NEUROSCIENCE MAJOR

A major in Neuroscience allows a student to pursue an interdepartmental curriculum that focuses on the role of the nervous system in regulating physiological and behavioral functions. Neuroscience combines many traditional fields of study including Psychology, Biology, Chemistry, Physics, Anatomy, Pharmacology, Linguistics and Physiology. The field of Neuroscience encompasses a broad domain that ranges from the cellular and molecular control of brain cells to the regulation of responses in whole organisms. The requirements for the major in Neuroscience complement the standard requirements of a pre-health curriculum, and those requirements for admission to graduate study in Neuroscience or related graduate programs. This curriculum also enables the student to pursue relevant professional experience to enhance their career preparation. A Bachelor of Science in Neuroscience requires nine credits of core courses, nine credits of elective neuroscience lecture courses, three laboratory courses, and additional credits of required courses in biology, psychology, chemistry, physics, and social science. Students also must fulfill the B.S. mathematics requirement. A student majoring in Neuroscience is strongly encouraged to pursue laboratory research as an independent study and/or honors thesis. An independent study or honors thesis may fulfill one of the three required laboratory courses. Students will meet with a neuroscience major advisor when they declare their major to discuss the requirements, possible internship, research, and study abroad plans, and their course schedule.

Requirements

Course ID	Title	Credits
Required Core Courses		**9**
NSCI/PSYC 3300	Brain and Behavior	3
NSCI/CELL 3310	Cellular Neuroscience	3
NSCI/CELL 3320	Systems Neuroscience	3
NSCI 3330	Experiential Learning in Neuroscience	0*

Course ID	Title	Credits
Non-Neuro Required Courses		**34-36**
PSYC 1000	Introductory Psych	3
CELL 1010	Intro to Cell & Molec Biology	3
CELL 2050	Genetics	3
or EBIO 2070	Molecular and Evolutionary Genetics	
CHEM 1070 & CHEM 1075	General Chemistry I and General Chemistry Lab I	4
CHEM 1080 & CHEM 1085	General Chemistry II and General Chemistry Lab II	4
CHEM 2410 & CHEM 2415	Organic Chemistry I and Organic Chemistry Lab I	4
or CHEM 2430 & CHEM 2435	Organic Chemistry I: Deep-learning and Organic Chemistry I Laboratory: Deep-learning	
PHYS 1210	Introductory Physics I	4
or PHYS 1310	General Physics I	
Advanced Biology/Chemistry [see footnote ^]		3-4
Advanced Math/Physical Science [See footnote ^^]		3-4
Advanced Anthropological/Social Science [See footnote ^^^]		3

Course ID	Title	Credits
Elective Lecture Courses		**9**
Lecture Course (https://catalog.tulane.edu/science-engineering/neuroscience-program/1 (behavioral/cognitive)/)		
Lecture Course (https://catalog.tulane.edu/science-engineering/neuroscience-program/2 (cellular/molecular)/)		
Lecture Course (https://catalog.tulane.edu/science-engineering/neuroscience-program/3/)		

Course ID	Title	Credits
Elective Laboratory Courses		
Neuroscience Lab		
Lab Course (https://catalog.tulane.edu/science-engineering/neuroscience-program/2/)		
Lab Course (https://catalog.tulane.edu/science-engineering/neuroscience-program/3/)		

* Zero-credit add-on to 3 credits of NSCI 4910 Independent Study (1-3 c.h.)/SCEN 4910 Independent Study (1-3 c.h.) (Research/Lab); or 3 credits of SCEN 4570 Internship (1 to 3 c.h.); or another appropriate experience formally approved by the Neuroscience Curriculum Committee. S/U graded.

^ CHEM 2420 Organic Chemistry II (3 c.h.) and CHEM 2425 Organic Chemistry Lab II (1 c.h.) OR CHEM 2440 Organic Chemistry II: Deep-learning (3 c.h.) and CHEM 2445 Organic Chemistry Laboratory II: Deep-learning (1 c.h.) , CELL 3030 Molecular Biology (3 c.h.), CELL 3210 Physiology (3 c.h.), CELL 4010 Cellular Biochemistry (3 c.h.),CELL 4160 Developmental Biology (3 c.h.), SCEN 4110 Basic Medical Biochemistry (3 c.h.), BIOL 2220 Microbiology for the Healthcare Professional (4 c.h.), CELL 4220 Microbiology (3 c.h.) , or other appropriate course formally approved by the Neuroscience Curriculum Committee

^^ MATH 2210+, PHYS 1220 Introductory Physics II (4 c.h.), PHYS 1320 General Physics II (4 c.h.), CMPS 1100 Foundations of Programming (3 c.h.), CMPS 1500 Intro to Computer Science I (4 c.h.), PSYC 3090 Univariate I & Lab (4 c.h.), EBIO 4080 Biostatistics and Experimental Design (3 c.h.) or other appropriate course formally approved by the Neuroscience Curriculum Committee

^^^ AFRS 4800 Black Women's Health (3 c.h.), ANTH 2030 The Anthropology of Women and Men (3 c.h.), ANTH 2370 Anthropology and Global Health (3 c.h.), ANTH 3120 Anthropology of Sex and Reproduction (3 c.h.), ANTH 3140 Primate Ecology and Behavior (3,4 c.h.), ANTH 3310 Historical Linguistics (3,4 c.h.), ANTH 3320 Archaeology of Gender (3 c.h.), ANTH 3330 Anthropology of Gender (3 c.h.), ANTH 3450 Methods of Observation in Behavioral Research (3 c.h.), ANTH 3750 Bones, Bodies and Disease (3 c.h.), GESS 2900 Intro to Gender & Sex Studies (3 c.h.), GESS 3500 Critical Inquiry and Praxis (3 c.h.), HISU 3541 Reproductive Health in the US (3 c.h.), PSYC 3330 Clinical Science and Psychological Disorders (3 c.h.), PSYC 3340 Developmental Psychopathology (3 c.h.), PSYC 3680 Comp Animal Behavior (3 c.h.), SOCI 2220 Sociology of Medicine (3 c.h.) , or other appropriate course formally approved by the Neuroscience Curriculum Committee (May count towards NTC requirement and Major requirement)

+ **Lecture Course #1 (Behavioral/Cognitive)**

- PSYC 3770 Sensation & Perception (3 c.h.)
- PSYC 4060 Behavioral Endocrinology (3 c.h.)
- PSYC 4330 Neurobiology Learn & Memory (3 c.h.)
- PSYC 4510 Biological Psychology (3 c.h.)
- PSYC 4513 Music and Brain (3 c.h.)
- PSYC 4530 Psychopharmacology (3 c.h.)

Lecture Course #2 (Cellular/Molecular)

- CELL 4340 Neurobiology of Disease (3 c.h.)
- CELL 4200 General Endocrinology (3 c.h.)
- CELL 4350 Developmental Neurobiol (3 c.h.)
- CELL 4450 Genome Biology (3 c.h.)
- CELL 4370 Molecular Neurobiology (3 c.h.)
- CELL 4730 Neurodevelopment and Disease (3 c.h.)

Lecture Course #3

- Any of above OR
- LING 4110 Brain and Language (3 c.h.)
- NSCI 4130 Sport Rel Brain Injury (3 c.h.)
- CHEM 4080 Computational Neurochemistry (3 c.h.)
- NSCI 6105 Philosophy of Neuroscience (3 c.h.)
- NSCI 4660 Special Topics in Neuroscience (3 c.h.)
- NSCI 3780 Sex, Gender, and the Brain (3 c.h.)
- NSCI 4260 Methods for Functional MRI (3 c.h.)