [1]		8
MATH 1551	Differential Calculus	2
or MATH 155	Introduction to Differential Calculus	
MATH 1553	Introduction to Linear Algebra [2]	2
or MATH 15	Linear Algebra	
or MATH 15	Linear Algebra with Abstract Vector Spaces	
Social Sciences		
Any SS [3]		9
Field of Study		
CHEM 1310	Principles of General Chemistry for Engineers	4
or CHEM 12	Chemical Principles I	
CHEM 1315	Survey of Organic Chemistry for Engineers [4]	3
or CHEM 231	Organic Chemistry I	
BIOS 1107	Biological Principles	3
or BIOS 120	Biological Principles for Majors	
BIOS 1107L	Biological Principles Laboratory	1
or BIOS 120	Biological Principles Project Laboratory	
NEUR 2001	Principles in Neuroscience	4
or NEUR 20 & 2010L	Principles of Neuroscience for Majors and Principles of Neuroscience Lab	
BIOS 4401	Experimental Design and Statistical Methods in Biological Sciences	3
or BMED 2400	Introduction to Bioengineering Statistics	
or ISYE 3770	Statistics and Applications	
or ECE 3077	Prob/Stats for ECE	
or PSYC 2020	Psychological Statistics	
or MATH 3215	Introduction to Probability and Statistics	
or MATH 3225	Honors Probability and Statistics	
or MATH 3670	Probability and Statistics with Applications	
Major Requirements		
NEUR 3001	Cell and Molecular Neuroscience	3
NEUR 3002	Neural Systems, Networks, and Behavior	3
NEUR 3003	Neuroscience of Behavior	3
NEUR 3010	Methods in Neuroscience	3
CHEM 3511	Survey of Biochemistry	3
or CHEM 3521	Biochemistry I	
Neuroscience Depth Electives		**15**
Select one research based elective:		
NEUR 4001	Neuroscience Research Project [5]	
or NEUR	Neuroscience Thesis Research	
NEUR Thesis Option		
11 credits of additional Neuroscience Electives		
BIOS 2600	Genetics	
BIOS 2610	Integrative Genetics	
BIOS 3450	Cell and Molecular Biology	
BIOS 3451	Cell and Molecular Biology Lab	
BIOS 3753	Fundamentals of Human Anatomy	
BIOS 3754	Laboratory in Human Anatomy	
BIOS 3755	Human Physiology	
BIOS 3756	Physiology Laboratory	
BIOS 4200	Kinesiological Basis of Human Movement	
BIOS 4238	Ion Channels	
BIOS 4400	Human Neuroanatomy	
BIOS 4464	Developmental Biology	
BIOS 4471	Behavioral Biology	
BIOS 4480	Evolutionary Developmental Biology – How to Build an Organism	
BIOS 4651	Bioethics	
BIOS 4746	Signaling Molecules	
CHEM 3522	Biochemistry II	
CHEM 4803	Special Topics	
MATH 4803	Special Topics	
NEUR 2699	Undergraduate Research	
NEUR 2803	Special Topics in Neuroscience	
NEUR 3803	Special Topics in Neuroscience	
NEUR 3231	Intro to Neuroengineering	
NEUR 4100	Neurodevelopment	
NEUR 4200	Functional Neuroanatomy	
NEUR 4238	Ion Channels in Health and Disease	
NEUR 4300	Neuroscience of Memory	
NEUR 4400	Neuroendocrinology	
NEUR 4699	Undergraduate Research	
NEUR 4696	Undergraduate Teaching Assistantship	

	NEUR 4697	Undergraduate Teaching Experience
	NEUR 4740	Neuroethics
	NEUR 4803	Special Topics
	PHYS 3250	Principles of the Physics of Living Systems
	PHYS 4251	Biophysics
	PSYC 2015	Research Methods
	PSYC 2103	Human Development Over the Life Span
	PSYC 2230	Abnormal Psychology
	PSYC 3012	Introduction to Cognitive Psychology
	PSYC 3040	Sensation and Perception
	PSYC 4011	Cognitive Psychology
	PSYC 4041	Human Sensation and Perception
	PSYC 4100	Behavioral Pharmacology
	PSYC 4090	Cognitive Neuroscience
	PSYC 4745	Physics of Cognition
	PSYC 4803	Special Topics
Breadth Electives		**15**
Free Electives		**14**
Total Credit Hours		**122**

1 It is highly recommended that Neuroscience students complete PHYS I and PHYS II for their lab science options. This lab sequence may be a prerequisite for neuroscience electives or neuroscience-related electives within the major requirements.

2 Note: MATH 1553 or 1554 or 1564 is a prerequisite for NEUR 3002. MATH 1553 (2 cr.) is preferred but MATH 1554 (Linear Algebra, 4 cr.) or MATH 1564 (Linear Algebra with Vector Spaces, 4 cr.) can satisfy this requirement with the excess 2 cr. to be applied to free electives

3 PSYC 1101 is a prerequisite for NEUR 2001/NEUR 2010, a major required course. It is recommended that students take PSYC as one of their social science courses.

4 Both CHEM 2311 and CHEM 2312 or CHEM 2313 must be completed in order to fulfill the pre-requisite requirements for CHEM 3511.

5 The Research Option requires at least 5 additional hours of research (NEUR 2698, NEUR 2699, NEUR 4698, or NEUR 4699) and LMC 47011 credit) and LMC 4702 (1 credit; applied to Free Electives). A research proposal and thesis/report is also required to complete the Research Option