Neuroscience

http://www.slu.edu/neuroscience-program

Tony W. Buchanan, Ph.D., Co-Director
Judith M. Ogilvie, Ph.D., Co-Director

Faculty:

Biology Full Time Faculty
Alaina Baker-Nigh, Ph.D.
William S. Stark, Ph.D.
Fenglian Xu, Ph.D.

Psychology Full Time Faculty
A. Michael Anch, Ph.D.
Brenda A. Kirchhoff, Ph.D.
Jill Waring, Ph.D.

The Neuroscience major offers a diversity of courses that allows students to specialize in brain science, while integrating Saint Louis University course requirements.

A Neuroscience degree is a rigorous program that will serve as outstanding preparation for students interested in pursuing graduate school in neuroscience, medical school, or careers in industry.

General Requirements

Neuroscience Major (Bachelor of Science)

Required Courses in Neuroscience (10 credits)

NEUR	3400	Introduction to Neuroscience 1	3
NEUR	3500	Introduction to Neuroscience 2	3
NEUR	3550	Neuroscience Lab	1
NEUR	4900	Neuroscience Seminar	3

Required Courses in Biology (24 credits)

BIOL	1240	Principles of Biology I	3
BIOL	1245	Principles of Biology I Laboratory	1
BIOL	1260	Principles of Biology II	3
BIOL	1265	Principles of Biology II Laboratory	1
BIOL	3020	Cellular Biochemistry & Molecular Biology	3
BIOL	3040	Cellular Structure & Function	3

BIOL Electives (10 credits from the Biology Elective Courses list below; must include one lab course)

Biology Elective Courses (lab courses indicated in italic)

BIOL	3010	Evolution	3
BIOL	3030	Principles of Genetics	3
BIOL	*3060*	*Cell Structure & Function Laboratory*	*1*
BIOL	*3100*	*Experiments in Genetics Lab*	*1*
BIOL	*3420*	*Comparative Anatomy of the Vertebrates*	*5*
BIOL	*3470*	*General Physiology Laboratory*	*2*
BIOL	3480	Exercise Physiology	3
BIOL	4010	Sex, Evolution, and Behavior	3
BIOL	4030	Introduction to Genomics	3
BIOL	*4050*	*Molecular Technique Laboratory*	*2*
BIOL	4070	Advanced Biological Chemistry	3
BIOL	4080	Advanced Cell Biology	3
BIOL	4150	Nerve Cell Mechanisms in Behavior	3
BIOL	4250	Neurobiology of Disease	3
BIOL	4360	Animal Behavior	3
BIOL	*4370*	*Animal Behavior Lab*	*1*
BIOL	4410	Comparative Animal Physiology	3
BIOL	*4440*	*Vertebrate Histology: Structure and Function of Tissues*	*4*
BIOL	4500	Introductory Endocrinology	3
BIOL	4510	Behavioral Endocrinology	3
BIOL	4540	Human Cellular Physiology I	3
BIOL	4600	Developmental Biology	3
BIOL	*4610*	*Developmental Biology Lab*	*2*
BIOL	4630	Foundations of Immunobiology	3
BIOL	4700	Molecular Biology	3

Required Courses in Psychology (19 credits)

PSY	1010	General Psychology	3
PSY	2050	Foundations of Research Methods & Statistics with Lab	4
PSY	3100	Brain, Mind & Society	3

PSY Elective (9 credits from the Psychology Elective Courses list below)

Psychology Elective Courses

PSY	3120	Cognitive Psychology	3
PSY	3160	Learning and Memory	3
PSY	3210	Developmental Psychology: Child	3
PSY	3230	Developmental Psychology: Adolescence	3
PSY	3300	Social Psychology	3
PSY	3310	Personality Theory	3
PSY	4140	Psychopharmacology	3
PSY	4150	Science of Sleep	3
PSY	4350	Health Psychology	3
PSY	4390	Abnormal Psychology	3

Courses in Chemistry (8 credits)

CHEM	1110	General Chemistry 1 Lecture	3
CHEM	1115	General Chemistry 1 Laboratory	1
CHEM	1120	General Chemistry 2 Lecture	3
CHEM	1125	General Chemistry 2 Laboratory	1

Courses in Mathematics (4 credits)

MATH	1510	Calculus I	4

Courses in Philosophy (3 credits)

PHIL	4280	Biology & Mind	3

Courses in Physics (4 credits)

PHYS	1310	Physics I	3
PHYS	1320	Physics I Laboratory	1

Capstone/Inquiry/Honors Project (1-3 credits)

All neuroscience majors must complete a capstone or equivalent project (e.g., Psychology Capstone course, Biology Senior Inquiry, Honors Thesis, etc.). The rationale for this requirement is to provide the opportunity to integrate coursework with an active learning experience, such as research. Courses that meet this requirement include, but are not limited to, the following:

BIOL	4890	Senior Inquiry: Comprehensive Examination
BIOL	4970	Library Project
BIOL	4980	Advanced Independent Study
PSY	4010	Advanced Statistics and Research Methods
PSY	4880	Capstone Research Project
PSY	4900	Critical Thinking about Psych

Mentoring

All majors are required to enroll and participate in first and second year mentoring.

NEUR	1950	First-Year Mentoring	0
NEUR	2950	Second-Year Mentoring	0

Residency

Majors are required to enroll in NEUR 4950 during their final semester.

NEUR	4950	Senior Residency	0

Pre-Professional Health

Students taking a Pre-Professional Health curriculum will be required to complete additional course requirements for medical or other professional schools as outlined by the Pre-Professional Health Studies Program.

Neuroscience Major Continuation Standards

Students must have a minimum of a 3.0 GPA in the following required major courses by the conclusion of two semesters at Saint Louis University: PSY 1010, BIOL 1240/1245, BIOL 1260/1265, CHEM 1100/1115, CHEM 1120/1125. Students that fall below a 3.0 GPA will be placed on program probation. In order to continue as a Neuroscience major after four semesters at Saint Louis University, students must obtain at least a 3.0 GPA in the following required major courses: PSY 1010, PSY 2050, BIOL 1240/1245, BIOL 1260/1265, BIOL 3020, BIOL 3040, CHEM 1100/1115, CHEM 1120/1125, NEUR 3400. Transfer students will be assessed on a case-by-case basis.