NEUROSCIENCE - BS, MOLECULAR AND CELLULAR NEUROSCIENCE

Neuroscience is the study of the nervous system and its impact on behavior and cognitive functions. This interdisciplinary field integrates several areas of study, including biology, chemistry, physics, biochemistry, psychology, and medicine. The core courses for this degree include a foundation in the life sciences, and a foundational sequence in neuroscience that will prepare students for more advanced NRSC courses. The Neuroscience degree track administered by the Department of Biology (NRSC MCB) focuses on the biological basis of neurological processes at the molecular and cellular level. Students completing the NRSC MCB degree will be well prepared for jobs in medical and biotechnology fields, and they will be competitive for admission to medical or graduate school.

Program Requirements

First Year

Fall
BIOL 111 Introductory Biology I 1, 2 4
CHEM 119 Fundamentals of Chemistry I 1 4
ENGL 104 Composition and Rhetoric 2 3
MATH 147 Calculus I for Biological Sciences 1 4
or MATH 151 Calculus I for Engineering Mathematics I
VIBS 101 Neuroscience Overview 2 1

Semester Credit Hours 16

Spring
BIOL 112 Introductory Biology II 1, 2 4
CHEM 120 Fundamentals of Chemistry II 1 4
PBSI 107 Introduction to Psychology 3
Select one of the following: 1 3-4
MATH 148 Calculus II for Biological Sciences
MATH 152 Engineering Mathematics II
STAT 201 Elementary Statistical Inference

Semester Credit Hours 14

Second Year

Fall
BIOL 213 Molecular Cell Biology 1 3
CHEM 227 Organic Chemistry I 1 3
CHEM 237 Organic Chemistry Laboratory 1 1
NRSC 277/ VIBS 277 Essential Neuroscience - From Molecules to Nervous Systems 1, 2 3
PHYS 201 College Physics 4

Semester Credit Hours 14

Spring
CHEM 228 Organic Chemistry II 1 3
CHEM 238 Organic Chemistry Laboratory 1 1
PBSI 235 Introduction to Behavioral and Cognitive Neuroscience 2 3

Semester Credit Hours 16

Third Year

Fall
BICH 410 Comprehensive Biochemistry I 3
BIOL 428 Cellular Neuroscience 3
STAT 312 Statistics for Biology 3
American history (http://catalog.tamu.edu/undergraduate/general-information/university-core-curriculum/#american-history) 3 3
Creative arts (http://catalog.tamu.edu/undergraduate/general-information/university-core-curriculum/#creative-arts) 3

Semester Credit Hours 15

Spring
BICH 411 Comprehensive Biochemistry II 3
BIOL 434/ NRSC 434 Regulatory and Behavioral Neuroscience 3
BIOL 435 Laboratory for Regulatory and Behavioral Neuroscience 1
American history (http://catalog.tamu.edu/undergraduate/general-information/university-core-curriculum/#american-history) 3 3
Language, philosophy and culture (http://catalog.tamu.edu/undergraduate/general-information/university-core-curriculum/#language-philosophy-culture) 3

Semester Credit Hours 13

Fourth Year

Fall
BIOL 413 Cell Biology 3
NRSC 450/ VIBS 450 Mammalian Functional Neuroanatomy 4
POLS 206 American National Government 3
Neuroscience electives 4 6

Semester Credit Hours 16

Spring
POLS 207 State and Local Government 3
Neuroscience electives 4 6
General electives 5 8-9

Semester Credit Hours 18

Total Semester Credit Hours 120

1 Course must be completed by start of fifth full semester.
2 Must have a C or better.
3 Select any approved course in area from Core Curriculum list.
4 Select from BIOL 388, BIOL 430; NRSC 300-499 (http://catalog.tamu.edu/undergraduate/course-descriptions/nrsc/).
5 Any course except AGLS 101; ASCC 101; ASCC 102; ASCC 289; BIMS 101; BIOL 107, BIOL 113, BIOL 206; CHEM 106, CHEM 116; MATH 102; MATH 142. Only one KINE 199 can be used as a general elective. Three hours must be in the area of International and Cultural Diversity, and three hours must be in the area of Cultural Discourse. These may be in addition to other University Core Curriculum courses.
or, if a course in this category satisfies another area of the Core, it can be used to meet both requirements.

Graduation requirements include two courses with the Writing Intensive (UWRT) attribute. Please see advisor for options.